CERTIFICATE OF CONFORMITY

Emissions – Pellet Heater

EPA 40 CFR Part 60, Subpart AAA, ASTM E2515-2017, ASTM E2779-2017, CSA B415.1-2010 (R2020)
WHI19 – 9936204

Organization

Enerco Group, Inc.
4560 E 160th Street
Cleveland, OH 44135
USA

Product: PS20W, PS20WTS, C30XL, H30XL, J30XL, N30XL, C20W, H20W, J20W, N20W, C20WTS, H20WTS, J20WTS, N20WTS

Catalytic: No
Maximum Output: 24,000 Btu/hr.
Weighted Average Emissions: 1.22 g/hr.
Weighted Average Annual Delivered Efficiency (HHV): 76%
Test Fuel Type: Premium Grate Wood Pellets
Weighted Average CO Emissions Rate (g/min): 0.00018
Conformance: Complies with 2020 particulate emissions standard
Product Evaluation No.: 104618755MID-003
Product Evaluation No.: 104920040MID-001
Product Evaluation No.: 104990035MID-001
Product Evaluation No.: 105032925MID-001
Product Evaluation No.: 105110125MID-001c
Product Evaluation No.: 105284101MID-001
Test Report No.: 103166910MID-003R8

Certification Body: Intertek Testing Services NA, Inc.
Registered Address: 545 E. Algonquin Rd., Arlington Heights, IL 60005, USA
Initial Issue Date: 12-Dec-17
Date of Expiry: 08-Sep-27
Issue Status: 8

This is a certificate of conformity to confirm that the bearer has successfully completed the requirements of the Intertek certification scheme which include the testing of products and the initial assessment. The bearer is subject to continuing assessments of their compliance through surveillance and testing of products samples taken from production (as applicable to the scheme) and has been registered within the scheme for the products detailed. The validity of this certificate is contingent to the listing's status on the Intertek Directory of Building Products: bpdirectory.intertek.com.

Jean-Philippe Kayl		
Vice President – Global Certification		20-Dec-22
Name	Signature	Date

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Certificate of Conformity WHI19-9936204
Appendix A

Certificate of Conformity #:		Certificate of Conformity Issue Date:	
WHI19-9936204		December 12, 2017	
REVISION #	**REVISION DATE**	**REPORT PAGES**	**REVISION**
0	December 12, 2017	N/A	Original Report Issue
1	September 8, 2021	N/A	A complete retest was performed on model PS20W. An entirely new report was created to replace the original report #103166910MID-003.
2	September 29, 2021	N/A	Added similar model PS20WTS
3	January 26, 2022	N/A	Added similar models C30XL, H30XL, J30XL, N30XL
4	February 24, 2022	N/A	Changed model designation from PS20W to PS20WP
5	April 7, 2022	N/A	Model designation changed back from PSBF66WP to PSBF66W
6	July 11, 2022	N/A	Added models C20W, H20W, J20W, and N20W
7	December 16, 2022	N/A	Added models C20WTS, H20WTS, J20WTS, and N20WTS. Updated CO emissions to report two significant figures.

Revised Report #:		Report Issue Date:	
103166910MID-003		August 31, 2018	
REVISION #	**REVISION DATE**	**REPORT PAGES**	**REVISION**
0	August 31, 2018	N/A	Original Report Issue
1	August 31, 2021	3	Unit retested due to non-conformity per section 9.1.3 (Pre-conditioning of the Pellet Heater) of ASTM E2779-10
		5	Added pellet species information to Test Fuel properties
		All	Added tests #2 and #3.
2	September 29, 2021	1, 20	Added similar model PS20WTS
3	January 25, 2022	20	Added similar models C30XL, H30XL, J30XL, and N30XL
		Appendix B	Added pellet certificates and analysis
		Appendix D	Added manuals, labels, and drawings for new models

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4	February 14, 2022	17	Added statements regarding negative probe weights, run appropriateness, validity, and anomalies, added clarification of lowest burn rate for setting #1.
5	February 18, 2022	All	Changed model designation from PS20W to PS20WP
6	April 7, 2022	All, 18	Model designation changed back from PSBF66WP to PSBF66W. Revised Table 1 in Section 10 to report CO g/min in two significant values, 0.0 to 0.00.
7	July 11, 2022	21	Added models C20W, H20W, J20W, and N20W as similar models.
8	December 16, 2022	2, 18, Appendix B	Updated CO emissions to report two significant figures for test run 3.
		20	Added models C20WTS, H20WTS, J20WTS, and N20WTS as similar models.

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ENERCO GROUP INC.
TEST REPORT

SCOPE OF WORK
EPA EMISSIONS TESTING FOR MODEL PS20W AND PS20WTS

REPORT NUMBER
103166910MID-003R8

TEST DATE(S)
08/11/21 – 8/27/21

ISSUE DATE **REVISED DATE**
08/31/17 12/16/22

PAGES
23

DOCUMENT CONTROL NUMBER
GFT-OP-10c (05/10/17)
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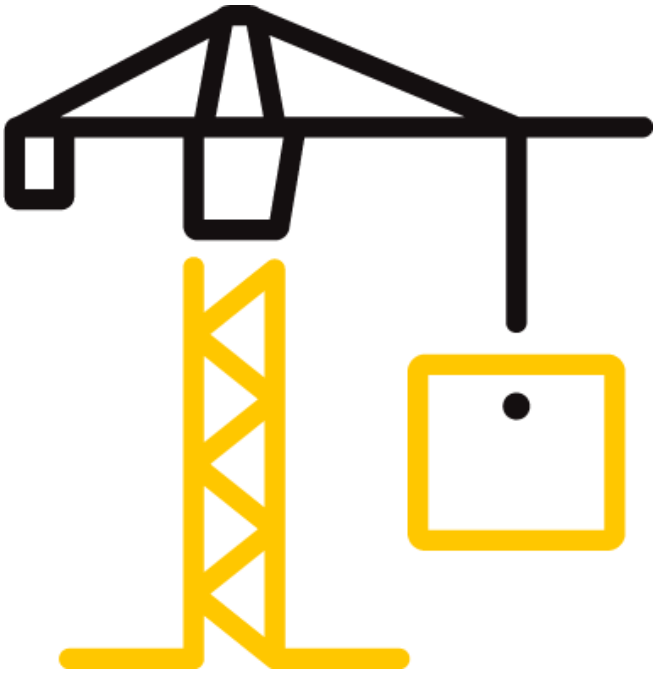

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TEST REPORT FOR ENERCO GROUP INC.
Report No.: 103166910MID-003R8
Date: 12/16/22

REPORT ISSUED TO

ENERCO GROUP INC.
4560 W 160th Street
Cleveland, OH 44135

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Enerco Group Inc. to perform testing in accordance with EPA 40 CFR Part 60 "Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces", ASTM E2515-17- Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel, ASTM E2779-17 - Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters, and CSA B415.1-10 - Performance Testing of Solid-Fuel-Burning Heating Appliances on their Model PS20W, Pellet Fuel Room Heater. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at Intertek test facility in Middleton, WI.

This report is a revision to previous project G103166910MID-003.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

The appliance tests resulted in the following performance for Run #1:
Particulate Emissions: NA g/hr
Carbon Monoxide Emissions: NA g/min
Heating Efficiency: NA (Higher Heating Value Basis)
The appliance tests resulted in the following performance for Run #2:
Particulate Emissions: 3.09 g/hr
Carbon Monoxide Emissions: 1.32 g/min
Heating Efficiency: 71% (Higher Heating Value Basis)
The appliance tests resulted in the following performance for Run #3:
Particulate Emissions: 1.22 g/hr
Carbon Monoxide Emissions: 0.00018 g/min
Heating Efficiency: 76% (Higher Heating Value Basis)

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TEST REPORT FOR ENERCO GROUP INC.
Report No.: 103166910MID-003R8
Date: 12/16/22

For INTERTEK B&C:

COMPLETED BY:	Brian Ziegler	**REVIEWED BY:**	Ken Slater
TITLE:	Technical Team Leader – Hearth	**TITLE:**	Associate Engineer - Hearth
SIGNATURE:		**SIGNATURE:**	
DATE:	12/16/22	**DATE:**	12/16/22

aaa:bbb

SECTION 3
TEST METHOD(S)

The specimen was evaluated in accordance with the following:

EPA 40 CFR Part 60-2015 - Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces

ASTM E2515-2017 - Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel

ASTM E2779-2017 - Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters

CSA B415.1-2010 - Performance Testing of Solid-Fuel-Burning Heating Appliances

SECTION 4
MATERIAL SOURCE

A sample was submitted to Intertek directly from the client. The sample was not independently selected for testing. The test unit was received at Intertek in Middleton, WI on 8/3/21 and was shipped via the client. The unit was assigned sample ID # MID2108031258-001. The unit was inspected upon receipt and found to be in good condition. The unit was set up following the manufacturer's instructions without difficulty.

Following assembly, the unit was placed on the test stand. Prior to beginning the emissions tests, the unit was operated for a minimum of 48 hours at medium burn rates to break in the stove. This break-in period was conducted by Intertek staff and a copy of the data is included in the final report. The unit was found to be operating satisfactory during this break-in. The 48 plus hours of pre-burning were conducted from 8/3/21 through 08/09/21. The fuel used for the break-in process was wood pellets.

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Following the pre-burn break-in process the unit was allowed to cool and ash and residue was removed from the firebox. The unit's chimney system and laboratory dilution tunnels were cleaned using standard wire brush chimney cleaning equipment. On 08/11/21 the unit was set-up for testing.

SECTION 5
EQUIPMENT

Equipment	INV Number	Calibration Due	MU
Timer	1212	4/5/22	0.7 sec
Timer	646	4/5/22	0.7 sec
Pressure Transducer	1406	1/13/22	0.00007"H^2O
Data Acquisition	986	10/16/21	0.06°F
Platform Scale	1134	10/1/21	.118 lbs
Hygrometer	1450	11/23/21	0.35 RH
Flow Meter	1413	2/20/22	0.020 slpm
Flow Meter	1414	2/20/22	0.020 slpm
Flow Meter	1519	2/20/22	0.020 slpm
Balance	713	10/6/21	0.00044g

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Ken Slater	Intertek B&C
Brian Ziegler	Intertek B&C
Peter Baszuk	Enerco

SECTION 7
TEST PROCEDURE

From 08/11/21 through 08/27/21, the unit was tested for EPA emissions. For pellet stoves, the test was conducted in accordance with ASTM E2779-17. The fuel used for the test run was premium-Grade Pellets (Marth).

The applicable EPA regulatory limits are:

Step 1 – 2015 – 4.5 grams per hour.

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Step 2 – 2020 – 2.0 grams per hour.

TEST SET-UP DESCRIPTON

A 3" horizontal flue is connected by a 90° elbow and adapters to a standard 6" diameter vertical single wall pipe and insulated chimney system was installed to 15' above floor level. The singe wall pipe extended to 8 feet above the floor and insulated chimney extended the remaining height.

AIR SUPPLY SYSTEM

Combustion air enters a 2" inlet pipe located on the back of the heater, which is directed to the pellet burn pot. All gases exit through the 3" flue also located at the back of the heater. The exhaust gases are assisted by a combustion blower.

TEST FUEL PROPERTIES

Wood pellets used for the testing were Marth premium grade hardwood pellets, with a majority of the wood species consisting of oak and maple. The pellets have a measured heating value of 8556 Btu/hr (19887 kJ/kg) and a moisture content of 4.46% on a dry basis and 4.27% on a wet basis.

SAMPLING LOCATIONS

Particulate samples are collected from the dilution tunnel at a point 20 feet from the tunnel entrance. The tunnel has two elbows and two mixing baffles in the system ahead of the sampling section. (See Figure 3.) The sampling section is a continuous 13 foot section of 6 inch diameter pipe straight over its entire length. Tunnel velocity pressure is determined by a standard Pitot tube located 60 inches from the beginning of the sampling section. The dry bulb thermocouple is located six inches downstream from the Pitot tube. Tunnel samplers are located 60 inches downstream of the Pitot tube and 36 inches upstream from the end of this section. (See Figure 1.)

Stack gas samples are collected from the steel chimney section 8 feet ± 6 inches above the scale platform. (See Figure 2.)

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Report No.: 103166910MID-003R8
Date: 12/16/22

FIGURE 1 – DILUTION TUNNEL

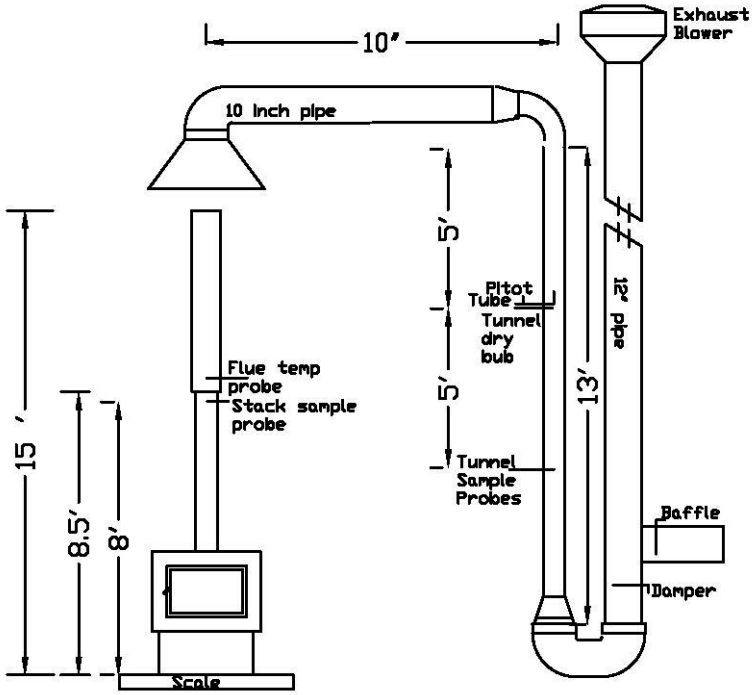
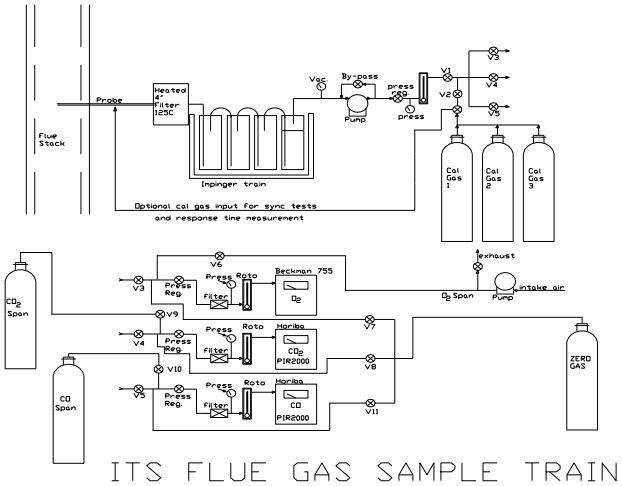


FIGURE 1

FIGURE 2 – STACK GAS SAMPLE TRAIN



ITS FLUE GAS SAMPLE TRAIN

FIGURE 2

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Report No.: 103166910MID-003R8
Date: 12/16/22

FIGURE 3 – DILUTION TUNNEL SAMPLE SYSTEMS

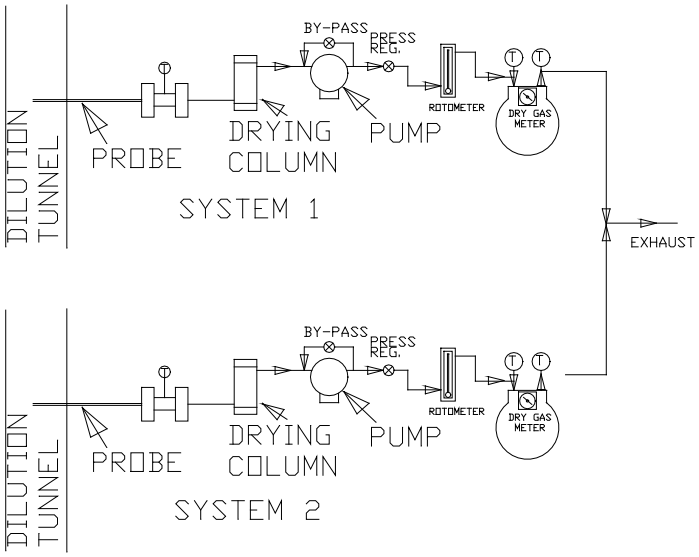

Figure 3

SAMPLING METHODS

PARTICULATE SAMPLING

Particulates were sampled in strict accordance with ASTM E2515. This method uses two identical sampling systems with Gelman A/E 61631 binder free, 47-mm diameter filters. The dryers used in the sample systems are filled with “Drierite” before each test run. In order to measure first-hour emissions rates the a third filter set is prepared at one hour into the test run, the filter sets are changed in one of the two sample trains. The two filter sets used for this train are analyzed individually to determine the first hour and total emissions rate.

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INSTRUMENT CALIBRATION

DRY GAS METERS

At the conclusion of each test program the dry gas meters are checked against our standard dry gas meter. Three runs are made on each dry gas meter used during the test program. The average calibration factors obtained are then compared with the six-month calibration factor and, if within 5%, the six-month factor is used to calculate standard volumes. Results of this calibration are contained in Appendix D.

An integral part of the post-test calibration procedure is a leak check of the pressure side by plugging the system exhaust and pressurizing the system to 10" W.C. The system is judged to be leak free if it retains the pressure for at least 10 minutes.

The standard dry gas meter is calibrated every 6 months using a Spirometer designed by the EPA Emissions Measurement Branch. The process involves sampling the train operation for 1 cubic foot of volume. With readings made to .001 ft^3, the resolution is .1%, giving an accuracy higher than the ±2% required by the standard.

STACK SAMPLE ROTAMETER

The stack sample rotometer is checked by running three tests at each flow rate used during the test program. The flow rate is checked by running the rotometer in series with one of the dry gas meters for 10 minutes with the rotometer at a constant setting. The dry gas meter volume measured is then corrected to standard temperature and pressure conditions. The flow rate determined is then used to calculate actual sampled volumes.

GAS ANALYZERS

The continuous analyzers are zeroed and spanned before each test with appropriate gases. A mid-scale multi-component calibration gas is then analyzed (values are recorded). At the conclusion of a test, the instruments are checked again with zero, span and calibration gases (values are recorded only). The drift in each meter is then calculated and must not exceed 5% of the scale used for the test.

At the conclusion of each unit test program, a three-point calibration check is made. This calibration check must meet accuracy requirements of the applicable standards. Consistent deviations between analyzer readings and calibration gas concentrations are used to correct data before computer processing. Data is also corrected for interferences as prescribed by the instrument manufacturer's instructions.

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TEST METHOD PROCEDURES

LEAK CHECK PROCEDURES

Before and after each test, each sample train is tested for leaks. Leakage rates are measured and must not exceed 0.02 CFM or 4% of the sampling rate. Leak checks are performed checking the entire sampling train, not just the dry gas meters. Pre-test and post-test leak checks are conducted with a vacuum of 10 inches of mercury. Vacuum is monitored during each test and the highest vacuum reached is then used for the post test vacuum value. If leakage limits are not met, the test run is rejected. During, these tests the vacuum was typically less than 2 inches of mercury. Thus, leakage rates reported are expected to be much higher than actual leakage during the tests.

TUNNEL VELOCITY/FLOW MEASUREMENT

The tunnel velocity is calculated from a center point Pitot tube signal multiplied by an adjustment factor. This factor is determined by a traverse of the tunnel as prescribed in ASTM E2515. Final tunnel velocities and flow rates are calculated from ASTM E2515, Equations 3 and 9. (Tunnel cross sectional area is the average from both lines of traverse.)

Pitot tubes are cleaned before each test and leak checks are conducted after each test.

PM SAMPLING PROPORTIONALITY

Proportionality was calculated in accordance with ASTM E2515. The data and results are included in Appendix C.

DEVIATIONS FROM STANDARD METHOD:

SECTION 8
TEST CALCULATIONS

WEIGHT OF TEST FUEL BURNED (DRY) – ASTM E2779

$$M_{Bdb} = (M_{Swb} - M_{Ewb})(100/(100 + FM))$$

where:

FM = average fuel moisture of test fuel, % dry basis,
M_{Swb} = weight of test fuel in hopper at start of test run, wet basis, kg (lb),
M_{Ewb} = weight of test fuel in hopper at end of test run, wet basis, kg (lb), and
M_{Bdb} = weight of test fuel burned during test run, dry basis, kg (lb).

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WEIGHT OF TEST FUEL BURNED PER TEST SEGMENT (DRY) – ASTM E2779

$$M_{BSidb} = (M_{SSiwb} – M_{ESiwb}) (100/(100 + FM))$$

where:

M_{SSiwb} = weight of test fuel in hopper at start of test run segment *i*, wet basis, kg (lb),
M_{ESiwb} = weight of test fuel in hopper at end of test run segment *i*, wet basis, kg (lb),
M_{BSidb} = weight of test fuel burned during test run segment *i*, dry basis, kg (lb), and
i = test run segments in accordance with 9.4, Table 1.

AVERAGE BURN RATE FOR FULL TEST (DRY) – ASTM E2779

$$BR = 60\ M_{Bdb}/\theta$$

where:

BR = average dry burn rate over the full integrated test run, kg/h (lb/h), and
θ = total length of full integrated test run, min.

AVERAGE BURN RATE PER TEST SEGMENT (DRY) – ASTM E2779

$$BR_{Si} = 60\ M_{BSidb}/\ \theta_{Si}$$

where:

BR_{Si} = average dry burn rate over test run segment *i*, kg/h (lb/h), and
θ_{Si} = total length of test run segment *i*, min.

AVERAGE EMISSION RATE FOR FULL TEST (g/hr) – ASTM E2779

$$PM_R = 60(E_T/\theta)$$

where:

E_T = total particulate emissions for full integrated test run measured using Test Method E2515, g (lb),
θ = total length of test run, min, and
PM_R = average particulate emission rate over the full integrated test run, g/h.

AVERAGE EMISSION FACTOR FOR FULL TEST (g/kg dry) – ASTM E2779

$$PM_F = E_T/M_{Bdb}$$

where:

PM_F = average particulate emission factor over the full integrated test run, g/dry kg of fuel burned.

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AVERAGE EMISSIONS FOR FULL TEST (g/MJ or lb/MMBtu) – ASTM E2779

$$PM_H = E_T/E_O$$

where:

E_O = average measured overall heat output over the full integrated test run from Annex A1, MJ (MMBTU), and

PM_H = average particulate emissions in accordance with unit of average heat output over the full integrated test run, g/MJ (lb/MMBtu).

NOMENCLATURE FOR ASTM E2515:

A = Cross-sectional area of tunnel m2 (ft2).

B_{ws} = Water vapor in the gas stream, proportion by volume (assumed to be 0.02 (2.0 %)).

C_p = Pitot tube coefficient, dimensionless (assigned a value of 0.99).

c_r = Concentration of particulate matter room air, dry basis, corrected to standard conditions, g/dscm (gr/ dscf) (mg/dscf).

c_s = Concentration of particulate matter in tunnel gas, dry basis, corrected to standard conditions, g/dscm (gr/dscf) (mg/dscf).

E_T = Total particulate emissions, g.

F_p = Adjustment factor for center of tunnel pitot tube placement.

$F_p = V_{straV}/V_{scent}$

K_P = Pitot Tube Constant, 34.97 $\frac{m}{\sec}\left[\frac{\left(\frac{g}{g}\blacksquare mole\right)(mm\ Hg)}{(K)(mm\ water)}\right]^{\frac{1}{2}}$

or

= Pitot Tube Constant, 85.49 $\frac{ft}{\sec}\left[\frac{\left(\frac{lb}{lb}-mole\right)(in\ Hg)}{(R)(in\ water)}\right]^{\frac{1}{2}}$

L_a = Maximum acceptable leakage rate for either a pretest or post-test leak- check, equal to 0.0003 m3/min (0.010 cfm) or 4 % of the average sampling rate, whichever is less.

L_p = Leakage rate observed during the post-test leak-check, m3/min (cfm).

m_p = mass of particulate from probe, mg.

m_f = mass of particulate from filters, mg.

m_g = mass of particulate from filter gaskets, mg.

m_r = mass of particulate from the filter, filter gasket, and probe assembly from the room air blank filter holder assembly, mg.

m_n = Total amount of particulate matter collected, mg.

M_s = the dilution tunnel dry gas molecular weight (may be assumed to be 29 g/g mole (lb/lb mole).

P_{bar} = Barometric pressure at the sampling site, mm Hg (in. Hg).

P_g = Static Pressure in the tunnel (in. water).

P_R = Percent of proportional sampling rate.

P_s = Absolute average gas static pressure in dilution tunnel, mm Hg (in. Hg).

P_{std} = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).

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Q_{std} = Average gas flow rate in dilution tunnel.
$Q_{std} = 60 (1 - B_{ws}) V_s A [T_{std} P_s/T_s P_{std}]$
dscm/min (dscf/min).

T_m = Absolute average dry gas meter temperature, K (R).

T_{mi} = Absolute average dry gas meter temperature during each 10-min interval, *i*, of the test run.

$$T_{mi} = (T_{mi(b)} + T_{mi(e)})/2$$

where:

$T_{mi(b)}$ = Absolute dry gas meter temperature at the beginning of each 10-min test interval, i, of the test run, K (R), and

$T_{mi(e)}$ = Absolute dry gas meter temperature at the end of each 10-min test interval, i, of the test run, K (R).

Ts = Absolute average gas temperature in the dilution tunnel, K (R).

Tsi = Absolute average gas temperature in the dilution tunnel during each 10-min interval, i, of the test run, K (R).

$$T_{si} = (T_{si(b)} + T_{m=si(e)})/2$$

where:

$T_{si(b)}$ = Absolute gas temperature in the dilution tunnel at the beginning of each 10-min test interval, i, of the test run, K (R), and

$T_{si(e)}$ = Absolute gas temperature in the dilution tunnel at the end of each 10-min test interval, i, of the test run, K (R).

V_m = Volume of gas sample as measured by dry gas meter, dcm (dcf).

V_{mc} = Volume of gas sampled corrected for the post test leak rate, dcm (dcf).

V_{mi} = Volume of gas sample as measured by dry gas meter during each 10-min interval, i, of the test run, dcm.

$V_{m(std)}$ = Volume of gas sample measured by the dry gas meter, corrected to standard conditions.

$$V_{m(std)} = K_1 V_m Y [(P_{bar} + (\Delta H/13.6))/T_m]$$

where:

K_1 = 0.3855 K/mm Hg for SI units and = 17.64 R/in. Hg for inch-pound units.

$$V_{m(std)} = K_1 V_{mc} Y [(P_{bar} + (\Delta H/13.6))/T_m]$$

where:

V_{mc} = Vm– (Lp– La)u

V_{mr} = Volume of room air sample as measured by dry gas meter, dcm (dcf), and

$V_{mr(std)}$ = Volume of room air sample measured by the dry gas meter, corrected to standard conditions.

$$V_{m(std)} = K_1 V_{mr} Y [(P_{bar} + (\Delta H/13.6))/T_m]$$

Where:

K_1 = 0.3855 K/mm Hg for SI units and = 17.64 R/in. Hg for inch-pound units, and

V_s = Average gas velocity in the dilution tunnel.

$$V_s = F_p K_p C_p (\sqrt{\Delta P_{avg}})(\sqrt{(T_s/P_s M_s)})$$

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V_{si} = Average gas velocity in dilution tunnel during each 10-min interval, i, of the test run.

$$V_{si} = F_p K_p C_p (\sqrt{\Delta P_i})(\sqrt{(T_{si}/P_s M_s)})$$

V_{scent} = Average gas velocity at the center of the dilution tunnel calculated after the Pitot tube traverse.

V_{strav} = Average gas velocity calculated after the multipoint Pitot traverse.

Y = Dry gas meter calibration factor.

ΔH = Average pressure at the outlet of the dry gas meter or the average differential pressure across the orifice meter, if used, mm water (in. water).

ΔP_{avg} = Average velocity pressure in the dilution tunnel, mm water (in. water).

ΔP_i = Velocity pressure in the dilution tunnel as measured with the Pitot tube during each 10-min interval, i, of the test run.

$$\Delta P_i = (\Delta P_{i(b)} + \Delta P_{i(e)})/2$$

where:

$\Delta P_{i(b)}$ = Velocity pressure in the dilution tunnel as measured with the Pitot tube at the beginning of each 10-min interval, i, of the test run, mm water (in. water), and

$\Delta P_{i(e)}$ = Velocity pressure in the dilution tunnel as measured with the Pitot tube at the end of each 10-min interval, i, of the test run, mm water (in. water).

θ = Total sampling time, min.

10 = ten min, length of first sampling period.

13.6 = Specific gravity of mercury.

100 = Conversion to percent.

TOTAL PARTICULATE WEIGHT – ASTM E2515

$$M_n = m_p + m_f + m_g$$

PARTICULATE CONCENTRATION – ASTM E2515

$$C_s = K_2(m_n/V_{m(std)})\ g/dscm\ (g/dscf)$$

where:

K_2 = 0.001 g/mg

TOTAL PARTICULATE EMISSIONS (g) – ASTM E2515

$$E_T = (C_s - C_r)Q_{std}\theta$$

PROPORTIONAL RATE VARIATION (%) – ASTM E2515

$$PR = [\theta(V_{mi} V_s T_m T_{si})/(10(V_m V_{si} T_s T_{mi})] \times 100$$

MEASUREMENT OF UNCERTAINTY – ASTM E2515

$$MU_{weighing} = \sqrt{0.1^2} \bullet X$$

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GENERAL FORMULA – ASTM E2515

$$uY = \sqrt{((\delta Y/\delta x_1) \times u_1)^2 + \ldots + ((\delta Y/\delta x_n) \times u_n)^2}$$

Where:

$\delta Y/\delta x_i$ = Partial derivative of the combining formula with respect to individual measurement xi,
u_i = is the uncertainty associated with that measurement.

TOTAL PARTICULATE EMISSIONS – ASTM E2515

$$E_T = (c_s - c_r)\, Q_{std}\, \theta$$

where:

c_s = sample filter catch/(sample flow rate x test duration), g/dscf,
c_r = room background filter catch/(sample flow x sampling time), g/dscf,
Q_{std} = average dilution tunnel flow rate, dscf/min, and
θ = sampling time, minutes.

MU OF c_s

$c_s = F_c/(Q_{sample} \times \theta) = 0.025/(0.25 \times 180) = 0.0005555$
$\delta c_s/\delta F_c = 1/Q_{sample} \bullet \Theta = 1/0.25 \bullet 180 = 0.0222$
$\delta c_s/\delta Q_{sample} = -F_c/Q^2_{sample} \bullet \Theta = -0.025/0.25^2 \bullet 180 = -0.00222$
$\delta c_s/\delta \Theta = -F_c/Q_{sample} \bullet \Theta^2 = -0.025/0.25 \bullet 180^2 = -0.000003$
$MUc_s = \sqrt{(0.00027 \bullet 0.0222)^2 + (0.0025 \bullet - 0.00222)^2}$
$\sqrt{} + (0.1 \bullet - 0.000003)^2 = 0.0000091g$
Thus, c_s would be 0.555 mg/dscf ± 0.0081 mg/dscf at 95% confidence level.

MU OF c_r

$c_r = BG_c/(QBG \times \theta) = 0.002/(0.15 \times 180) = 0.000074$
$\delta c_r/\delta BG_c = 1/Q_{BG} \bullet \Theta = 1/0.15 \bullet 180 = 0.03704$
$\delta c_r/\delta Q_{BG} = -BG_c/Q^2_{BG} \bullet \Theta = -0.002/0.15^2 \bullet 180 = -0.0004938$
$\delta c_r/\delta \Theta = -BG_c/Q_{BG} \bullet \Theta^2 = -0.002/0.15 \bullet 180^2 = -0.0000004$
$MUc_r = \sqrt{(0.00027 \bullet 0.03704)^2 + (0.0015 \bullet - 0.0004938)^2}$
$\sqrt{} + (0.1 \bullet - 0.0000004)^2 = 0.00001g$
Thus, c_r would be 0.074 mg/dscf ± 0.01 mg/dscf at 95% confidence level.

E_T AND MU_{ET}

$E_T = (c_s - c_r)\, Q_{sd}\, \theta = (0.000555 - 0.000074) \times 150 \times 180 = 13.00g$
$\delta E_T/\delta c_s = Q_{std} \bullet \Theta = 150 \bullet 180 = 27{,}000$
$\delta E_T/\delta c_r = Q_{std} \bullet \Theta = 150 \bullet 180 = 27{,}000$
$\delta E_T/\delta Q_{std} = c_s \bullet \Theta - c_r \bullet \Theta = 0.000555 \bullet 180 - 0.000074 \bullet 180 = 0.08667$
$\delta E_T/\delta \Theta = c_s \bullet Q_{std} - c_r \bullet Q_{std} = 0.000555 \bullet 180 - 0.000074 \bullet 180 = 0.07222$
$MU_{ET} = \sqrt{(27{,}000 \bullet 0.0000081)^2 + (27{,}000 \bullet 0.00001)^2\ (0.08667 \bullet 3)^2}$

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$$\sqrt{} + (0.07222 \bullet 0.1)^2 = 0.436$$

Thus the result in this example would be:
ET = 13.00g ± 0.44 g at a 95% confidence level.

EFFICIENCY – CSA B415.1

The change in enthalpy of the circulating air shall be calculated using the moisture content and temperature rise of the circulating air, as follows:

$$\Delta h = \Delta t\ (1.006 + 1.84x)$$

Where:
Δh = change in enthalpy, kJ/kg
Δt = temperature rise, °C
1.006 = specific heat of air, kJ/kg °C
1.84 = specific heat of water vapor, kJ/kg °C
x = humidity ratio, kg/kg

The equivalent duct diameter shall be calculated as follows:

$$ED = 2HW/H+W$$

Where:
ED = equivalent duct diameter
H = duct height, m
W = duct width, m

The air flow velocity shall be calculated as follows:

$$V = F_p \times C_p \times 34.97 \times \sqrt{T/28.56(P_{baro} + P_s)}$$

where
V = velocity, m/s
F_P = Pitot tube calibration factor determined from vane anemometer measurements
C_P = Pitot factor
= 0.99 for a standard Pitot tube or as determined by calibration for a Type S Pitot tube
34.97 = Pitot tube constant
Note: The Pitot tube constant is determined on the basis of the following units: $m/s[g/g\ mole\ (mm\ Hg)/(K)(mm\ H_2O)]^{0.5}$
ΔP = velocity pressure, mm H2O
T = temperature, K
28.56 = molecular weight of air
P_{Baro} = barometric pressure, mm Hg
P_s = duct static pressure, mm Hg

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The mass flow rate shall be calculated as follows:

$$m = 3600VAp$$

where:
m = mass flow rate, kg/h
V = air flow velocity, m/s
3600 = number of seconds per hour
A = duct cross-sectional area, m2
p = density of air at standard temperature and pressure (use 1.204 kg/m3)

The rate of heat release into the circulating air shall be calculated using the air flow and change in enthalpy, as follows:

$$\Delta e = \Delta h \times m$$

Where:
Δe = rate of heat release into the circulating air, kJ/h
Δh = change in enthalpy of the circulating air, kJ/kg
m = mass air flow rate, kg/h

The heat output over any time interval shall be calculated as the sum of the heat released over each measurement time interval, as follows:

$$E_t = \sum(\Delta e \times i) \text{ for } i = t_1 \text{ to } t_2$$

Where:
Et = delivered heat output over any time interval $t_2 – t_1$, kJ
i = time interval for each measurement, h

The average heat output rate over any time interval shall be calculated as follows:

$$e_t = E_t / t$$

where
e_t = average heat output, kJ/h
t = time interval over which the average output is desired, h

The total heat output during the burn shall be calculated as the sum of all the heat outputs over each time interval, as follows:

$$E_d = \sum(E_t) \text{ for } t = t_0 \text{ to } t_{final}$$

Where:
E_d = heat output over a burn, kJ/h (Btu/h)
E_t = heat output during each time interval, kJ/h (Btu/h)

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The efficiency shall be calculated as the total heat output divided by the total energy input, expressed as a percentage as follows:

$$\text{Efficiency, \%} = 100 \times E_d/I$$

Where:

E_d = total heat output of the appliance over the test period, kJ/kg

I = input energy (fuel calorific value as-fired times weight of fuel charge), kJ/kg (Btu/lb)

SECTION 9
TEST SPECIMEN DESCRIPTION

The model PS20W Pellet Fuel Room Heater is constructed of sheet steel. The outer dimensions are 20.-inches deep, 28.5-inches high, and 18.25-inches wide. The unit has a door located on the front with a viewing glass.

SECTION 10
TEST RESULTS

DESCRIPTION OF TEST RUNS:

RUN #1 (08/11/21): The test for pellet heaters is a continuous test with three separate burn rates. At 7:07 am the unit was started and operated for a minimum of 1 hour for the pretest operation. At 8:08 am the unit was set to the maximum feed rate (level P1) with a burn rate of 1.68 kg/hr (wet), the scale was tared and a 35-lb weight was added to the scale to determine feed rate of the fuel, and the sampling system was started. At 9:08 am, the system #3 sampling filter was turned off and the unit was set to ≤50% feed rate (level P2) with a burn rate of 1.49 kg/hr (wet). At 11:38 am testing was stopped due to incorrect level selected for medium burn rate, Level (P3) should have been selected. The total burn time was 210 minutes. Incorrect medium burn rate chosen, therefore this test is invalid and will not be used.

RUN #2 (08/12/21): The test for pellet heaters is a continuous test with three separate burn rates. At 7:26 am the unit was started and operated for a minimum of 1 hour for the pretest operation. At 8:27 am the unit was set to the maximum feed rate (level P1) with a burn rate of 1.68 kg/hr (wet), the scale was tared and a 35-lb weight was added to the scale to determine feed rate of the fuel, and the sampling system was started. At 9:27 am, the system #3 sampling filter was turned off and the unit was set to ≤50% feed rate (level P3) with a burn rate of 1.41 kg/hr (wet). At 11:27 pm, the heater was changed to the minimum feed rate (level P4) with a burn rate of 0.89kg/hr (wet). At 2:27 pm, testing was completed. The total burn time was 360 minutes.
Medium burn rate was above the required 50% or lower there for this test is invalid and will not be used.

RUN #3 (08/27/21): After the manufacturer investigated the cause for the incorrect burn rates in test #1 and #2, it was determined the unit had a malfunctioning control board. The control board was changed and test #3 was started. The test for pellet heaters is a continuous test with three separate burn rates. At 7:48 am the unit was started and operated for a minimum of 1 hour for the pretest operation. At 8:48 am the unit was set to the maximum feed rate (level P1) with a burn rate of 1.77 kg/hr (wet), the scale was

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tared and a 35-lb weight was added to the scale to determine feed rate of the fuel, and the sampling system was started. At 9:48 am, the system #3 sampling filter was turned off and the unit was set to ≤50% feed rate (level P3) with a burn rate of 0.81 kg/hr (wet). At 11:48 pm, the heater was changed to the minimum feed rate (level P4) with a burn rate of 0.81 kg/hr (wet). At 2:48 pm, testing was completed. The total burn time was 360 minutes.

The test run has been found to be appropriate, with no anomalies, and the test run has been validated and is deemed compliant. No negative weight was found on the filters, as the filters and gaskets are weighed together to eliminate filter material transfer to gaskets. All weightings were handled property, with no negative weight on gaskets or probes.

TABLE 1 – EMISSIONS

RUN#	TEST DATE	BURN RATES (kg/hr)(Dry)		PARTICULATE EMISSION RATE (g/hr)	1st HOUR EMISSIONS (g)	CO EMISSIONS (g/min)	HEATING EFFICIENCY (%HHV)
1	8/11/21	H*	1.68	NA	NA	NA	NA
		M*	1.49				
		L*	NA				
		OA*	NA				

*Notes: H= High burn rate, M= Medium burn rate, L= low burn rate, OA= overall burn rate.

RUN#	TEST DATE	BURN RATES (kg/hr)(Dry)		PARTICULATE EMISSION RATE (g/hr)	1st HOUR EMISSIONS (g)	CO EMISSIONS (g/min)	HEATING EFFICIENCY (%HHV)
2	8/12/21	H*	1.68	3.09	3.93	1.32	71
		M*	1.41				
		L*	0.89				
		OA*	1.19				

*Notes: H= High burn rate, M= Medium burn rate, L= low burn rate, OA= overall burn rate.

RUN#	TEST DATE	BURN RATES (kg/hr)(Dry)		PARTICULATE EMISSION RATE (g/hr)	1st HOUR EMISSIONS (g)	CO EMISSIONS (g/min)	HEATING EFFICIENCY (%HHV)
3	8/27/21	H*	1.77	1.22	4.06	0.00018	76
		M*	0.81				
		L*	0.80				
		OA*	0.97				

*Notes: H= High burn rate, M= Medium burn rate, L= low burn rate, OA= overall burn rate.

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TABLE 2 – TEST FACILITY CONDITIONS

RUN #	ROOM TEMP BEFORE (°F)	ROOM TEMP AFTER (°F)	BARO PRES BEFORE (in/Hg)	BARO PRES AFTER (in/Hg)	R. H. BEFORE (%)	R. H. AFTER (%)	AIR VEL BEFORE (ft/min)	AIR VEL AFTER (ft/min)
1	78	NA	28.79	NA	51.6	NA	0	NA
2	78	84	28.92	28.94	52.9	39.8	0	0
3	80	80	29.04	29.01	46.5	41.5	0	0

TABLE 3 – DILUTION TUNNEL FLOW RATE MEASUREMENTS AND SAMPLING DATA

RUN #	BURN TIME (min)	VELOCITY (ft/sec)	VOLUMETRIC FLOW RATE (dscf/min)	AVG TEMP (°R)	SAMPLE VOLUME (dscf)		PARTICULATE CATCH (mg)	
					1	2	1	2
1	210	NA	NA	NA	NA	NA	NA	NA
2	360	21.87	231.96	555.47	48.18	49.54	10.70	11.00
3	360	21.78	234.12	549.67	48.77	48.23	3.90	4.50

TABLE 4 - DILUTION TUNNEL DUAL TRAIN PRECISION

RUN #	SAMPLE RATIOS		TOTAL EMISSIONS (g)		DEVIATION (%)	DEVIATION (g/kg)
	TRAIN 1	TRAIN 2	TRAIN 1	TRAIN 2		
1	NA	NA	NA	NA	NA	NA
2	1733.29	1685.69	18.55	18.54	0.01%	0.000
3	1728.24	1747.70	6.74	7.86	7.70%	0.194

TABLE 5 - GENERAL SUMMARY OF RESULTS

RUN #	BURN RATE (kg/hr)(wet) (OVERALL)	INITIAL DRAFT (in/H_2O)	RUN TIME (min)	AVERAGE DRAFT (in/H_2O)
1	NA	0.025	210	NA
2	1.19	0.025	360	0.025
3	0.97	0.029	360	0.024

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TABLE 6 - CSA B415.1 RESULTS Test #1

BURN RATE (kg/hr)(dry)	CO EMISSIONS (g/min)	HEATING EFFICIENCY (% HHV)	HEAT OUTPUT (Btu/hr)
HIGH – NA	NA	NA	NA
MEDIUM – NA	NA	NA	NA
LOW – NA	NA	NA	NA
OVERALL – NA	NA	NA	NA

TABLE 6 - CSA B415.1 RESULTS Test #2

BURN RATE (kg/hr)(dry)	CO EMISSIONS (g/min)	HEATING EFFICIENCY (% HHV)	HEAT OUTPUT (Btu/hr)
HIGH – 1.61	0.40	76	22,880
MEDIUM – 1.35	1.13	73	18,579
LOW – 0.85	1.84	63	10,198
OVERALL – 1.27	1.32	71	15,333

TABLE 6 - CSA B415.1 RESULTS Test #3

BURN RATE (kg/hr)(dry)	CO EMISSIONS (g/min)	HEATING EFFICIENCY (% HHV)	HEAT OUTPUT (Btu/hr)
HIGH – 1.70	0.00049	75	23,945
MEDIUM – 0.78	0.00013	75	10,965
LOW – 0.77	0.00016	75	10,796
OVERALL – 0.93	0.00018	76	13,216

SECTION 11
CONCLUSION

This test demonstrates that the model PS20W is an affected facility under the definition given in the regulation. The emission rate of 1.22 g/hr meets the EPA requirements for the Step 2 limits.

Model PS20WTS, C20WTS, H20WTS, J20WTS, and N20WTS are similar models with the only change being a touch screen display as described in product evaluation report #104618755MID-003 for model PS20WTS and product evaluation report #105284101MID-001 for models C20WTS, H20WTS, J20WTS, and N20WTS.

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Models C30XL, H30XL, J30XL, and N30XL are similar models with the only change being a larger hopper capacity, which increased the overall height of the unit. Changes are described in product evaluation report #104920040MID-001.

Models C20W, H20W, J20W, and N20W are additional similar models with no physical or mechanical differences from PS20W. These are additional models for branding purposes. Reference product evaluation report #105110125MID-001c for further information.

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SECTION 12
PHOTOGRAPHS

Photo # 1 Emissions test #1

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Photo No. 2 – Emissions Test #2

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Photo No. 3 – Emissions Test #3

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Photo No. 4 - EPA Security Tape #1

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Photo No. 5 - EPA Security Tape #2

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Photo No. 6 - EPA Security Tape #3

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	08/31/17	N/A	Original Report Issue
1	08/31/21	3	Unit retested due to non-conformity per section 9.1.3 (Pre-conditioning of the Pellet Heater) of ASTM E2779-10
		5	Added pellet species information to Test Fuel properties
		All	Added tests #2 and #3.
2	09/29/21	1, 20	Added similar model PS20WTS
3	01/25/22	20	Added similar models C30XL, H30XL, J30XL, and N30XL
4	2/14/22	17	Added statements regarding negative probe weights, run appropriateness, validity, and anomalies, added clarification of lowest burn rate for setting #1.
5	02/18/22	All	Model designation changed from PS20W to PS20WP
6	04/07/22	All, 18	Model designation changed back from PS20WP to PS20W. Revised Table 1 in Section 10 to report CO g/min in two significant values, 0.0 to 0.00.
7	07/11/22	21	Added models C20W, H20W, J20W, and N20W as similar models.
		2, 18, Appendix B	Updated CO emissions to report two significant figures for test run 3.
8	12/16/22	20	Added models C20WTS, H20WTS, J20WTS, and N20WTS as similar models.

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PRODUCT EVALUATION

PRODUCT EVALUATED
MODELS C SERIES, H SERIES, J SERIES, N SERIES PELLET FUEL ROOM HEATERS

EVALUATION PROPERTY
ASTM E1509-2012 (R2017), ULC S627-2000 (R2020), ASTM E2515-2017, ASTM E2779-2017, CSA B415.1-2010 (R2020)

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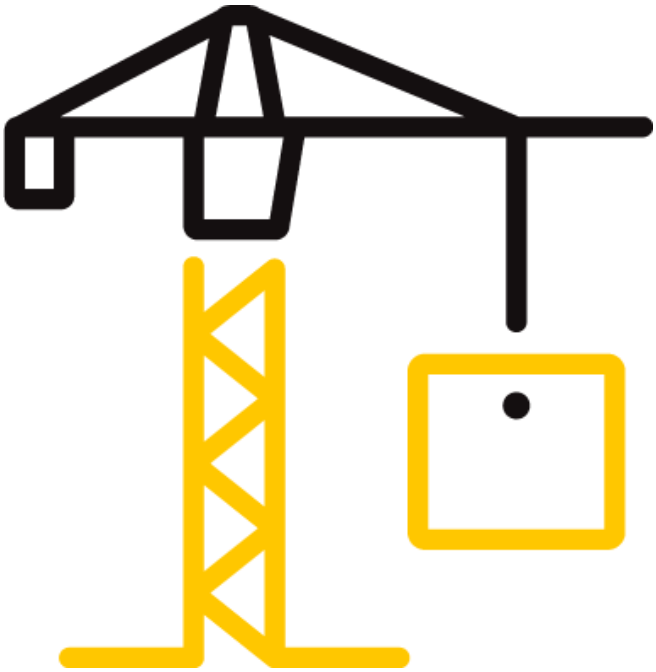

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 104920060MID-001
Date: 01/25/22

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
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Date: 01/25/22

1 Introduction

Intertek Testing Services NA Inc. (Intertek) is conducting a product evaluation for Enerco Group, Inc, on models C Series, H Series, J Series and N Series Pellet Fuel Room Heaters, to evaluate the addition of new models with an increased fuel hopper capacity. The evaluation is being conducted to determine if additional models will maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

2 Product and Assembly Description

2.1. Product Description:

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PS20W Pellet Fuel Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 20-inches deep, 28.5-inches high, and 18.25-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned on the top front of the unit. A galvanized steel fuel hopper located on the rear of the unit.
Models	PS20W
Model Similarity	None
Ratings	120V, 3.3A, 60Hz

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PSBF66W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 26-inches deep, 30.25-inches high, and 26-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit. The model PS130W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 24-inches deep, 36.5-inches high, and 24.5-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit.
Models	PS60W, PS130W, PSBF66W

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Report No.: 104920060MID-001
Date: 01/25/22

Model Similarity	PS60W is similar to the model PS130W with the exception of being smaller in size, 23.5-inches deep, 33.25-inches high, and 21.75-inches wide with a lower feed rate of 4.01 lbs/hr, all components are the same as model PS130W, therefore the model PS60Wis deemed to be compliant with these requirements as well.
Ratings	Burn Rate (high) – 1.82 kg/hr PS60W Burn Rate (high) – 2.59 kg/hr PS130W Burn Rate (high) – 2.77 kg/hr PSBF66W Electrical Rating – 120V, 60Hz, 3.3A (all models)

3 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- ASTM E1509-2012 (R2017)
- ULC S627-2000 (R2020)
- ASTM E2515-2017
- ASTM E2779-2017
- CSA B415.1-2010 (R2020)
- Spec ID No. 51087 for PS20W Emissions
- Spec ID No. 51088 for PS20W Safety
- Spec ID No. 48197 for PSBF66W Emissions
- Spec ID No. 48195 for PS130W Emissions
- Spec ID No. 48190 for PS60W Emissions
- Spec ID No. 48189 for PS60W, PS130W, PSBF66W Safety

4 Evaluation Method

Enerco Group, Inc. requested an evaluation to add models C Series, H Series, J Series and N Series, which are identical to the existing PS Series models, but have an increased hopper capacity.

The following table identifies the PS Series models and the related C Series, H Series, J Series and N Series models.

PS Series	C Series	H Series	J Series	N Series	Increased hopper size
PS20W	C30XL	H30XL	J30XL	N30XL	30 lbs.
PS60W	C80XL	H80XL	J80XL	N80XL	80 lbs.
PS130W	C140XL	H140XL	J140XL	N140XL	140 lbs.
PSBF66W	C3W80XL	H3W80XL	J3W80XL	N3W80XL	80 lbs.

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The changes to each model are as follows:

PS20W to the C30XL, H30XL, J30XL and N30XL includes an overall increase in height of 130 mm, which includes louvers above the viewing door. The hopper dimensions were increased by 129.8 mm in height and 68 mm in depth at the top of the hopper.

PS60W to the C80XL, H80XL, J80XL and N80XL includes an overall increase in height of 150 mm. The hopper dimensions were increased by 150 mm in height.

PS130W to the C140XL, H140XL, J140XL and N140XL includes an overall increase in height of 80 mm. The hopper dimensions were increased by 80 mm in height.

PSBF66W to the C3W80XL, H3W80XL, J3W80XL and N3W80XL includes an overall increase in height of 43.8 mm. The hopper dimensions were increased by 45 mm in height.

5 Conclusion

Intertek has conducted this product evaluation for Enerco Group, Inc, on models C Series, H Series, J Series and N Series Pellet Fuel Room Heaters, to evaluate the addition of new models with an increased fuel hopper capacity. The evaluation was conducted to determine if additional models will maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:

- The only change to the design of all four models is the hopper size to increase the fuel capacity. The overall height of all models was raised to accommodate the larger hoppers. No changes were made to the electrical components or the overall operation of the stoves. The C Series, H Series, J Series and N Series operate exactly the same as the PS Series stoves.

INTERTEK TESTING SERVICES NA LTD.

Reported by: _____
Brian Ziegler
Technical Team Leader - Hearth

Reviewed by: Ken Slater _____
Ken Slater
Associate Engineer - Hearth

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 104920060MID-001
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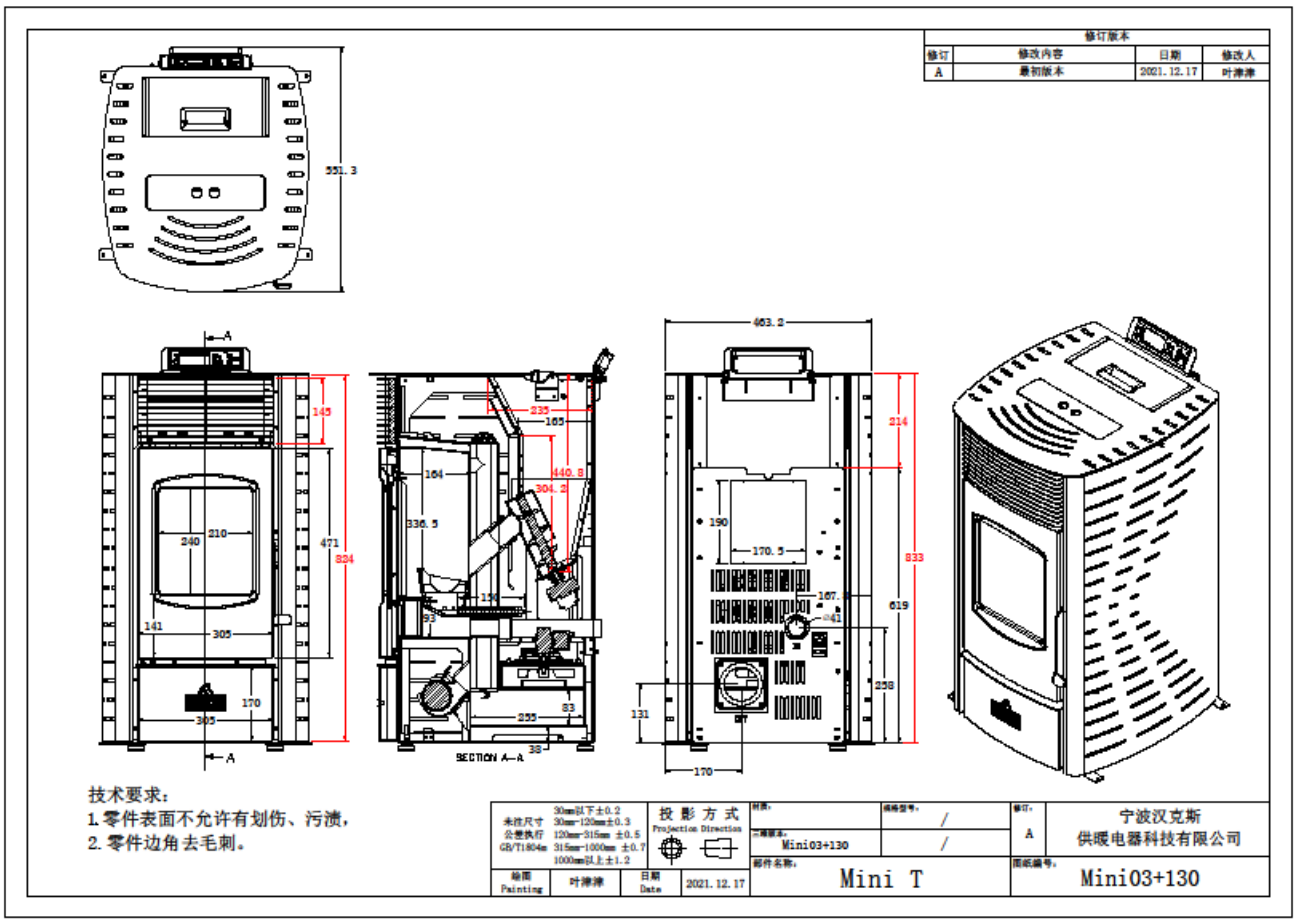
6 APPENDIX



H30XL

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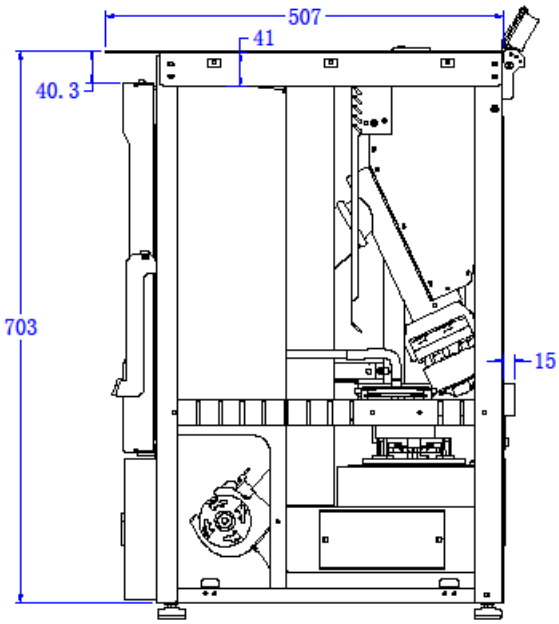
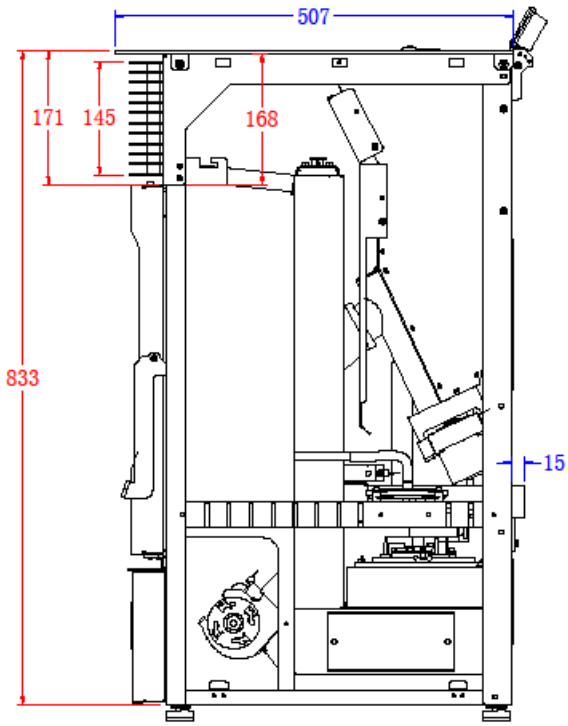
Report No.: 104920060MID-001
Date: 01/25/22



Mini body



Mini T body

H30XL

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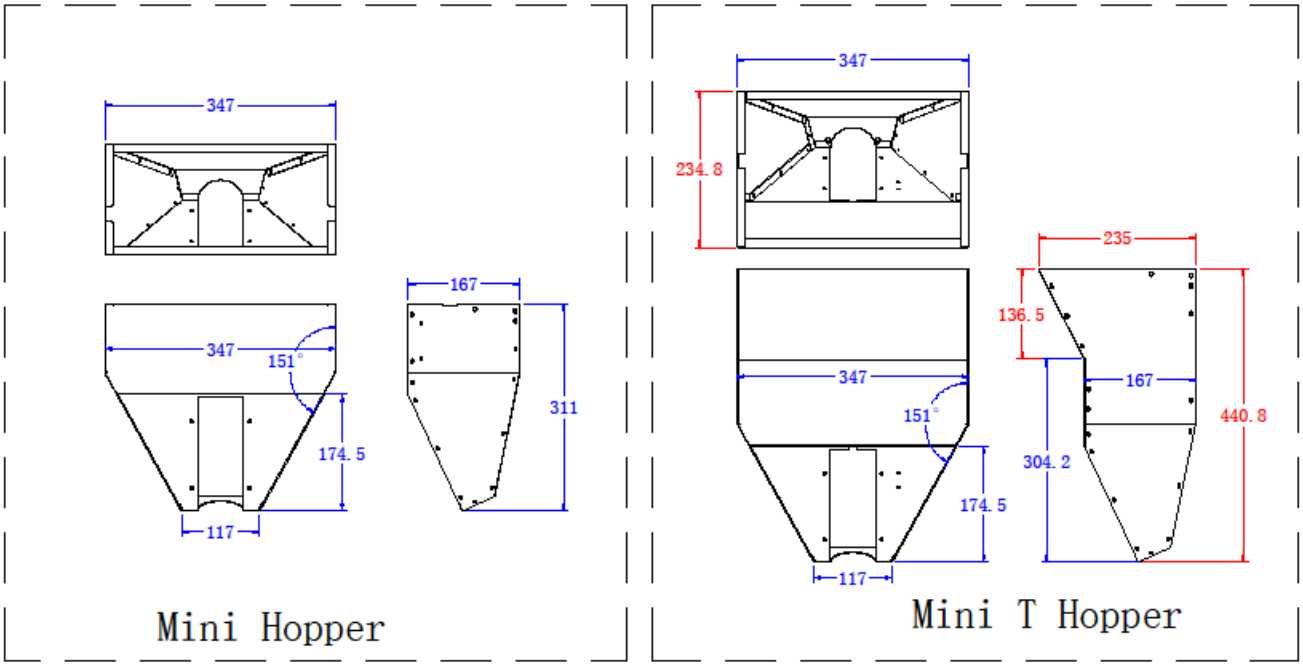

H30XL

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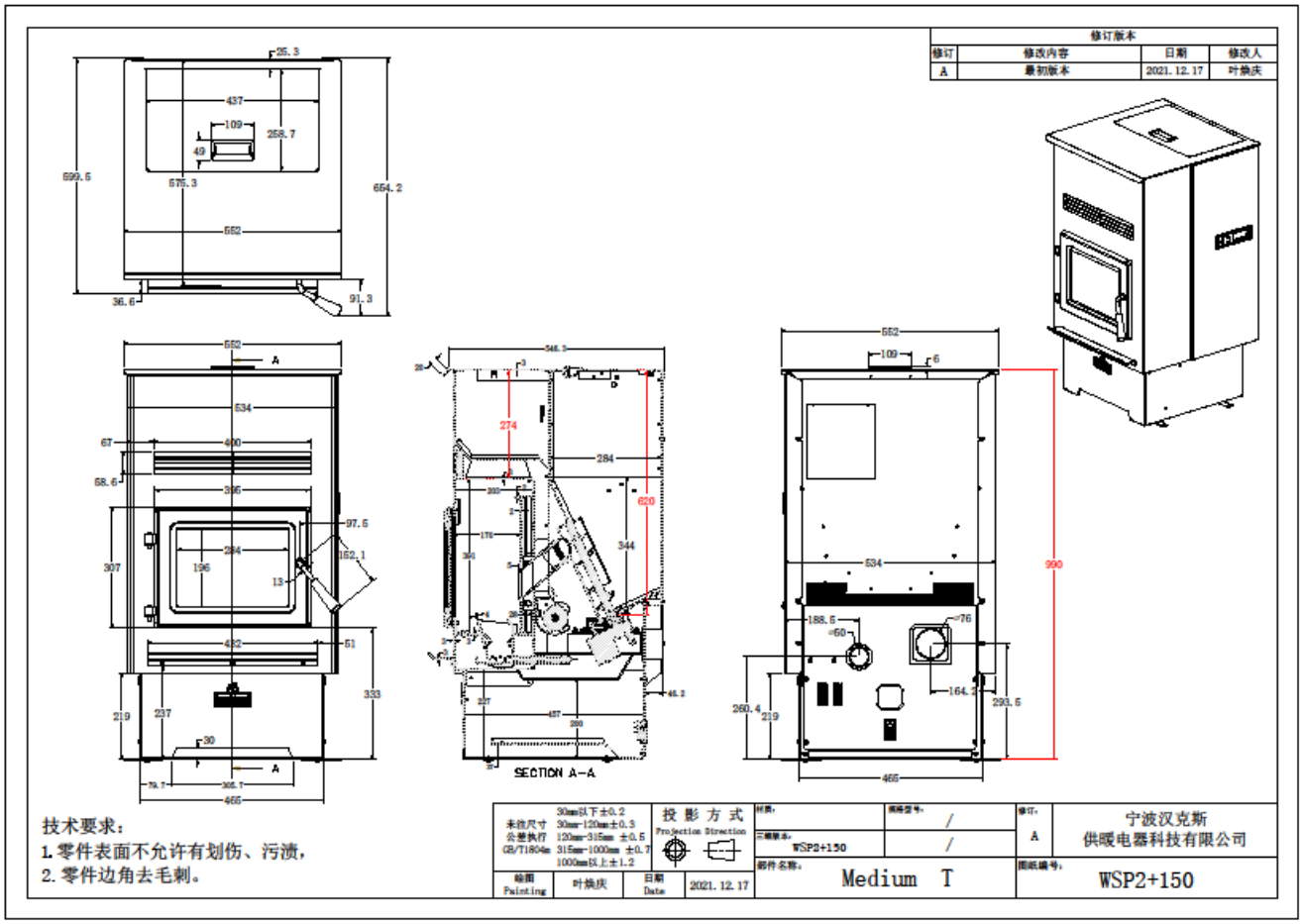

H80XL

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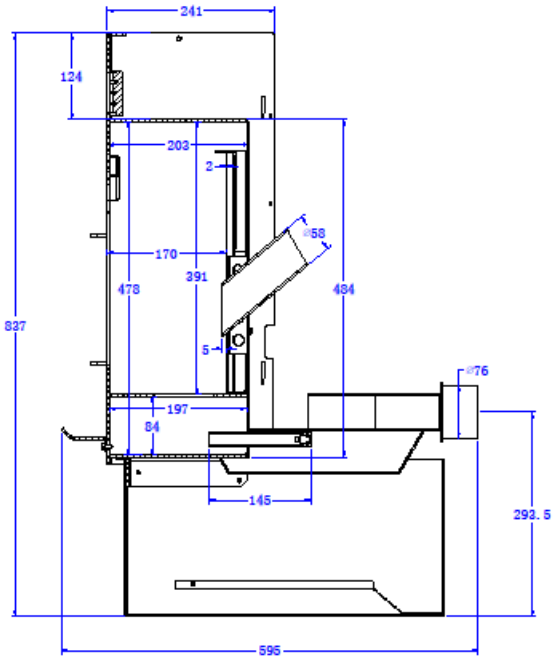

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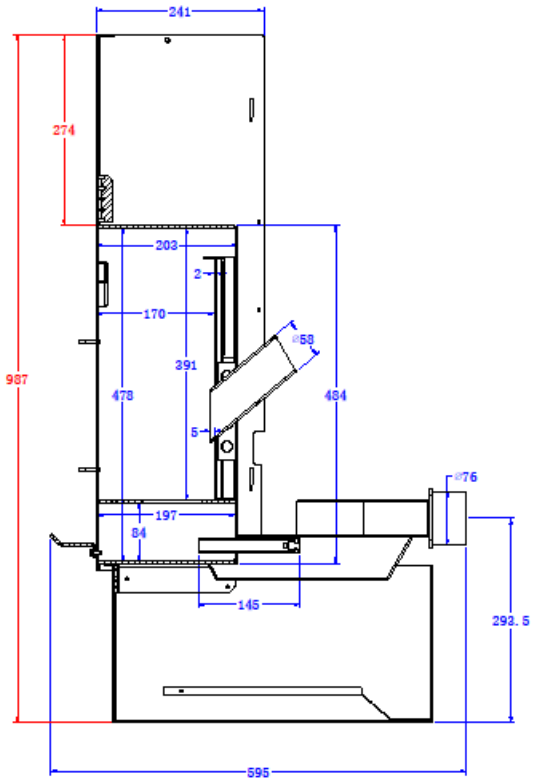

Medium T body

H80XL

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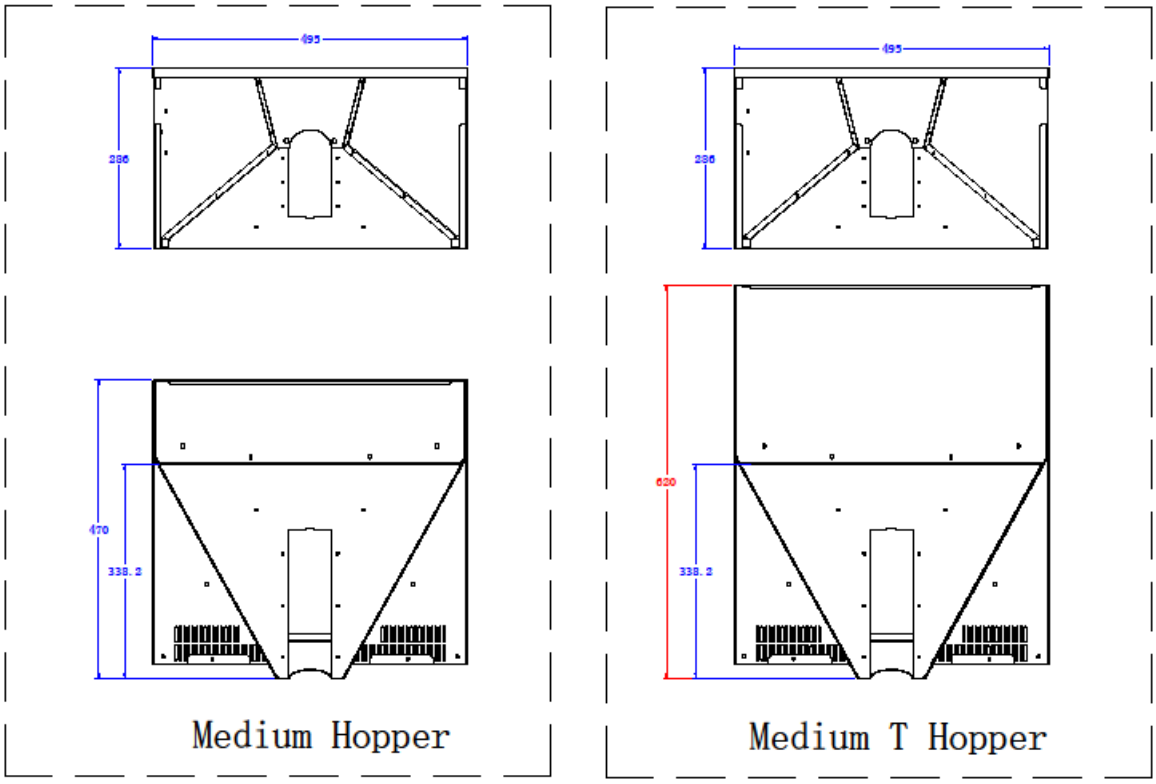

H80XL

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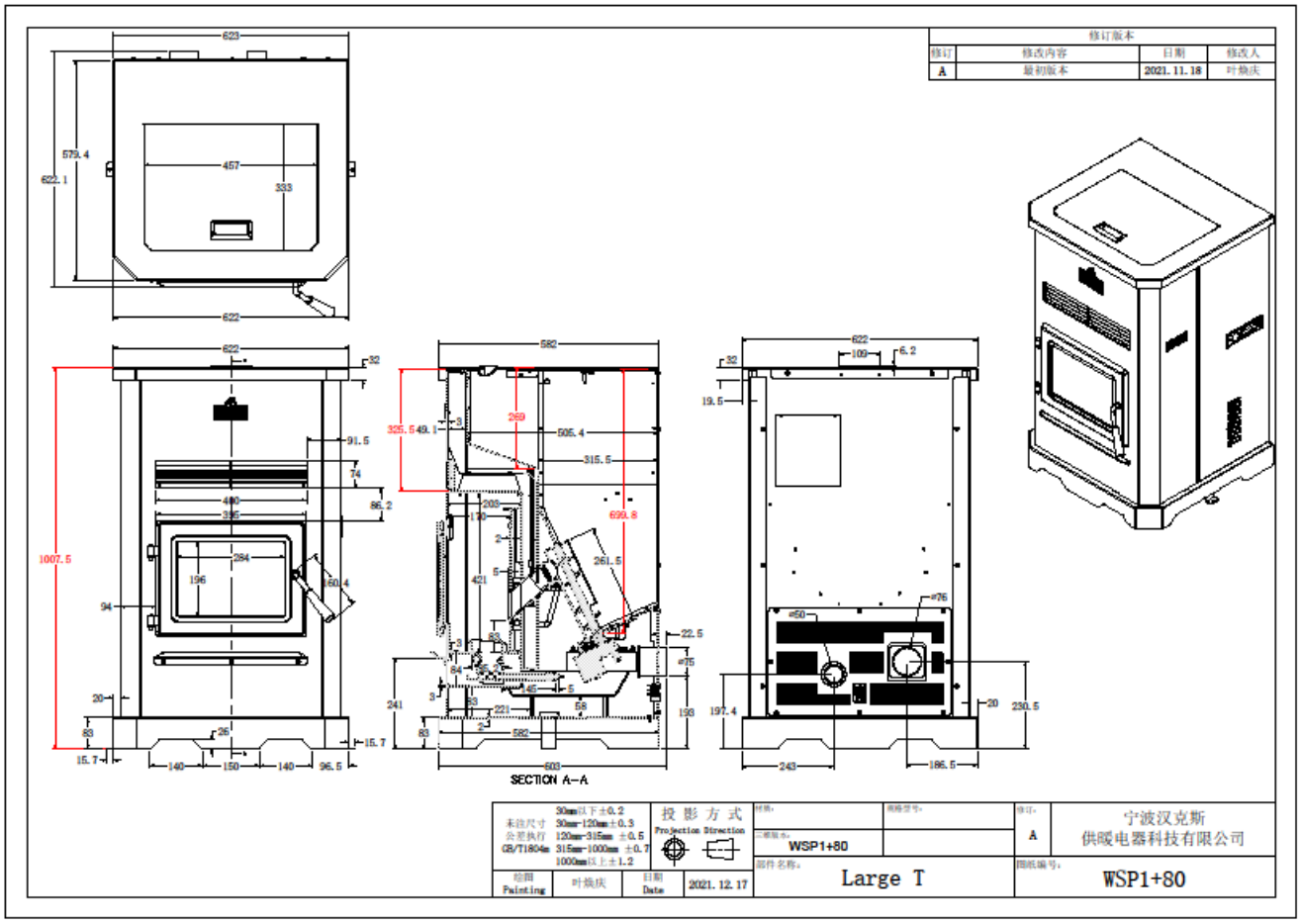

H140XL

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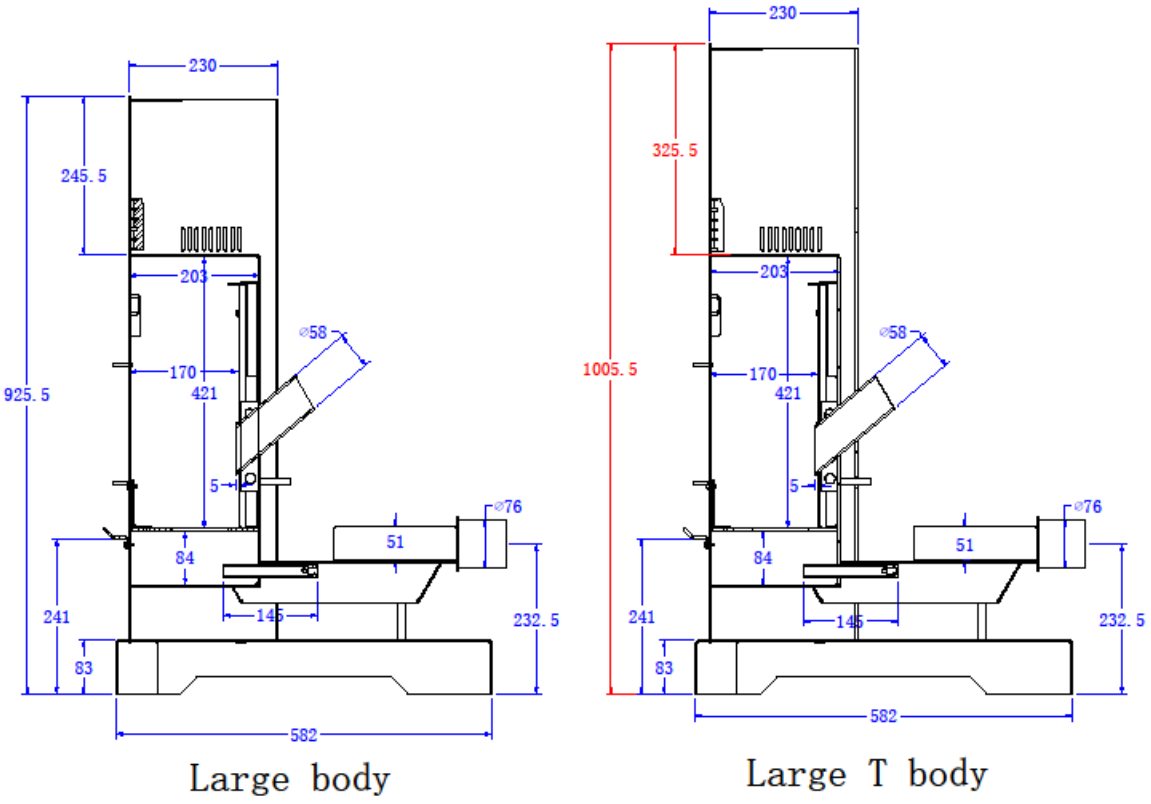

H140XL

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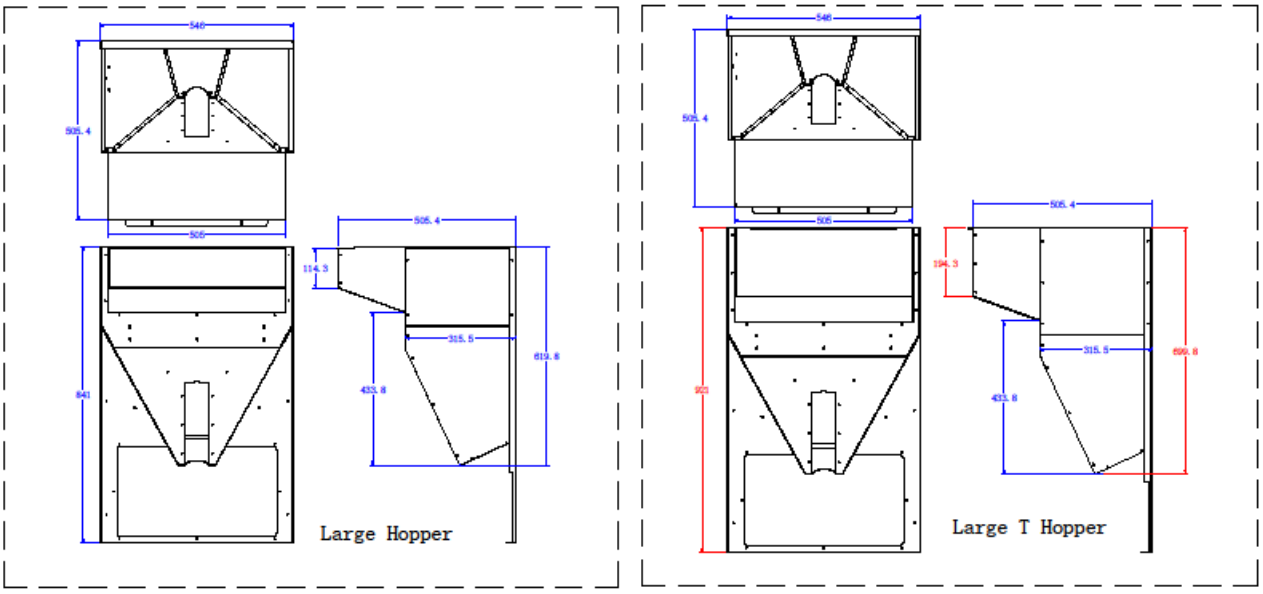

H140XL

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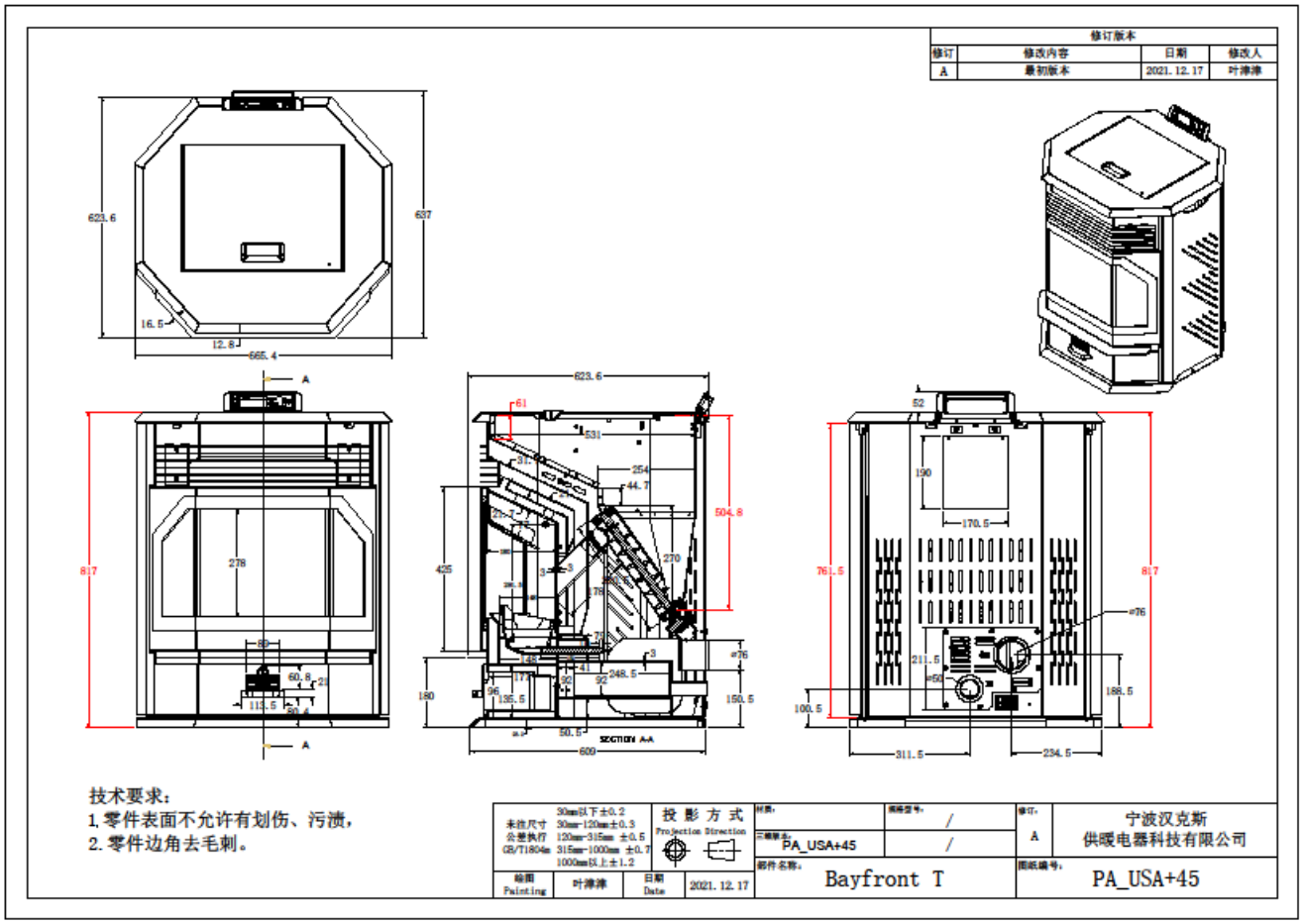

H3W80XL

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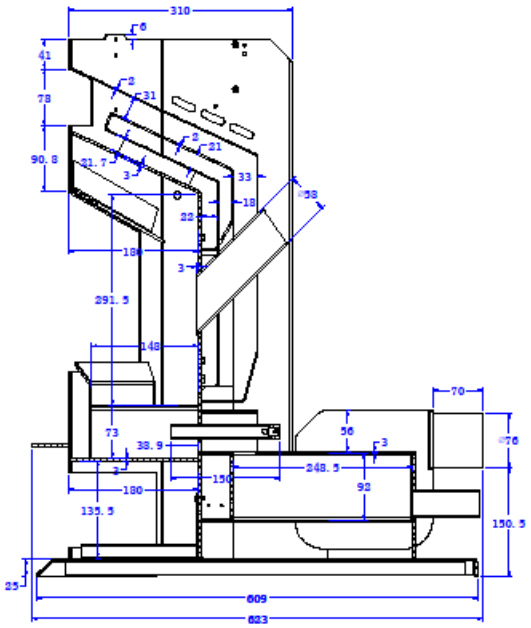
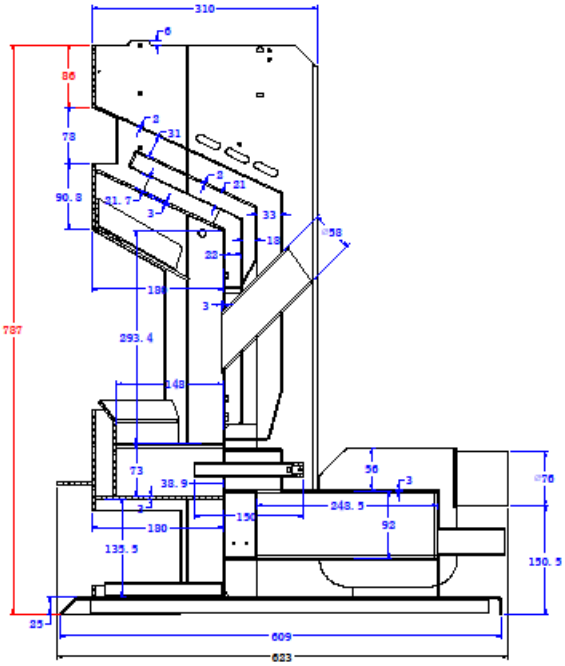


Bayfront body



Bayfront T body

H3W80XL

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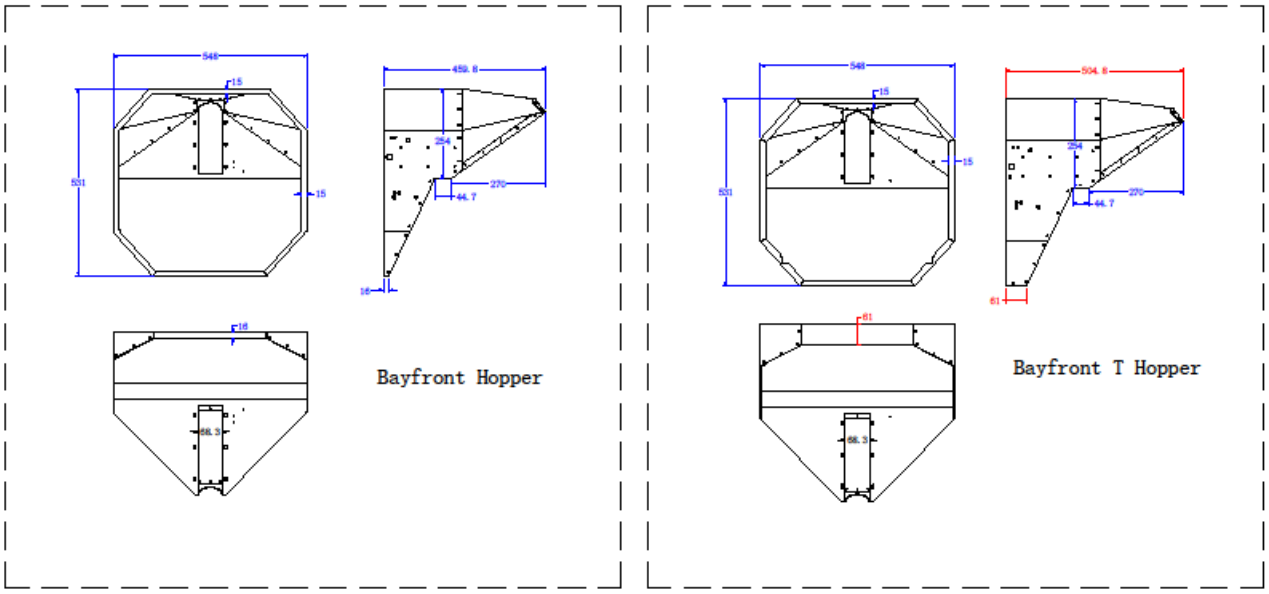

H3W80XL

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7 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY	REPORTER	REVIEWER
January 25, 2022	Original	Brian Ziegler	Ken Slater

ENERCO GROUP, INC
PRODUCT EVALUATION

PRODUCT EVALUATED
MODELS PS20WP, PS60WP, PS130WP AND PSBF66WP PELLET FUEL ROOM HEATERS

EVALUATION PROPERTY
ASTM E1509-2012 (R2017), ULC S627-2000 (R2020), ASTM E2515-2017, ASTM E2779-2017, CSA B415.1-2010 (R2020)

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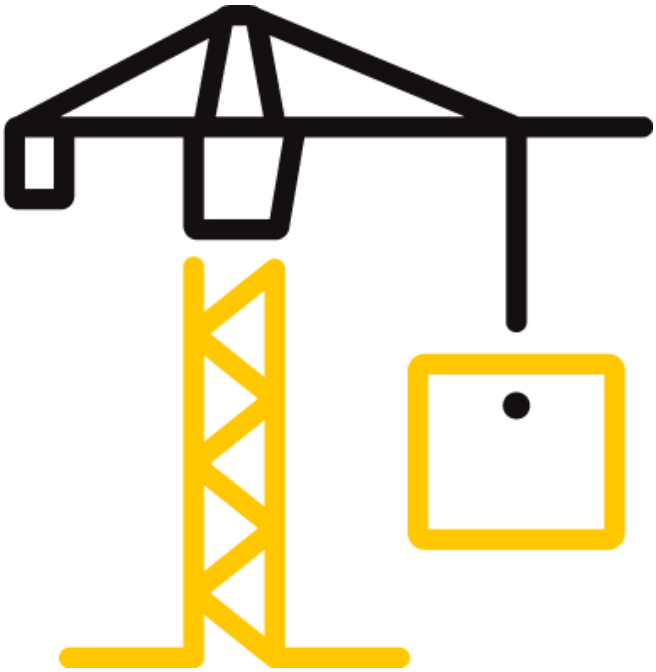

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 104920060MID-001
Date: 02/24/22

PRODUCT EVALUATION RENDERED TO:	
Company Name:	Enerco Group, Inc
Address:	4560 W 160th Street
	Cleveland, OH 44135
Contact Person:	Jeff Bunsey
Tel:	216-588-0870
Email:	jeff.bunsey@us-egi.com

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 104920060MID-001
Date: 02/24/22

1 Introduction

Intertek Testing Services NA Inc. (Intertek) is conducting a product evaluation for Enerco Group, Inc, on models PS20WP, PS60WP, PS130WP and PSBF66WP Pellet Fuel Room Heaters, to evaluate the addition of new models. The evaluation is being conducted to determine if additional models will maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

2 Product and Assembly Description

2.1. Product Description:

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PS20WP Pellet Fuel Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 20-inches deep, 28.5-inches high, and 18.25-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned on the top front of the unit. A galvanized steel fuel hopper located on the rear of the unit.
Models	PS20WP
Model Similarity	None
Ratings	120V, 3.3A, 60Hz

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PSBF66WP Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 26-inches deep, 30.25-inches high, and 26-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit. The model PS130W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 24-inches deep, 36.5-inches high, and 24.5-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit.
Models	PS60WP, PS130WP, PSBF66WP

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 104920060MID-001
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Model Similarity	PS60WP is similar to the model PS130WP with the exception of being smaller in size, 23.5-inches deep, 33.25-inches high, and 21.75-inches wide with a lower feed rate of 4.01 lbs/hr, all components are the same as model PS130W, therefore the model PS60WP is deemed to be compliant with these requirements as well.
Ratings	Burn Rate (high) – 1.82 kg/hr PS60WP Burn Rate (high) – 2.59 kg/hr PS130WP Burn Rate (high) – 2.77 kg/hr PSBF66WP Electrical Rating – 120V, 60Hz, 3.3A (all models)

3 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- ASTM E1509-2012 (R2017)
- ULC S627-2000 (R2020)
- ASTM E2515-2017
- ASTM E2779-2017
- CSA B415.1-2010 (R2020)
- Spec ID No. 51087 for PS20W Emissions
- Spec ID No. 51088 for PS20W Safety
- Spec ID No. 48197 for PSBF66W Emissions
- Spec ID No. 48195 for PS130W Emissions
- Spec ID No. 48190 for PS60W Emissions
- Spec ID No. 48189 for PS60W, PS130W, PSBF66W Safety

4 Evaluation Method

Enerco Group, Inc. requested an evaluation to add models PS20WP, PS60WP, PS130WP, and PSBF66WP Pellet Fuel Room Heaters and remove existing models PS20W, PS60W, PS130W and PSBF66W. New models are identical with the only change being a name change adding the (P) designation.

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 104920060MID-001
Date: 02/24/22

5 Conclusion

Intertek has conducted this product evaluation for Enerco Group, Inc, on models PS20WP, PS60WP, PS130WP and PSBF66WP Pellet Fuel Room Heaters, to evaluate the addition of new models. The evaluation was conducted to determine if additional models will maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:

- The only change occurring is the model's name change. The new models PS20WP, PS60WP, PS130WP and PSBF66WP are identical.

INTERTEK TESTING SERVICES NA LTD.

Reported by: Ken Slater
Ken Slater
Associate Engineer - Hearth

Reviewed by:
Brian Ziegler
Technical Team Leader - Hearth

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6 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY	REPORTER	REVIEWER
February 24, 2022	Original	Brian Ziegler	Ken Slater

ENERCO GROUP, INC
PRODUCT EVALUATION

PRODUCT EVALUATED
MODELS PS20W, PS60W, PS130W AND PSBF66W PELLET FUEL ROOM HEATERS

EVALUATION PROPERTY
ASTM E1509-2012 (R2017), ULC S627-2000 (R2020), ASTM E2515-2017, ASTM E2779-2017, CSA B415.1-2010 (R2020)

REPORT NUMBER
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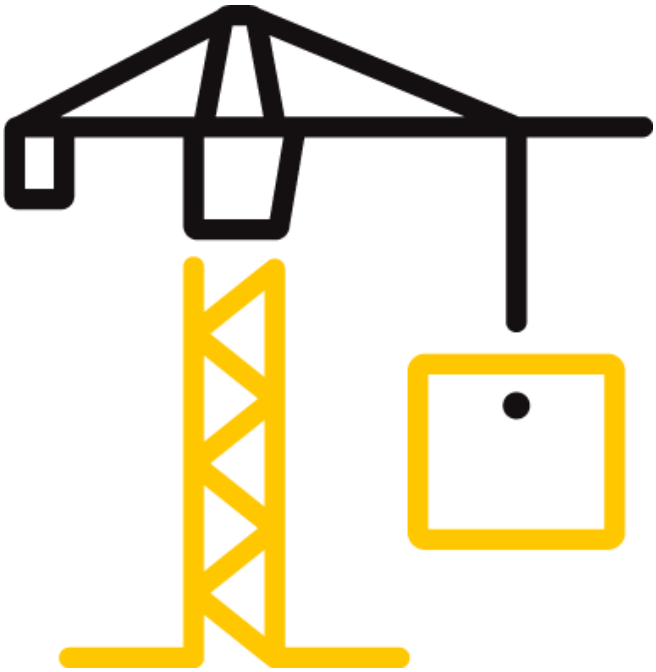

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105032925MID-001
Date: 04/07/22

PRODUCT EVALUATION RENDERED TO:	
Company Name:	Enerco Group, Inc
Address:	4560 W 160th Street
	Cleveland, OH 44135
Contact Person:	Jeff Bunsey
Tel:	216-588-0870
Email:	jeff.bunsey@us-egi.com

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105032925MID-001
Date: 04/07/22

1 Introduction

Intertek Testing Services NA Inc. (Intertek) is conducting a product evaluation for Enerco Group, Inc, on models PS20W, PS60W, PS130W and PSBF66W Pellet Fuel Room Heaters, to evaluate the removal of "P" from the model names. The evaluation is being conducted to change the model names back to the original models without the "P" designation and maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

2 Product and Assembly Description

2.1. Product Description:

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PS20W Pellet Fuel Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 20-inches deep, 28.5-inches high, and 18.25-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned on the top front of the unit. A galvanized steel fuel hopper located on the rear of the unit.
Models	PS20W
Model Similarity	None
Ratings	120V, 3.3A, 60Hz

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PSBF66W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 26-inches deep, 30.25-inches high, and 26-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit. The model PS130W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 24-inches deep, 36.5-inches high, and 24.5-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit.
Models	PS60W, PS130W, PSBF66W

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105032925MID-001
Date: 04/07/22

Model Similarity	PS60W is similar to the model PS130W with the exception of being smaller in size, 23.5-inches deep, 33.25-inches high, and 21.75-inches wide with a lower feed rate of 4.01 lbs/hr, all components are the same as model PS130W, therefore the model PS60W is deemed to be compliant with these requirements as well.
Ratings	Burn Rate (high) – 1.82 kg/hr PS60W Burn Rate (high) – 2.59 kg/hr PS130W Burn Rate (high) – 2.77 kg/hr PSBF66W Electrical Rating – 120V, 60Hz, 3.3A (all models)

3 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- ASTM E1509-2012 (R2017)
- ULC S627-2000 (R2020)
- ASTM E2515-2017
- ASTM E2779-2017
- CSA B415.1-2010 (R2020)
- Spec ID No. 51087 for PS20W Emissions
- Spec ID No. 51088 for PS20W Safety
- Spec ID No. 48197 for PSBF66W Emissions
- Spec ID No. 48195 for PS130W Emissions
- Spec ID No. 48190 for PS60W Emissions
- Spec ID No. 48189 for PS60W, PS130W, PSBF66W Safety

4 Evaluation Method

Enerco Group, Inc. requested an evaluation to remove the “P” designation for models PS20WP, PS60WP, PS130WP, and PSBF66WP Pellet Fuel Room Heaters and rename the models back to PS20W, PS60W, PS130W and PSBF66W.

Enerco requested an earlier project to add the “P” designation for the referenced models. U.S. EPA indicated to Enerco Group, Inc. that the “P” designation should not be used.

These models are identical with the only change being a name change by removing the “P” designation and reverting back to the original model names.

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5 Conclusion

Intertek has conducted this product evaluation for Enerco Group, Inc, on models PS20W, PS60W, PS130W and PSBF66W Pellet Fuel Room Heaters, to evaluate the removal of "P" from the model names. The evaluation was conducted to change the model names back to the original models without the "P" designation and maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

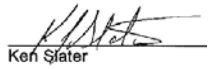
Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:

- The only change occurring is the model's name for each stove. The stoves are reverting back to the original models PS20W, PS60W, PS130W and PSBF66W.

INTERTEK TESTING SERVICES NA LTD.

Reported by:

Brian Ziegler
Technical Team Leader - Hearth

Reviewed by: 

Ken Slater
Associate Engineer - Hearth

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6 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY	REPORTER	REVIEWER
April 7, 2022	Original	Brian Ziegler	Ken Slater

ENERCO GROUP, INC
PRODUCT EVALUATION

PRODUCT EVALUATED
MODELS PS20W, PS60W, PS130W AND PSBF66W PELLET FUEL ROOM HEATERS

EVALUATION PROPERTY
ASTM E1509-2012 (R2017), ULC S627-2000 (R2020), ASTM E2515-2017, ASTM E2779-2017, CSA B415.1-2010 (R2020)

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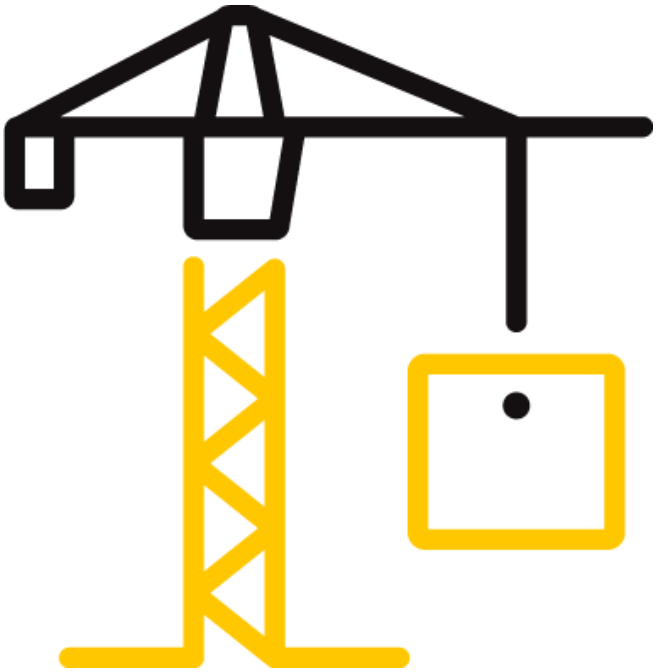

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105110125MID-001c
Date: 07/11/22

PRODUCT EVALUATION RENDERED TO:	
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Email:	jeff.bunsey@us-egi.com

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105110125MID-001c
Date: 07/11/22

1 Introduction

Intertek Testing Services NA Inc. (Intertek) is conducting a product evaluation for Enerco Group, Inc, on models PS20W, PS60W, PS130W and PSBF66W Pellet Fuel Room Heaters, to evaluate the addition of models C20W, H20W, J20W, N20W, C60W, H60W, J60W, N60W, C130W, H130W, J130W, N130W, CBF66W, HBF66W, JBF66W, NBF66W. The evaluation is being conducted to add the referenced models as similar models and show compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

2 Product and Assembly Description

2.1. Product Description:

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PS20W Pellet Fuel Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 20-inches deep, 28.5-inches high, and 18.25-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned on the top front of the unit. A galvanized steel fuel hopper located on the rear of the unit.
Models	PS20W
Model Similarity	None
Ratings	120V, 3.3A, 60Hz

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works
Description	The model PSBF66W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 26-inches deep, 30.25-inches high, and 26-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit. The model PS130W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 24-inches deep, 36.5-inches high, and 24.5-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit.
Models	PS60W, PS130W, PSBF66W

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105110125MID-001c
Date: 07/11/22

Model Similarity	PS60W is similar to the model PS130W with the exception of being smaller in size, 23.5-inches deep, 33.25-inches high, and 21.75-inches wide with a lower feed rate of 4.01 lbs/hr, all components are the same as model PS130W, therefore the model PS60W is deemed to be compliant with these requirements as well.
Ratings	Burn Rate (high) – 1.82 kg/hr PS60W Burn Rate (high) – 2.59 kg/hr PS130W Burn Rate (high) – 2.77 kg/hr PSBF66W Electrical Rating – 120V, 60Hz, 3.3A (all models)

3 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- ASTM E1509-2012 (R2017)
- ULC S627-2000 (R2020)
- ASTM E2515-2017
- ASTM E2779-2017
- CSA B415.1-2010 (R2020)
- Spec ID No. 51087 for PS20W Emissions
- Spec ID No. 51088 for PS20W Safety
- Spec ID No. 48197 for PSBF66W Emissions
- Spec ID No. 48195 for PS130W Emissions
- Spec ID No. 48190 for PS60W Emissions
- Spec ID No. 48189 for PS60W, PS130W, PSBF66W Safety

4 Evaluation Method

Enerco Group, Inc. requested an evaluation to add models C20W, H20W, J20W, N20W, C60W, H60W, J60W, N60W, C130W, H130W, J130W, N130W, CBF66W, HBF66W, JBF66W, NBF66W as similar models to PS20W, PS60W, PS130W and PSBF66W.

All new referenced models have been identified as the exact same as the originally tested models with only a name change to the product. No additional testing was required.

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5 Conclusion

Intertek has conducted this product evaluation for Enerco Group, Inc, on models PS20W, PS60W, PS130W and PSBF66W Pellet Fuel Room Heaters, to evaluate the addition of models C20W, H20W, J20W, N20W, C60W, H60W, J60W, N60W, C130W, H130W, J130W, N130W, CBF66W, HBF66W, JBF66W, NBF66W The evaluation was conducted to add the referenced models as similar models and show compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:

- The only change occurring is the additional model names for each stove. All components and drawings are identical for all referenced models. These additional models have been deemed compliant with the referenced test standards.

INTERTEK TESTING SERVICES NA LTD.

Reported by:

Brian Ziegler
Technical Team Leader - Hearth

Reviewed by:

Ken Slater

Ken Slater
Associate Engineer - Hearth

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105110125MID-001c
Date: 07/11/22

6 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY	REPORTER	REVIEWER
July 11, 2022	Original	Brian Ziegler	Ken Slater

ENERCO GROUP, INC
PRODUCT EVALUATION

PRODUCT EVALUATED
MODELS C20WTS, H20WTS, J20WTS, N20WTS, C60WTS, H60WTS, J60WTS, N60WTS, C130WTS, H130WTS, J130WTS, N130WTS, CBF66WTS, HBF66WTS, JBF66WTS, NBF66WTS PELLET FUEL ROOM HEATERS

EVALUATION PROPERTY
ASTM E1509-2012 (R2017), ULC S627-2000 (R2020), ASTM E2515-2017, ASTM E2779-2017, CSA B415.1-2010 (R2020)

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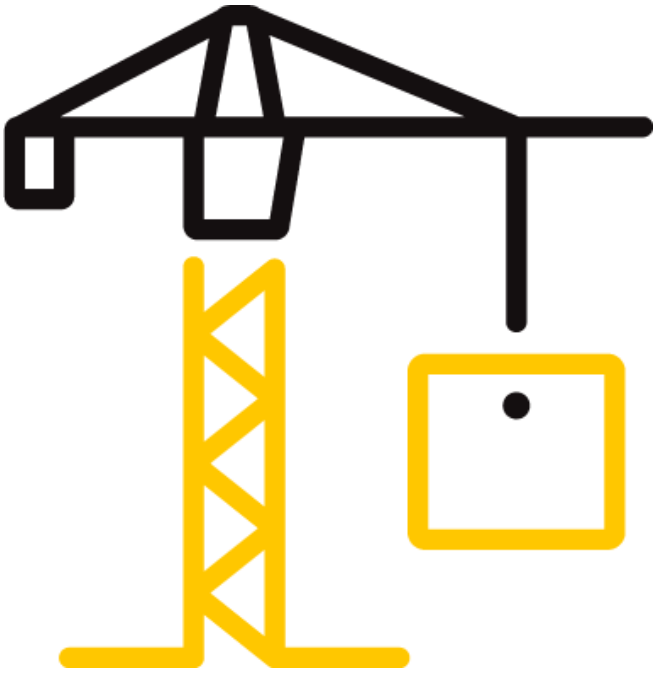

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105284101MID-001
Date: 12/16/22

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Address:	4560 W 160th Street
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Contact Person:	Jeff Bunsey
Tel:	216-588-0870
Email:	jeff.bunsey@us-egi.com

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105284101MID-001
Date: 12/16/22

1 Introduction

Intertek Testing Services NA Inc. (Intertek) is conducting a product evaluation for Enerco Group, Inc, on models PS20W, PS60W, PS130W and PSBF66W Pellet Fuel Room Heaters, to evaluate the addition of new models C20WTS, H20WTS, J20WTS, N20WTS, C60WTS, H60WTS, J60WTS, N60WTS, C130WTS, H130WTS, J130WTS, N130WTS, CBF66WTS, HBF66WTS, JBF66WTS, NBF66WTS. The evaluation is being conducted to determine if additional models will maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

2 Product and Assembly Description

2.1. Product Description:

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works, Master Forge, Enerco
Description	The model PS20W Pellet Fuel Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 20-inches deep, 28.5-inches high, and 18.25-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned on the top front of the unit. A galvanized steel fuel hopper located on the rear of the unit.
Models	Cleveland Iron Works models: PS20W, PS20WTS Master Forge model: H30XL Enerco models: C30XL, J30XL, N30XL, C20W, H20W, J20W, N20W
Model Similarity	PS20WTS is identical to model PS20W, but the PS20WTS uses a touch screen display for the controller. PS20W to the C30XL, H30XL, J30XL and N30XL includes an overall increase in height of 130 mm, which includes louvers above the viewing door. The hopper dimensions were increased by 129.8 mm in height and 68 mm in depth at the top of the hopper. Models C20W, H20W, J20W, N20W are all identical to model PS20W.
Ratings	120V, 3.3A, 60Hz Input Rate - 1.70 kg/hr

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PRODUCT EVALUATION FOR ENERCO GROUP, INC

Report No.: 105284101MID-001
Date: 12/16/22

Product	Pellet Fuel Room Heater
Brand Name	Cleveland Iron Works, Master Forge, Enerco
Description	The model PSBF66W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 26-inches deep, 30.25-inches high, and 26-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit. The model PS130W Wood Pellet Fueled Room Heater is constructed of carbon steel with a cast iron firebox access door. The outer dimensions are 24-inches deep, 36.5-inches high, and 24.5-inches wide. The heat exchanger is located directly above the firebox with outlet air grille positioned directly above the firebox access door. A galvanized steel fuel hopper located at the top back of the unit.
Models	Cleveland Iron Works Models: PS60W, PS60WTS, PS130W, PS130WTS, PSBF66W, PSBF66WTS Master Forge Models: H80XL, H140XL, H3W80XL Enerco Models: C80XL, J80XL, N80XL, C140XL, J140XL, N140XL, C3W80XL, J3W80XL, N3W80XL, C60W, C130W, CBF66W, H60W, H130W, HBF66W, J60W, J130W, JBF66W, N60W, N130W, NBF66W
Model Similarity	PS60W is similar to the model PS130W with the exception of being smaller in size, 23.5-inches deep, 33.25-inches high, and 21.75-inches wide with a lower feed rate of 4.01 lbs/hr, all components are the same as model PS130W, therefore the model PS60W is deemed to be compliant with these requirements as well. Models PS60WTS, PS130WTS, and PSBF66WTS are all identical to models PS60W, PS130W, and PSBF66W, with the only difference being a touch screen controller display. The C Series, H Series, J Series, and N Series models are all the same, with the exception of a larger hopper capacity with the following dimensions: PS60W is the same as models C80XL, H80XL, J80XL and N80XL, which includes an overall increase in height of 150 mm. The hopper dimensions were increased by 150 mm in height. PS130W is the same as models C140XL, H140XL, J140XL and N140XL, which includes an overall increase in height of 80 mm. The hopper dimensions were increased by 80 mm in height. PSBF66W is the same as models C3W80XL, H3W80XL, J3W80XL and N3W80XL, which includes an overall increase in height of 43.8 mm. The hopper dimensions were increased by 45 mm in height.

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PRODUCT EVALUATION FOR ENERCO GROUP, INC
Report No.: 105284101MID-001
Date: 12/16/22

	Models C60W, C130W, CBF66W, H60W, H130W, HBF66W, J60W, J130W, JBF66W, N60W, N130W, NBF66W are all identical to models PS60W, PS60WTS, PS130W, respectively.
Ratings	Burn Rate (high) – 1.82 kg/hr PS60W Burn Rate (high) – 2.59 kg/hr PS130W Burn Rate (high) – 2.77 kg/hr PSBF66W Electrical Rating – 120V, 60Hz, 3.3A (all models)

3 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- ASTM E1509-2012 (R2017)
- ULC S627-2000 (R2020)
- ASTM E2515-2017
- ASTM E2779-2017
- CSA B415.1-2010 (R2020)
- Spec ID No. 51087 for PS20W Emissions
- Spec ID No. 51088 for PS20W Safety
- Spec ID No. 48197 for PSBF66W Emissions
- Spec ID No. 48195 for PS130W Emissions
- Spec ID No. 48190 for PS60W Emissions
- Spec ID No. 48189 for PS60W, PS130W, PSBF66W Safety

4 Evaluation Method

Enerco Group, Inc. requested an evaluation to add models C20WTS, H20WTS, J20WTS, N20WTS, C60WTS, H60WTS, J60WTS, N60WTS, C130WTS, H130WTS, J130WTS, N130WTS, CBF66WTS, HBF66WTS, JBF66WTS, and NBF66WTS Pellet Fuel Room Heaters. Models C20WTS, H20WTS, J20WTS, N20WTS, C60WTS, H60WTS, J60WTS, N60WTS, C130WTS, H130WTS, J130WTS, N130WTS, CBF66WTS, HBF66WTS, JBF66WTS, and NBF66WTS are identical to models PS20WTS, PS60WTS, PS130WTS and PSBF66WTS with the touch screen controller.

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5 Conclusion

Intertek has conducted this product evaluation for Enerco Group, Inc, on models PS20W, PS60W, PS130W and PSBF66W Pellet Fuel Room Heaters, to evaluate the addition of new models C20WTS, H20WTS, J20WTS, N20WTS, C60WTS, H60WTS, J60WTS, N60WTS, C130WTS, H130WTS, J130WTS, N130WTS, CBF66WTS, HBF66WTS, JBF66WTS, NBF66WTS. The evaluation was conducted to determine if additional models will maintain compliance with ASTM E1509-2012 (R2017) "Standard Specification for Room Heaters, Pellet Fuel-Burning Type", ULC S627-2000 (R2020) Standard for Space Heaters for Use With Solid Fuels, ASTM E2515-2017 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM E2779-2017 "Standard Test Method for Determining Particulate Emissions from Pellet Heaters", and CSA B415.1-2010 (R2020) "Performance Testing of Solid-Fuel-Burning Heating Appliances".

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:

- This evaluation is to add additional models C20WTS, H20WTS, J20WTS, N20WTS, C60WTS, H60WTS, J60WTS, N60WTS, C130WTS, H130WTS, J130WTS, N130WTS, CBF66WTS, HBF66WTS, JBF66WTS, NBF66WTS, which are identical to existing models PS20WTS, PS60WTS, PS130WTS and PSBF66WTS. These models have been deemed to be in compliance with the references test standards.

INTERTEK TESTING SERVICES NA LTD.

Reported by: _____
Brian Ziegler
Technical Team Leader - Hearth

Reviewed by: Ken Slater _____
Ken Slater
Associate Engineer - Hearth

8431 Murphy Drive
Middleton, Wisconsin 53562

Telephone: 608-836-4400
Facsimile: 608-831-9279
www.intertek.com/building

6 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY	REPORTER	REVIEWER
December 16, 2022	Original	Brian Ziegler	Ken Slater

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
30-DAY NOTIFICATION FORM
PURSUANT TO 40 CFR PART 60 SUBPARTS AAA AND QQQQ
2015 STANDARDS OF PERFORMANCE FOR NEW RESIDENTIAL WOOD HEATERS, NEW RESIDENTIAL HYDRONIC HEATERS AND FORCED-AIR FURNACES

Disclaimer: The statutory provisions and the EPA regulations described in this document contain legally binding requirements. This document is not a substitute for those provisions or regulations, nor is it a regulation itself. In the event of a discrepancy, please refer to 40 CFR PART 60 Subparts AAA AND QQQQ, Sections 60.533 and 60.5475. This document may be revised periodically without public notice. If you have additional questions, please contact Rafael Sanchez at 202-564-7028 or via email at sanchez.rafael@epa.gov.

- The manufacturer of an affected wood/pellet heater/central heater model line must notify the Administrator of the date that certification testing is scheduled to begin by email to WoodHeaterReports@epa.gov.
- This notice must be received by the EPA at least 30 days before the start of testing.

GENERAL INFORMATION

Manufacturer's Name:
Enerco Group, Inc.

Appliance Type (Circle One):	Adjustable Burn Rate Wood Heater	Pellet Stove	Single Burn Rate Heater	Hydronic Heater	Forced Air Furnace	Other:
Hydronic Heater Type (Circle One):	Traditional	Full Storage	Partial Storage	Indoor/Outdoor	Other:	
Forced-Air Furnace Type (Circle One):	Small (less than 65,000 BTU/hr heat output)		Large (greater than 65,000 BTU/hr heat output)		Other:	
Fuel Type:	Crib	Pellet	Cordwood	Other:		

Model Name and Number:
Pellet Stove – Model PS20W

Catalyst: Yes_____ No___X____

Mailing Address:
4560 West 160th Street, Cleveland, OH 44135

Street Address:
Same as above

City:	**State:**	**ZIP Code:**
Cleveland	OH	44135
Phone:	**Fax:**	**Web Site:**
800.251.0001		www.mrheater.com

Address of Manufacturing Facility:
Ningbo Hanks Heating Appliance Technology Co. Ltd
No. 5 Xier Road, Lizhou Street

City:	**State**	**ZIP Code:**
Huangjianshan Village	China	315400

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
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- This notice must be received by the EPA at least 30 days before the start of testing.

EPA APPROVED TEST LABORATORY

Name and Title of Authorized Representative: Brian Ziegler – Technical Team Leader - Hearth		
Company: Intertek		
Phone: 608-824-7425	**E-mail:** brian.ziegler@intertek.com	**Fax:** 608-831-9279
City: Middleton	**State:** WI	**ZIP Code:** 53562

EPA APPROVED THIRD-PARTY CERTIFIER

Name and Title of Authorized Representative: Charles Meyers – Certification Manager		
Company: Intertek		
Phone: 312-906-7783	**E-mail:** charles.meyers@intertek.com	**Fax:**
City: Arlington Heights	**State:** IL	**ZIP Code:** 60005

COMPLIANCE TEST INFORMATION

Test Method(s): EPA 40 CFR Part 60, Subpart AAA, ASTM E2515-11, ASTM E2779-10, CSA B415.1-2010

Date(s) of Proposed Test: ~~September 3, 2021~~ August 11, 2021 8/4/21

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
30-DAY NOTIFICATION FORM
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- This notice must be received by the EPA at least 30 days before the start of testing.

Testing Location:

Intertek
8431 Murphy Drive
Middleton, WI 53562

JEFF BUNSEY, SENIOR MANAGER
Print Name and Title of Authorized Official

Signature

8/2/21
Date

Remarks:

Retest

v1

From:	Scinta, Robert
To:	Brian Ziegler Intertek; Sanchez, Rafael
Cc:	Brian Brunson Intertek; Johnson, Steffan; Ayres, Sara
Subject:	[External] RE: Pellet Stove Testing
Date:	Monday, August 9, 2021 9:27:12 AM
Attachments:	image001.png

Hello Brian,

As discussed, please move forward with the Enerco Group project.

Thank you.

Bob

Robert Scinta, P.E., Chief
Air Branch
Monitoring, Assistance, and Media Programs Division
Office of Compliance
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
ph: (202) 564-7171
cell: (202) 573-6442

From: Brian Ziegler Intertek <brian.ziegler@intertek.com>
Sent: Tuesday, June 29, 2021 11:55 AM
To: Sanchez, Rafael <Sanchez.Rafael@epa.gov>
Cc: Brian Brunson Intertek <brian.brunson@intertek.com>; Johnson, Steffan <johnson.steffan@epa.gov>; Scinta, Robert <scinta.robert@epa.gov>; Ayres, Sara <Ayres.Sara@epa.gov>
Subject: RE: Pellet Stove Testing

Hi Rafael,

Thank you for the ADEC summary list, but the four models noted below are the models we have an open project for and have been asked to review by our client.

We are asking that you provide us with a decision on the letter we submitted on June 18th, so we can proceed with the project we have for Enerco Group.

Thank you,

Brian Ziegler

INTRODUCTION

This document provides a systematic guide for the technician conducting tests to EPA standard requirements. Procedures outlined here, when followed, will result in tests in conformance with ASTM E2779 and ASTM E2515. This guide cannot cover every possible contingency that may develop during a particular test program. Many questions that may arise can be answered by a complete understanding of the test standards and their intent. When in doubt on any detail check with the laboratory manager and be sure you understand the procedures involved.

The primary measurements to be obtained are particulate emission data and efficiency data. The technician's duties include the following steps. It is critical that all spaces on the data forms be properly filled in. Each test must be represented by a complete record of what was done and when.

I. APPLIANCE INSPECTION AND SET-UP
   - A. Incoming Inspection
   - B. Unit Set-Up

II. SAMPLING SYSTEMS - SET-UP
   - A. Gas Analysis
   - B. Dilution Tunnel

III. TEST CONDUCT
   - A. Pre-Test Fuel Load
   - B. Test Fuel Load
   - C. Unit Start - up
   - D. Test Run

IV. POST TEST PROCEDURE
   - A. Leak Checks
   - B. Particulate Sample Recovery

The technician running this test must be familiar with the following documents that are to be kept in the laboratory at all times.

1. ASTM E2779
2. ASTM E2515

I. APPLIANCE INSPECTION AND SET-UP

A. Incoming Inspection

1. Check for completeness of unit including parts, accessories, installation and operating instructions, drawings and specifications, etc. Note any discrepancies or missing parts.
2. Check for shipping damage. If damage has occurred, notify the laboratory manager. In some cases repairs may be made, provided the manufacturer and laboratory manager concur that repairs will not affect the unit's performance. If damage is irreparable, a new unit will need to be obtained.
3. Mark unit with manufacturer's name, model number, work order number, and date received.
4. If unit is safety listed, note label data including listing agency and serial number.

B. Unit Set-Up

1. All units must be operated by the manufacturer or Intertek for a break-in period of 50 hours at a medium burn rate. NOTE: Inserts are tested as if they are freestanding stoves.
2. Once break-in is completed, allow unit to cool then clean unit thoroughly.
3. Prior to placing unit on scale, the scale must be turned on and allowed to warm up for 1-hour minimum.
4. Place unit on scale and align so chimney will be centered in hood. Record the weight of the unit and all accessories. (Do not weigh with chimney attached.)
5. Chimney and connector should be cleaned with a wire brush prior to mounting. Attach chimney and connector then seal all joints. Be sure the single wall stove pipe terminates and insulated pipe starts at proper level above scale platform. Chimney must be supported from scale so that it does not touch test enclosure or hood walls.
6. Plug thermocouples into data acquisition system jacks and verify that all instrumentation is working properly.
7. Dilution tunnel must be cleaned prior to each certification test series, and at anytime a higher burn rate follows a lower burn rate.

II. SAMPLING SYSTEMS SET-UP

A. Gas Analysis

1. All instruments should be turned on and allowed to warm up for 1-hour minimum.

2. Prior to calibrating, make sure that the outlet pressure on each calibration gas bottle reads 10 PSI. Adjust flow meters at each gas analyzer to required flow.

The gas analyzer (CO_2, CO, O_2) is zeroed on nitrogen. The O_2, CO_2 and CO analyzer is spanned with a certified span gas mixture.

Calibrate analyzers as follows:

a. With calibration switch at "SPAN", adjust all span controls to values specified on span gas label.
b. Switch to "ZERO" and adjust zero controls to provide 0.00 readout on all analyzers.
c. Repeat a. and b. until no further adjustment is required.
d. Record these values on the appropriate data sheet.
e. Switch to "CAL." and record all analyzer values.

3. Response time synchronization check.

a. With switch at "SAMPLE" and no fire in unit, allow readings to stabilize (O_2 analyzer should read 20.93, CO and CO_2 should read 0.00).
b. Switch to "CAL" setting and start the stopwatch. Note the time required for each unit to reach the calibration gas bottle value. If all three analyzers reach this value within 5 seconds of each other, synchronization is adequate. If not, contact the laboratory manager. Synchronization is adjusted by either internal instrument setting or adjustment of sample line length.
c. Use EPA Method 5H 6.7-6.9 procedures to check calibration of instruments.

4. Sample clean-up train.

a. Load a new filter in 4-inch glass filter holder.
b. Load four Impingers as follows:
   #1: 100 ml. distilled water
   #2: 100 ml. distilled water
   #3: Empty
   #4: 200-300 grams Drierite.

c. Place Impingers in container and connect with greased "U TUBES". (Grease carefully on bottom half of ball joint so that grease will not get into tubes.)
d. Connect filter to impinger #1 and sample line to impinger #4.
e. Connect stack probe to filter.
f. Leak check system as follows:

1) Plug probe.
2) Turn on sample system and increase flow rate slowly.
3) Set vacuum-adjust valve to obtain a vacuum of 10 inches mercury.
4) If sapphire float in rotometer does not stabilize below 10 on scale, system must be resealed.
5) Repeat leak-check procedure until satisfactory results are obtained.
6) Unplug probe slowly, then decrease flow rate slowly before shutting off system.

g. Just prior to starting test, fill impinger container with ice.

B. Dilution Tunnel Sample Train Set-Up:

1. Filters and holders.
   a. Clean probes and filter holder front housings carefully and desiccate to a constant weight prior to use.
   b. Filters and filter probe combinations should be numbered and labeled prior to use.
   c. Weigh desiccated filters and probe filter units on analytical balance. Record the weights on the appropriate form. Note that the probe and front half of the front filter holder is to be weighed as a unit.
   d. Carefully assemble the filter holder units and connect to sampling systems.
   e. System #1 (Filter set #1) will have one filter set and System #2 (Filter set #2 and #3) will have two filter sets. Filter set #2 will be changed 1-hour into the test.
   e. Change desiccate columns with dry absorbent before each test series.

2. Leak checking.

   a. Each sample system is to be checked for leakage prior to inserting probes in tunnel.
   b. Plug probes and start the samplers. Adjust pump bypass valve to produce a vacuum reading of 10 inches mercury. NOTE: During test, highest vacuum recorded is required for posttest leak check.
   c. Allow vacuum indication to stabilize at 10" mercury, record dry gas meter readings, (DGM_1, DGM_2). At a convenient DGM value start stopwatch. Time for 1 minute then stop vacuum pumps. Record dry gas meter readings again, (DGM_3, DGM_4). NOTE: If rotometer ball is floating above the 5-mm mark, system is leaking too much and all seals should be checked.

d. Calculate leakage rate as follows.

System 1: DGM3-DGM_1 = CFM_1
System 2: DGM4-DGM_2 = CFM_2

If CFM_1 or CFM_2 is greater than 0.02 cfm, or $_1S$ greater than 0.04 x Sample Rate, leakage is unacceptable and system must be resealed. For most tests the sample rate will be 0.25 cfm, thus leakage rates in excess of 0.04 x 0.25 = 0.010 cfm are not acceptable.

e. To prevent contamination, do not insert probes in tunnel until the start of the test run.

III. TEST CONDUCT

A. Pre-Test Fuel Load

1. Fill hopper with pellets, tare the scale, and place a 25lb weight on the scale to measure fuel consumed.

B. Test Fuel Load

1. Determine moisture content of pellets per ASTM E871 by weighing pellets before and after oven drying.
2. Verify and document the pellet manufacturer and grade of pellets used for test.
3. Confirm enough pellets are in the hopper to complete the test, add if necessary. Tare scale and place a 25lb weight on the scale to measure fuel consumed.

C. Unit Start-Up

1. With all doors and air controls closed, zero draft Magnehelic using screw located at bottom of meter.
2. Before lighting a fire turn on dilution tunnel and set flow rate to 140 scfm (approximately 715 fpm) if burn rate is to be less than 3 kg/hr. For higher burn rates set flow for a 150:1 air fuel ratio (see chart for approximate values).
3. Check draft imposed on cold stove. All inlets must be closed and a draft gauge in the chimney. If draft is greater than 0.005 inches water column, adjust tunnel to stack gap until draft is less than 0.005 inches water column.
4. With hot wire anemometer check for ambient airflow around unit (must be less than 50 ft/min).

5. Tare scale and start fire by turning the unit on per manufacturer's instructions. (Make sure stack sample probe is on the unit.)
6. Once fuel is burning well, operate at high fire for sufficient time to get the fuel burning well. Then adjust settings to intended test run levels.
7. Perform the dilution tunnel traverse as prescribed in ASTM E2515, Section 9.3.2 (Pitot tube should be carefully cleaned prior to each test.)
8. Pretest must burn for a minimum of 1 hour. Record room and flue temperatures.

D. Test Run

1. Stack gas analyzers should be on and in the sample mode.
2. When the 1-hour pre-burn is complete, the test is to be started.
   a. Insert the sample probes into the tunnel being careful not to hit sides of tunnel with probe tip.
   b. Check tunnel Pitot tube for proper position.
   c. Confirm heater is set to the maximum burn rate.
   d. Record initial readings.
   e. Turn on probe sample systems and start timing test.
   f. Tare platform scale and add 25lb weight.
   g. Every 10 minutes record the following:
      1) Dry gas meter readings.
      2) Weight remaining.
      3) All thermocouple temperatures.
      4) Tunnel Pitot tube reading.
      5) Draft reading.
      6) Rotometer readings.
   h. Filter temperatures shall not exceed 90ºF anytime during the test. If the filters are approaching 90ºF turn on cooling pump. Filters must be kept above the dilution tunnel wet bulb temperature in order to prevent condensation.
   i. Regularly check impinger train for ice level during test.
   j. At 1-hour, Filter set #2 is to be removed from the dilution tunnel and Filter set #3 is added. The heater is changed from the high burn setting to the ≤50% of maximum burn rate setting and operated for 2-hours.
   k. At the 3-hour point, the heater is changed to the lowest burn rate setting.
   l. At the 6-hour point, shut off sample trains and record last reading.
   m. Record final dry gas meter values.
   n. Shut down heater per manufacturer's instructions.

IV. POST TEST PROCEDURES

A. Leak Checks

1. Dilution Tunnel
   a. Remove sample probes from tunnel and plug with rubber stopper.
   b. Turn on sample system and set vacuum to 10" mercury or to the highest value reached during the test.
   c. At a convenient value start stopwatch and record the DGM starting value.
   d. After 1 minute stop sample system and record ending DGM value.
   e. Calculate leakage rate per pre-test description (see II.B.2.c.).

2. Gas Analyzers

   a. Set stack sample flow to about 75 mm on the rotometer.
   b. Plug with rubber stopper.
   c. Adjust vacuum to 10" mercury.
   d. Let system stabilize then record rotometer readings.
   e. If the rotometer readings do not equal zero, check with the laboratory manager.
   f. SLOWLY unplug probe and decrease flow rate to zero.
   g. Turn off stack sampling system.
   h. Zero, span and calibrate the analyzers (see Gas Analysis). RECORD ONLY these meter values.

B. Particulate Sample Recovery

1. Disassemble filter holder and collect all loose material on filters.
2. Weigh and record probes and filters for each train. NOTE: 24 hours of desiccation must pass before final "no change" weight values can be recorded.
3. Weigh and record probes and fillers at 6-hour intervals until weight change between weighing is less than 0.5 mg.

V. DISPOSITION OF TESTED UNIT.

In order to meet the requirements of section 60.533(b)(8) of the EPA's 40CFR Part 60 Standards of Performance for New Residential Wood Heaters, Intertek Testing Services seals certified wood heaters by:

1) Applying tamper-indicating tape to the firebox door, ash pan door, and the air controls.

2) Totally covering the unit with stretch wrap and stamping the stretch wrap with our WHI logo at various locations.
3) Strapping the door and ash pan closed with plastic banding so that the banding goes both around the unit laterally and from top to bottom. The banding is then stamped with our WHI logo so that the banding can't be simply replaced.
4) The certificate is then placed on the top of the unit and a second layer of stretch wrap is applied and stamped with our WHI logo.
5) The unit is placed on a pallet and strapped down with additional strapping to keep it on the pallet. It is then shipped back to the manufacturer.

To:

Intertek
8431 Murphy Drive
Middleton, WI 53562
Attn: Brian Ziegler

From: Peter Baszuk

Test Instructions

Below is the list of modes to use for High, Medium, and Low burn rate testing:

Model:	**High:**	**Medium:**	**Low:**
PS20W	P1	P3	P4

Please contact me if you need additional information or have any questions.

Best Regards,

Peter Baszuk
Director of Engineering
14800 Brookpark Road
Cleveland, OH 44135
216.588.0876 direct
440.759.9023 cell
1-800-321-0552 Corporate fax
peter.baszuk@us-egi.com
www.mrheater.com

Timber Products Inspection, Inc.

CERTIFICATE OF QUALIFICATION

This is to signify that

MARTH WOOD SHAVING SUPPLY, INC.

6752 State Highway 107 North
Marathon, WI 54448

Is hereby qualified as registration #16006
May 30, 2014

Marth Wood Shaving Supply, Inc. is compliant with the PFI Standards Program as audited by Timber Products Inspection and accredited by the American Lumber Standards Committee. In order to maintain compliance, the producer agrees to:

- Maintain complete and up to date Densified Fuel production records
- Produce and market quality products, which conform to PFI & ALSC program documents
- Apply the quality mark only to products which have been proven through applicable monitoring

Chris Wiberg, Densified Fuel Program Manager
Timber Products Inspection, Inc.
1641 Sigman Road, Conyers GA 30012 770.922.8000

Intertek Pharmaceutical Services
P.O. Box 470
Salem Industrial Park Bldg. #5
Whitehouse, NJ 08888
Phone 908.534.4445
Fax 908.534.1054

Analytical Report

Report Number: 186096
Report Status: *Interim*

Brian Ziegler
Intertek
8431 Murphy Dr.
Middleton, WI 53562

Sample: Marth wood pellets

C	H	N	O
46.87 %	6.41 %	0.06 %	To Follow.

ROI	LOD
< 0.1 %	4.32 %

This document has been electronically approved by Michael Stecker, Research Chemist on 10/25/2021 at 2:40:47 PM.
File name:1635187237.186096.pdf

Intertek Pharmaceutical Services
P.O. Box 470
Salem Industrial Park Bldg. #5
Whitehouse, NJ 08888
Phone 908.534.4445
Fax 908.534.1054

Analytical Report

Report Number: 186096
Report Status: *Interim*

Brian Ziegler
Intertek
8431 Murphy Dr.
Middleton, WI 53562

non-GMP Statement

All experimental work at Intertek Whitehouse is conducted under the auspices of a rigorous Quality Management System; however, the data presented in this report was generated using procedures that have not been validated in accordance with 21 CFR, parts 210 and 211.

Intertek makes no claims to the applicability of the data and the Client is solely responsible for determining whether the information provided in this report is suitable for the intended application.

This document has been electronically approved by Michael Stecker, Research Chemist on 10/25/2021 at 2:40:47 PM.
File name:1635187237.186096.pdf

From: John Zrucky <Zrucky@marthwood.com>
Sent: Thursday, October 7, 2021 11:02 AM
To: Andrew Reinemann <areinemann@marthwood.com>
Subject: RE: Marth pellet analysis

Andrew,

Yes, we are PFI Certified, our certification numbers are 16005 for Peshtigo and 16006 for Marathon. For cost reduction in printing of the bags, either facility can use either of the certification numbers. To differentiate, you need to look at the code dates stamped on the bag.

Stats for Marathon facility:
YTD average on BTU is 8160.
YTD average on ash is 56.3%.
We do not test for carbon, hydrogen or oxygen. This is not required by PFI or any other standard.

Thank you.

John Zrucky
Marth Wood Shavings
715-842-9200 x-10708
Zrucky@Marthwood.com

CLIENT:	Enerco Group	PERFORMED BY:	Ken Slater
PROJECT #:	G103166910	REVIEWED BY:	Brian Ziegler
PRODUCT:	Pellet Fueled room heater	MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001	DATE:	8/11/2021
STANDARD:	ASTM E2779 VERSION YEAR: 2010	LOCATION:	Middleton
STANDARD TITLE:	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters		

RESULTS

PASS		FAIL	X	NO PASS/FAIL	

Emissions Testing Initial Stove Check Out

Date Received	8/3/2021	Shipping Carrier	

Shipping Damage?	No	Yes	Describe Damage	NA		
	X	na	Is Damage Repairable?		Yes	No
					na	na

Repairs Affected by	na	Date	na
Client Notified about Irreparable Damage?	na	Date	na

Overall Unit Dimensions (in)			Unit Weight	
Height	Width	Depth	(lbs)	(Kg)
28.5	18.25	20	140	63.504

Unit Description (check appropriate box)					
Stove	na	Top Vent	na	Manual Draft	na
Insert	na	Rear Vent	X	Bimetal Spring	na
Catalytic	na	Grate	na	Remote T-Stat	X
Non-Catalytic	na	Ashpan	na	Blower	X
Other	Pellet Stove				

48-hr Conditioning Burn Dates	see client folder

Pre/Post Checks

Facility Conditions	Pre-Test	Post-Test
Air Velocity (fpm)	0	0
Smoke Capture Check	X	X
Heater Conditions		
Date Stack Cleaned		na
Date Dilution Tunnel Cleaned		na
Induced Draft Check	X	X
Tunnel Velocity	0.112	
Pitot Leak Check		
Side A	X	X
Side B	X	X
Temperature System		
Ambient (between 65°F -90°F)	78	
Proportional Checks		
CO Analyzer Drift Check	x	x
CO2 Analyzer Drift Check	x	x
O2 Analyzer Drift Check	x	x
Thermocouple Check	x	x

Sampling Train ID Numbers	Train 1	Train 2	Train 3
Probe	7	8	9
Filter - Front	13	15	17
Filter - Back	14	16	18
Filter <90°F	X	X	X

Pre-Test Scale Audit			
Scale Type	Audit Weight	Class	Measured Weight
Analytical (mg)	100.0000	S	100.0000
Platform (lbs)	10.00	F	10.00
Wood (lbs)	25.0	F	25.0

Limits of Weight Ranges	
Analytical Scale	50%-150% of dry filter weight, ± 0.1 mg
Platform Scale	20%-80% of ideal test load weight, ± 0.1 lbs. or 1%
Wood Scale	20%-80% of ideal test load weight, ± 0.1 lbs. or 1%

Sampling Equipment Check out

Leakage Checks Tunnel Samplers						
Sample	1		2		3	
Test	Pre	Post	Pre	Post	Pre	Post
Vacuum (in Hg)	10	10	10	10	10	10
Final 1 min DGM (ft^3)	0	0	0	0	0	0
Initial 1 min DGM (ft^3)	0	0	0	0	0	0
Change (C) (ft^3)	0	0	0	0	0	0
Allowable leakage	0.04	0.04	0.04	0.04	0.04	0.04
Check Okay	X	X	X	X	X	X

Leakage Checks Flue Gas Sampler		
Plugged Probe	Pre Test	Post Test
Vacuum (in Hg)	10	10
Rotameter Reading	0	0
Flow Rate (cfm)	0	0
Allowable (cfm)	0.04	0.04
Check Okay	X	X

Unplugged Flow Rate = .25cfm
Allowable Leakage = .04 x Sample Rate or .02 cfm

Continuous Analyzers

Pre-Test (Adjust and Record)						
Type	Zero		Span		Cal. (Record Only)	
	Actual	Should Be	Actual	Should Be	Actual	Should Be
CO_2	0	0	24.93	24.92	11.97	11.99
CO	0	0	7.75	7.748	3.96	4.00
O_2	0	0	20.89	20.89	9.97	10.01
					85.809	74.2204

79.02147675

Post Test (Record Only)								
Type	Zero	Span	Cal.	Zero Drift	Span Drift	Cal. Drift	OK?	Not OK*
CO_2	0.01	24.74	11.89	-0.01	0.19	0.08	X	na
CO	-0.08	7.65	3.72	-0.08	0.1	0.24	X	na
O_2	0.01	20.82	9.94	-0.01	0.07	0.03	X	na

Test Data Log

Raw Dry Gas Meter Readings			
System	1	2	3
Final (ft^3)			8.49
Initial (ft^3)	0	0	0

Ambient Conditions	Start	End
Barometer (in Hg)	28.79	28.79
Dry Bulb (°F)	73.4	73.4
Humidity (%)	51.6	51.6

Comments
Unit levels, (P1)High, (P2)Medium, and (P4)Low
Pretest started at 7:07am
Test started at 8:08am

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103166910		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/11/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton
STANDARD TITLE:	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters				

RESULTS					
PASS		**FAIL**		**NO PASS/FAIL**	

Room Conditions							
Room Temp (°F)		Barometric Pressure (in Hg)		Relative Humidity (%)		Air Velocity (ft/sec)	
78		28.79	28.79	51.6	51.6	0	0

Ave Dilution Tunnel Measurements				Sample Data			
Burn Time (min)	Velocity (ft/sec)	Flow Rate (dscf/min)	Temp (R) (°F)	Total Sample		Particulate Catch	
				1	2	1	2
210	22.03	232.41	555.67	#VALUE!	#VALUE!	0.00	0.00

Dilution Tunnel Dual Train Precision					
Sample Ratios		Total Emissions (g)		Deviation	
Train 1	Train 2	Train 1	Train 2	(%)	(g/kg)
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Results			
Burn Rate (kg/hr)	Initial Draft (in/wc)	Run Time (min)	Ave Draft (in/wc)
1.46	-0.250	210	-0.250

Emissions	
(g/hr)	(g/kg)
#VALUE!	#VALUE!

Burn Rates (kg/hr)		
High	Medium	Low
1.68	1.49	0.15

Fuel Consumed (lbs)		
High	Medium	Low
3.71	6.59	1.01

Fuel Moisture (% wet)
4.3%

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103166910		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/11/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton

Table of Test Equipment Used				
Description	Asset #	Calibration Due	MU	Used in Test(s)
Timer	1212	4/5/2022	0.7 sec	ASTM E2779
Timer	646	4/5/2022	0.7 sec	ASTM E2779
Pressure Transducer	1406	1/13/2022	0.00007 in H2O	ASTM E2779
Data Acquisition	986	10/16/2021	0.06 Degrees F	ASTM E2779
Scale	1134	10/1/2021	.118 lbs	ASTM E2779
Hygrometer	1450	11/23/2021	0.35 RH	ASTM E2779
Flow Meter	1413	8/22/2021	0.020 lpm	ASTM E2779
Flow Meter	1414	8/22/2021	0.020 lpm	ASTM E2779
Flow Meter	1519	8/22/2021	0.020 lpm	ASTM E2779
Balance	713	10/6/2021	0.00044 g	ASTM E2779

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103166910		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
	SAMPLE ID #:	MID2108031258-001		**DATE:**	8/11/2021
	STANDARD(S):	ASTM E2779	**VERSION YEAR:** 2010	**LOCATION:**	Middleton

Pre-Burn Data																								
Time	Flue	Room	Tunnel	Meter #3	DGM 3	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	Filter 2	DGM 3	Filter 3	Meter #1	Meter #2	Draft	Tunnel	CO	CO2	O2	Scale	161.0437	Meter	Meter	Draft	Calculated
																		%	%	%	lbs	Corrected	#1	#2		
10.0	Temp 1	Temp 2	Dry Bulb 3	11	Out 12	In 13	Out 14	15	In 16	Out 17	18	In 19	20	21	22	23	24	25	25	27	28	Scale	Cu Ft	Cu Ft		Tunnel
0.0	195.15	72.19	81.73	0.02	69.50	71.56	70.34	-39.91	70.86	69.90	125.52	68.48	126.44	0.02	0.02	0.00	1.44	4.15	5.41	20.51	163.64	2.59	0.00	0.00	-0.2498	0.1110125
10.0	263.62	73.09	89.15	0.02	70.91	73.12	71.53	2.07	72.16	71.08	126.30	70.01	131.67	0.02	0.02	0.00	1.42	4.07	5.40	20.60	162.94	1.90	0.00	0.00	-0.2498	0.1046328
20.0	269.73	74.48	91.03	0.02	72.01	73.94	72.46	68.60	73.18	72.13	67.45	71.52	56.10	0.02	0.02	0.00	1.46	3.99	5.39	20.67	162.34	1.30	0.00	0.00	-0.24981	0.115603
30.0	274.56	74.67	91.64	0.02	72.35	74.65	72.86	69.21	73.53	72.82	69.15	72.47	68.64	0.02	0.02	0.00	2.66	7.78	25.03	20.86	161.64	0.60	0.00	0.00	-0.2498	0.4153332
40.0	272.28	74.77	91.24	0.02	72.70	74.74	73.49	70.26	73.71	73.10	70.14	72.88	69.65	0.02	0.02	0.00	1.45	0.00	4.78	15.98	161.04	0.00	0.00	0.00	-0.24982	0.1135029
50.0	273.54	75.32	91.59	0.02	70.37	71.97	70.98	70.37	70.70	71.18	70.52	71.78	69.83	0.02	0.02	0.00	1.43	0.00	5.54	14.69	162.84	1.80	0.00	0.00	-0.24982	0.1081778
60.0	274.28	75.27	92.14	0.02	69.60	71.21	70.17	70.21	69.83	70.19	69.99	70.08	69.78	0.02	0.02	0.00	1.41	0.00	4.38	15.93	162.14	1.10	0.00	0.00	-0.24983	0.1028527

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103166910		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/11/2021
STANDARD(S):	ASTM E2779		**VERSION YEAR:** 2010	**LOCATION:**	Middleton

Raw Data

Time	Flue	Room	Tunnel	Meter #3	DGM 3	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	Filter 2	DGM 3	Filter 3	Meter #1	Meter #2	Draft	Tunnel	CO	CO2	O2	Scale	23.7321	Meter	Meter	Meter	Draft	Calculated	31.32	24.74	23.73
																		%	%	%	lbs	Corrected	#1	#2	#3			NA		
10.0	Temp 1	Temp 2	Dry Bulb 3	11	Out 12	In 13	Out 14	15	In 16	Out 17	18	In 19	20	21	22	23	24	25	25	27	28	Scale	Cu Ft	Cu Ft	Cu ft		Tunnel			
0.0	275.63	78.26	94.17	0.02	72.25	73.89	73.46	73.46	73.08	72.78	72.86	73.14	72.74	0.02	0.02	0.00	1.45	0.00	4.56	16.54	35.03	11.30	0.00	0.00	0.00	-0.25	0.11192	3.71		
10.0	277.29	78.79	94.45	4.02	74.15	73.37	75.57	75.87	72.82	74.32	76.30	72.75	76.13	4.04	4.03	0.00	1.42	0.00	4.50	16.15	34.33	10.60	1.43	1.42	1.42	-0.25	0.10582	3.01		
20.0	274.75	79.35	94.65	4.03	73.97	73.29	75.65	76.33	72.52	74.26	76.89	72.46	76.79	4.02	4.04	0.00	1.42	0.00	4.22	16.26	33.83	10.10	1.42	1.42	1.42	-0.25	0.10547	2.50		
30.0	279.35	79.13	95.26	4.03	73.82	73.21	75.78	76.74	72.47	74.18	77.17	72.37	77.72	4.01	4.02	0.00	1.48	0.00	4.90	15.42	33.13	9.40	1.42	1.42	1.42	-0.25	0.12009	1.80		
40.0	276.96	79.65	95.73	4.02	74.01	73.42	75.85	77.10	72.44	74.18	77.55	72.38	77.70	4.03	4.02	0.00	1.46	0.00	4.85	15.83	32.62	8.89	1.42	1.42	1.42	-0.25	0.11437	1.30		
50.0	278.19	79.58	95.83	4.01	73.97	73.50	75.91	77.39	72.60	74.28	77.86	72.49	77.98	4.01	4.02	0.00	1.43	0.00	5.64	15.53	31.94	8.20	1.42	1.42	1.42	-0.25	0.10709	0.61		
60.0	278.17	79.56	96.57	4.04	73.82	73.12	75.83	77.47	72.39	74.52	77.73	72.33	78.15	4.03	4.05	0.00	1.46	0.00	5.08	15.81	31.32	7.59	1.42	1.43	1.43	-0.25	0.11619	0.00	6.59	
70.0	272.72	79.56	96.31	0.02	71.76	72.94	75.55	77.58	72.17	74.29	77.91	71.69	75.38	4.04	4.05	0.00	1.45	0.00	4.59	16.23	30.82	7.09	1.43	1.43		-0.25	0.11213		6.08	
80.0	272.91	79.35	95.98	0.02	71.56	72.93	75.81	77.76	71.91	74.01	78.19	71.55	74.82	4.04	4.02	0.00	1.44	0.01	5.06	16.14	30.23	6.50	1.43	1.42		-0.25	0.11041		5.49	
90.0	271.15	79.72	96.52	0.02	71.33	72.69	75.45	77.79	71.79	73.73	77.70	70.93	74.23	4.04	4.02	0.00	1.43	0.00	4.98	15.53	29.73	5.99	1.43	1.42		-0.25	0.10869		4.99	
100.0	272.38	79.61	96.14	0.02	71.10	72.46	75.30	77.61	71.77	73.67	77.66	70.73	73.59	4.04	4.02	0.00	1.43	0.02	5.26	15.84	29.13	5.40	1.43	1.42		-0.25	0.10778		4.39	
110.0	269.82	80.15	96.36	0.02	71.28	72.84	75.29	77.88	71.87	73.81	78.09	70.90	73.58	4.04	4.04	0.00	1.45	0.04	3.82	17.11	28.63	4.89	1.43	1.43		-0.25	0.11361		3.89	NA
120.0	272.53	80.24	96.42	0.02	71.41	72.63	75.41	77.91	72.03	73.73	78.01	70.80	72.96	4.04	4.04	0.00	1.46	0.02	4.92	15.90	28.03	4.29	1.42	1.43		-0.25	0.11541		3.29	
130.0	273.21	80.07	96.52	0.02	71.64	72.54	75.27	77.63	72.14	74.11	77.80	71.05	72.76	4.04	4.04	0.00	1.48	0.03	4.81	16.13	27.43	3.69	1.43	1.42		-0.25	0.1196		2.69	
140.0	271.54	80.02	97.21	0.02	71.78	72.88	75.36	78.04	72.33	74.23	78.14	71.32	72.85	4.04	4.03	0.00	1.44	0.01	4.59	15.89	26.92	3.19	1.42	1.42		-0.25	0.11099		2.18	
150.0	272.59	80.07	96.66	0.02	71.31	72.49	75.10	77.70	71.92	73.92	77.64	71.15	72.50	4.03	4.03	0.00	1.44	0.01	5.20	15.46	26.32	2.59	1.42	1.42		-0.25	0.10879		1.59	
160.0	271.31	80.26	96.92	0.02	71.09	72.67	75.19	77.73	71.85	73.74	78.10	71.02	72.35	4.03	4.03	0.00	1.42	0.02	4.59	16.40	25.83	2.09	1.42	1.42		-0.25	0.10471		1.09	
170.0	273.34	80.52	96.53	0.02	71.35	72.93	75.23	78.02	71.66	73.71	78.18	70.83	72.26	4.03	4.03	0.00	1.44	0.05	4.73	16.50	25.22	1.49	1.42	1.42		-0.25	0.10885		0.48	
180.0	271.45	80.85	95.76	0.02	71.05	72.61	75.08	77.93	71.75	73.54	78.16	70.95	72.39	4.03	4.03	0.00	1.43	0.03	3.84	16.76	24.74	1.01	1.42	1.42		-0.25	0.10676		0.00	1.01
190.0	240.26	81.14	94.97	0.02	71.64	73.06	75.40	77.92	72.02	73.92	78.13	71.25	72.61	4.02	4.03	0.00	1.42	0.07	2.56	17.85	24.33	0.60	1.42	1.42		-0.25	0.10592			0.60
200.0	230.91	81.28	93.80	0.02	71.44	73.30	75.56	77.72	72.12	74.00	78.02	71.51	72.47	4.02	4.02	0.00	1.42	0.12	2.30	18.61	24.02	0.29	1.42	1.42		-0.25	0.10456			0.29
210.0	224.40	81.31	91.93	0.02	71.84	73.40	75.66	77.43	72.44	73.93	77.49	71.55	72.42	4.01	4.01	0.00	1.51	0.12	1.90	18.84	23.73	0.00	1.42	1.42		-0.25	0.12691			0.00
																						-23.73						NA		-23.73
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intertek

NAME:	Enerco Group	PERFORMED BY:	Ian Lister
PROJECT #:	EG01660000	REVIEWED BY:	Brian Angle
PROJECT:	Pellet Fueled oven Tester	MODEL:	Pro200
SAMPLE ID #	1402220221258 0001	DATE:	07/21/2021
SYNONYM(S)	RCTW-127737	LOCATION:	Mississauga

RESULTS

PASS | FAIL | NO PASS/FAIL

Test Method Used: 2020

	Start	End
Barometer (in Hg)	28.79	28.79
Dry Bulb (°F)	73.6	73.9
Humidity (%)	53.6	53.6

Calculated Number of Bundles (Optional): 11.20

	Average																							
		0.03	4.40	16.40	268.22	79.93	95.67			73.01	75.40	77.32			72.19	72.95	77.53			72.56			76.74	0.11	-0.25
		%				°F	°F			°F	°F	°F			°F	°F	°F			°F			°F	in/s	in/s
Actual Time	Allowed Time Remaining	Weight Remaining	CO_2	CO_2	O_2	Flue Gas	Room Temp	Tunnel	DGM 1	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	DGM 2	Filter 2	DGM 3	DGM 3	DGM 3	Filter 3	Tunnel	Draft
Time	Minutes	lbs						Dry Bulb	Reading	Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Velocity	
########	0.0	11.20	0.00	4.56	16.58	275.63	79.24	94.17	0.00	73.89	73.46	73.46	0.00	73.08	72.78	72.86	0.00	73.34	72.25	72.74	0.112	-0.250
########	10.00	10.60	0.00	4.56	16.15	277.29	78.79	94.45	1.43	73.37	75.57	75.87	1.42	72.82	74.32	76.30	1.43	72.75	74.15	76.13	0.106	-0.250
########	20.00	10.10	0.00	4.22	16.26	274.75	79.35	94.65	2.85	73.29	75.65	76.33	2.85	72.52	74.26	76.89	2.84	72.46	73.97	76.79	0.105	-0.250
########	30.00	9.40	0.00	4.90	15.42	279.91	79.13	95.26	4.27	73.21	75.78	76.74	4.27	72.47	74.18	77.17	4.27	72.37	73.82	77.72	0.110	-0.250
########	40.00	8.89	0.00	4.85	15.93	276.96	79.65	95.73	5.69	73.42	75.85	77.10	5.69	72.64	74.18	77.55	5.69	72.38	74.01	77.70	0.114	-0.250
########	50.00	8.20	0.00	5.64	15.53	278.19	79.58	95.83	7.10	73.50	75.91	77.39	7.10	72.60	74.28	77.86	7.10	72.49	73.97	77.98	0.107	-0.250
########	60.00	7.59	0.00	5.08	15.91	278.17	79.56	96.57	8.53	73.12	75.83	77.67	8.54	72.39	74.52	77.73	8.53	72.33	73.82	78.15	0.116	-0.250
########	70.00	7.09	0.00	4.59	16.23	272.72	79.66	96.31	9.95	72.96	75.55	77.58	9.97	72.17	74.29	77.91					0.112	-0.250
########	80.00	6.50	0.01	5.06	16.14	272.91	79.35	95.98	11.38	72.93	75.81	77.76	11.39	71.91	74.01	78.19					0.110	-0.250
########	90.00	5.99	0.00	4.98	15.53	271.15	79.72	96.52	12.80	72.69	75.45	77.79	12.80	71.79	73.73	77.70					0.109	-0.250
########	100.00	5.40	0.02	5.26	15.84	272.28	79.61	96.14	14.23	72.46	75.30	77.61	14.22	71.77	73.67	77.66					0.108	-0.250
########	110.00	4.89	0.04	3.82	17.11	269.82	80.15	96.36	15.66	72.84	75.29	77.88	15.65	71.87	73.81	78.09					0.114	-0.250
########	120.00	4.29	0.02	4.92	15.90	272.53	80.24	96.42	17.08	72.63	75.41	77.91	17.08	72.03	73.73	78.01					0.115	-0.250
########	130.00	3.69	0.03	4.81	16.13	272.15	80.07	96.52	18.51	72.54	75.27	77.83	18.50	72.13	74.11	77.86					0.110	-0.250
########	140.00	3.19	0.01	4.59	15.89	271.56	80.02	97.21	19.93	72.88	75.36	78.04	19.93	72.33	74.23	78.14					0.111	-0.250
########	150.00	2.59	0.01	5.20	15.46	272.59	80.07	96.66	21.35	72.49	75.10	77.70	21.35	71.92	73.92	77.64					0.109	-0.250
########	160.00	2.09	0.02	4.59	16.40	271.31	80.26	96.92	22.78	72.67	75.19	77.73	22.77	71.85	73.74	78.10					0.105	-0.250
########	170.00	1.49	0.05	4.73	16.02	272.34	80.52	96.53	24.20	72.93	75.23	78.02	24.20	72.04	73.71	78.18					0.109	-0.250
########	180.00	1.01	0.03	3.84	16.76	273.45	80.85	95.76	25.62	72.61	75.08	77.93	25.62	71.75	73.54	78.16					0.107	-0.250
########	190.00	0.60	0.07	2.55	17.85	269.20	81.14	94.97	27.04	73.06	75.40	77.92	27.04	72.02	73.92	78.13					0.106	-0.250
########	200.00	0.29	0.12	2.20	18.61	269.91	81.28	93.80	28.46	73.30	75.56	77.72	28.46	72.12	74.00	78.02					0.105	-0.250
########	210.00	0.00	0.12	1.90	18.84	268.89	81.31	91.93	29.88	73.40	75.66	77.43	29.87	72.44	73.93	77.69					0.127	-0.250
########									#VALUE!				#VALUE!									
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1:05 PM																						
1:15 PM																						
1:25 PM																						
1:35 PM																						
1:45 PM																						
1:55 PM																						
2:05 PM																						
2:15 PM																						
2:25 PM																						
2:35 PM																						
2:45 PM																						

6" Tunnel 0.1963 ft2
12" Tunne 0.7854 ft2

Tunnel area (ft2): 0.1963
Wood moisture (% wet): 0.06
Load Weight (lbs wet): 11.29282
Burn Rate (Dry lbs/hr): 1.663

Total Gas Volume (DGM 1): 28.064
Total Gas Volume (DGM 2): 28.859
Average Barometric Pressure: 28.79
Molecular Weight: 29
Pitot Correction: 0.9177
Calibration Factor (DGM #1): 0.9885
Calibration Factor (DGM #2): 1.0340
(1) VS: 0.08477
(2) VS: 0.08243

Final Temperature (DGM #1) Deenees Rankin: 534.201
Final Temperature (DGM #2) Deenees Rankin: 533.067
Final Tunnel Temperature Deenees Rankin: 555.468
Final Tunnel Velocity (feet per second): 22.030653
Standardized Tunnel Flow (dscfm): 232.40737

Elapsed Time	DGM 1 Reading	DGM 1 Inlet T	DGM 1 Outlet T	DGM 2 Reading	DGM 2 Inlet T	DGM 2 Outlet T	Tunnel Drv Bulb	Velocity DGM 1	Velocity DGM 2	Delta-P Tunnel	Tunnel Temp. FtSec	Filter Face Inlet + Dec. R	Filter Face Outlet + Dec. R	Average Tunnel Temp. #VALUE!	Average Meter 1 #VALUE!	#1 Meter 2 dDGM	#2 dDGM	Average SQRT Delta-P
															Proportional Rates			
															PR1	PR2	Time	Time
0.00	0.00	73.89	73.46	0.00	73.08	72.78	74.737			0.112	22.080	539.7	532.9				0	0.33414
10.00	1.43	73.37	75.57	1.42	72.82	74.32	76.30	11.83	0.106	21.476	536.5	533.6	#VALUE!	#VALUE!	1.340	1.273	10	0.325296
20.00	2.85	73.29	75.65	2.85	72.52	74.26	76.89	2.84	72.46	73.97	76.79	0.105	-0.250	20.00	2.85	73.29	75.65	76.33
30.00	4.27	73.21	75.78	4.27	72.47	74.18	77.17	4.27	72.37	73.82	77.72	0.110	-0.250	30.00	4.27	73.21	75.78	76.74
40.00	5.69	73.42	75.85	77.10	5.69	72.64	74.18	77.55	5.69	72.38	74.01	77.70	0.114	-0.250	40.00	5.69	73.42	75.85
50.00	7.10	73.50	75.91	77.39	7.10	72.60	74.28	77.86	7.10	72.49	73.97	77.98	0.107	-0.250	50.00	7.10	73.50	75.91
60.00	8.53	73.12	75.83	77.67	8.54	72.39	74.52	77.73	8.53	72.33	73.82	78.15	0.116	-0.250	60.00	8.53	73.12	75.83
70.00	9.95	72.96	75.55	77.58	9.97	72.17	74.29	77.91					0.112	-0.250	70.00	9.95	72.96	75.55
80.00	11.38	72.93	75.81	77.76	11.39	71.91	74.01	78.19					0.110	-0.250	80.00	11.38	72.93	75.81
90.00	12.80	72.69	75.45	77.79	12.80	71.79	73.73	77.70					0.109	-0.250	90.00	12.80	72.69	75.45
100.00	14.23	72.46	75.30	77.61	14.22	71.77	73.67	77.66					0.108	-0.250	100.00	14.23	72.46	75.30
110.00	15.66	72.84	75.29	77.88	15.65	71.87	73.81	78.09					0.114	-0.250	110.00	15.66	72.84	75.29
120.00	17.08	72.63	75.41	77.91	17.08	72.03	73.73	78.01					0.115	-0.250	120.00	17.08	72.63	75.41
130.00	18.51	72.54	75.27	77.83	18.50	72.13	74.11	77.86					0.110	-0.250	130.00	18.51	72.54	75.27
140.00	19.93	72.88	75.36	78.04	19.93	72.33	74.23	78.14					0.111	-0.250	140.00	19.93	72.88	75.36
150.00	21.35	72.49	75.10	77.70	21.35	71.92	73.92	77.64					0.109	-0.250	150.00	21.35	72.49	75.10
160.00	22.78	72.67	75.19	77.73	22.77	71.85	73.74	78.10					0.105	-0.250	160.00	22.78	72.67	75.19
170.00	24.20	72.93	75.23	78.02	24.20	72.04	73.71	78.18					0.109	-0.250	170.00	24.20	72.93	75.23
180.00	25.62	72.61	75.08	77.93	25.62	71.75	73.54	78.16					0.107	-0.250	180.00	25.62	72.61	75.08
190.00	27.04	73.06	75.40	77.92	27.04	72.02	73.92	78.13					0.106	-0.250	190.00	27.04	73.06	75.40
200.00	28.46	73.30	75.56	77.72	28.46	72.12	74.00	78.02					0.105	-0.250	200.00	28.46	73.30	75.56
210.00	29.88	73.40	75.66	77.43	29.87	72.44	73.93	77.69					0.127	-0.250	210.00	29.88	73.40	75.66

RESULTS

Average emission rate (as/hr): #VALUE!

Burn Rate (Dry lbs/hr): 1.663

PRESSURE FACTOR: 0.96223

BAROMETRIC PRESSURE
Average: 28.79
Start: 28.79
End: 28.79

TEMPERATURE FACTORS
DGM #1: 0.98839
DGM #2: 0.99069

VOLUMES SAMPLED
DGM #1 Final:
Initial: 0.001
DGM #2 Final:
Initial: 0.001
TOTAL TUNNEL VOLUME (scf): 48806

SAMPLE RATIOS
Sample Train 1: #VALUE!
Sample Train 2: #VALUE!

TOTAL EMISSIONS
Sample Train 1 (g): #VALUE!
Sample Train 2 (g): #VALUE!

EMISSION RATES
Sample Train 1 (g/hr): #VALUE!
Sample Train 2 (g/hr): #VALUE!

MAX Allowed: 7.56%

DEVIATION: #VALUE!

Train 1 Train 2

Room Particulate Correction

Cs #VALUE! #VALUE! Mr 6 Milligram Catch (mg)
Cr 0 0 Vmr 27.1404 Total Volume Sampled (dscf)
Et #VALUE! Barometer (gHeq) at 100
Row rate is 0.12924 cfm
Et AVERAGE #VALUE!

Deviation (g/kg)
Train #1 #VALUE! #VALUE!
Train #2 #VALUE! #VALUE!
Deviation #VALUE!

DRY GAS METER VALUES

	Burn	Initial	Average
	Rate	Draft	Draft
	1.663	-0.250	-0.250

Stack Static (new): -0.60
Barometer: 28.79
Average Room Temp: 79.93

Room Temp		Bar Pressure		Relative Humidity		Air Velocity	
Before	After	Before	After	Before	After	Before	After
78		28.79	28.79	51.6	53.6	0	0

Average Dilution Tunnel Measurements				Sample Data			
Burn	Velocity	Flow Rate	Temp	Total Sample		Particulate Catch	
Time	(ft/sec)	(dscf/min)	(R)	1	2	1	2
210	22.03	232.61	555.47	#VALUE!	#VALUE!	0.0	0.0

Dilution Tunnel Dual Train Precision

Sample Ratios		Total Emissions (g)		Deviation	
Train 1	Train 2	Train 1	Train 2	(%)	g/kg
#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103166910		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/11/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See Equipment Tab			**CALIBRATION DUE:**	See Equipment Tab
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	48 hr conditioning burn				
AMBIENT TEMPERATURE (°F):	78.26				
RESULTS					
PASS	X	**FAIL**	na	**NO PASS/FAIL**	na

E&E Tunnel Traverse Worksheet

Static Pressure (in Hg)	**0.4**
Barometer (in Hg)	28.79

Position	Tunnel Velocity	
	(ft/sec)	(ft/sec^2)
A CENTER	0.106	0.3256
B CENTER	0.105	0.3240
A1	0.093	0.3050
A2	0.103	0.3209
A3	0.101	0.3178
A4	0.087	0.2950
B1	0.092	0.3033
B2	0.094	0.3066
B3	0.103	0.3209
B4	0.085	0.2915
Average		0.3111

	Pitot
Constant =	0.9577

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103166910		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/11/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton

E&E Pellet Fuel Data

Brand of Pellets Used	Marthwood

	Wet	Dry
Moisture Content (%)	4.27%	4.46%

Weight Used During Test	
Wet (lbs)	Dry (kg)
11.30	5.12

Burn Rate (kg/hr)	1.463337

Moisture Calculation	
Before Weight of Pellets - Wet (lbs)	1.17
After weight of pellets - Dry (lbs)	1.12
Weight of moisture removed from oven (lbs)	0.05

Weight added to Scale (lbs)	35.00

intertek	CLIENT:	Kramer Grinnell	PERFORMED BY: Alan Stoker
Total Quality Assured	PROJECT #:	6102166902	REVIEWED BY: Brian Ziegler
	PRODUCT:	Pellet Fueled room heater	MODEL: Pb35W
	SAMPLE ID #:	0910-166902-258-001	DATE: 8/31/2021
	STANDARD(S):	ASTM E2779	VERSION YEAR: 2010 LOCATION: Middleton

Test Duration (min): 60.0

	Start	End
Barometer (in Hg)	28.79	28.79
Dry Bulb (F)	73.4	73.4
Humidity (%)	51.6	51.6

Tunnel area (ft2): 0.1963

Final Temperature (DGM #1) Degrees Rankin: 533.556
Final Tunnel Velocity (feet per second): 22.0607736
Final Tunnel Temperature Deerees Rankin: 555.239438
Standardized Tunnel Flow (dscfm): 232.904726

Total Gas Volume (DGM 3): 8.131
Average Barometric Pressure: 28.79
Molecular Weight: 29
Pitot Correction: 0.957077
Calibration Factor (DGM #1): 1.0020
(1) VS: #DIV/0!

1st hour emission rate (gr/hr): 0.000

Stack Static (mag): -0.4
Fuel Moisture (Dry): 0.00
Barometer: 28.79
Average Room Temp.: 79.19

Moisture content of wood (Mwt) [%]:		11.30											
	Average		0.00	4.82	15.93	277.19	79.19	95.26		73.40	73.71	65.58	0.11	-0.25
Actual	Elapsed Time	Weight Remaining	*	*	*	*1	*2	*3	*	*	*	*	*	*
Time	Minutes	lbs	CO	CO_2	O_2	Flue Gas	Room Temp	Tunnel Dry Bulb	DGM 3 Reading	DGM 3 Inlet T	DGM 3 Outlet T	Filter 3 Temp	Tunnel Velocity	Draft
0:00:00	0.0	11.30	0.00	4.56	16.54	275.63	78.26	94.17	0.00	73.89	72.25	72.74	0.112	-0.250
0:00:00	10.00	10.60	0.00	4.50	16.15	277.29	78.79	94.45	1.42	73.37	74.15	76.13	0.106	-0.250
0:00:00	20.00	10.10	0.00	4.22	16.26	274.75	79.35	94.65	2.84	73.29	73.97	76.79	0.105	-0.250
0:00:00	30.00	9.40	0.00	4.90	15.42	279.35	79.13	95.26	4.27	73.21	73.82	77.72	0.120	-0.250
0:00:00	40.00	8.89	0.00	4.85	15.83	276.96	79.65	95.73	5.69	73.42	74.01	77.70	0.114	-0.250
0:00:00	50.00	8.20	0.00	5.64	15.53	278.19	79.58	95.83	7.10	73.50	73.97	77.98	0.107	-0.250
0:00:00	60.00	7.59	0.00	5.08	15.81	278.17	79.56	96.57	8.53	73.12	73.82	0.00	0.116	-0.250

Elapsed Time	DGM 3 Readlne	DGM 3 Inlet T	DGM 3 Outlet T	Tunnel Dry Bulb	Filter Face Velocity DGM 1	Filter Face Velocity DGM 2	Delta-P (in. H2O) Tunnel	Tunnel Velocity ft/Sec	Tunnel Temp. Meter 3 Deg. R		#3 dDGM Vol. Std. ft3		Average 0.3 SQRT Delta-P
0.00	0.00	73.89	72.25	94.17371			0.112	22.080	533.1			0	0.30453965
10.00	1.42	73.37	74.15	94.44785	11.66	#VALUE!	0.106	21.476	533.8	#REF!	1.353	10	0.32539624
20.00	2.84	73.29	73.97	94.64846	11.71	#VALUE!	0.105	21.444	533.6	#REF!	1.358	20	0.3247572
30.00	4.27	73.21	73.82	95.26291	11.79	#VALUE!	0.120	22.895	533.5	#REF!	1.357	30	0.34653365
40.00	5.69	73.42	74.01	95.73427	11.67	#VALUE!	0.114	22.353	533.7	#REF!	1.353	40	0.33818703
50.00	7.10	73.50	73.97	95.83367	11.63	#VALUE!	0.107	21.632	533.7	#REF!	1.349	50	0.32724872
60.00	8.53	73.12	73.82	96.57616	11.72	#VALUE!	0.116	22.547	533.5	#REF!	1.360	60	0.34088479

PRESSURE FACTOR: 0.96223

TEMPERATURE FACTORS
DGM #1: 0.98959

VOLUMES SAMPLED
DGM #3:
DGM #3 : 8.13550

TOTAL TUNNEL VOLUME (scf): 12976

SAMPLE RATIOS
Sample Train 3: 1717.682

TOTAL EMISSIONS
Sample Train 3 (g): 0.00

BAROMETRIC PRESSURE
Average: 28.79
Start: 28.79
End: 28.79

DRY GAS METER VALUES
Final: 8.527
Initial: 0.001

CALIBRATION FACTORS
DGM #1: 1.0020

TUNNEL FLOW RATE: 232.905

PARTICULATE CATCH (mg)
Total Sample Train 3: 0
Filter and seal Sample Train 3: 0
0
Probe Sample Train 3: 0

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

Tony Joseph
A.L.P. (Tony) Joseph
Project Manager, Energy & Utilities
Canadian Standards Association
5060 Spectrum Way, Suite 100
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L4W 5N6
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E-mail: tony.joseph@csa.ca

Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco Group
Model: PS20W
Date: 8/12/2021
Run: 1
Control #: G103166910
Test Duration: 60
Output Category: High

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 3.70
Burn Rate (dry kg/h): 1.61
Total Particulate Emissions: 4.45 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

						Temp. (ºF)	
	Averages	**0.06**	**5.08**	**15.26**	**280.97**	**79.07**	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	3.70	0.00	4.86	14.96	278.1	78.4
10	3.10	0.03	5.44	15.60	280.0	77.9
20	2.50	0.02	4.93	15.70	280.8	78.7
30	1.80	0.04	5.36	14.83	283.2	79.3
40	1.20	0.08	4.90	15.64	281.2	79.3
50	0.61	0.10	5.03	14.77	280.8	80.0
60	0.00	0.12	5.07	15.30	282.6	79.9

Manufacturer: Exeeco Group
Model: PS20W
Date: 08/12/21
Run: 1
Control #: G103166910
Test Duration: 60 min

	HHV	LHV
Eff	75.53%	81.36%
Comb Eff	99.50%	99.50%
HT Eff	75.91%	81.77%
Output	26,119	kJ/h
Burn Rate	1.61	kg/h
Grams CO	24	g
Input	31,931	kJ/h
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [r], [s], [u], [w], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Ultimate CO_2

$CO_{2,ult}$	19.60	Burn Duration:	1.00 h
F_o	1.050	Burn Rate:	3.54 lb/h 1.606 kg/h
		Stack Temp:	261.4 Deg. F 138.6 Deg. C

Overall Heating Efficiency:	75.53%	Dry Molecular Weight (M_d)	29.43	
Combustion Efficiency:	99.50%	Dry Moles Exhaust Gas (N.t)	827.02	%HC
Heat Transfer Efficiency:	75.91%	Air Fuel Ratio (AF)	23.83	0.0

Air Fuel Ratio (AF)

Heat Output:	22,880	Btu/h	24,119	kJ/h	
Heat Input:	30,290	Btu/h	31,931	kJ/h	
Combustion Efficiency:	99.50%				
Total Input (k_J):	31,931	30,295	(Btu)		
Total Output (k_J):	24,119	22,876	(Btu)		
Efficiency:	75.53%				
Total CO (g):	23.70				

Moisture Content M_{cont}: 4.27

Moisture of Wood (wet basis):	4.27	Dry kg:	1.61
Initial Dry Weight W_{kj} (kg):	1.61	CA:	12
Moisture Content Dry	4.46	HA:	0.0
		ON:	4.46

Load Weight lbs/l: 1.68

Fuel Heating	HHV	LHV		HHV	LHV
Value in kJ/kg - CV	19,887	18,464	Btu/lb	8555.8	7943.4

| | | | | |

intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Ken Slater
	PROJECT #:	G103166910		REVIEWED BY:	Brian Ziegler
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	NID2108031258-001			DATE:	8/12/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	NA				
AMBIENT TEMPERATURE (°F):	78.41				
RESULTS					

PASS	X	FAIL	na	NO PASS/FAIL	na

Run: 1
Test Duration: 60
Output Category: High

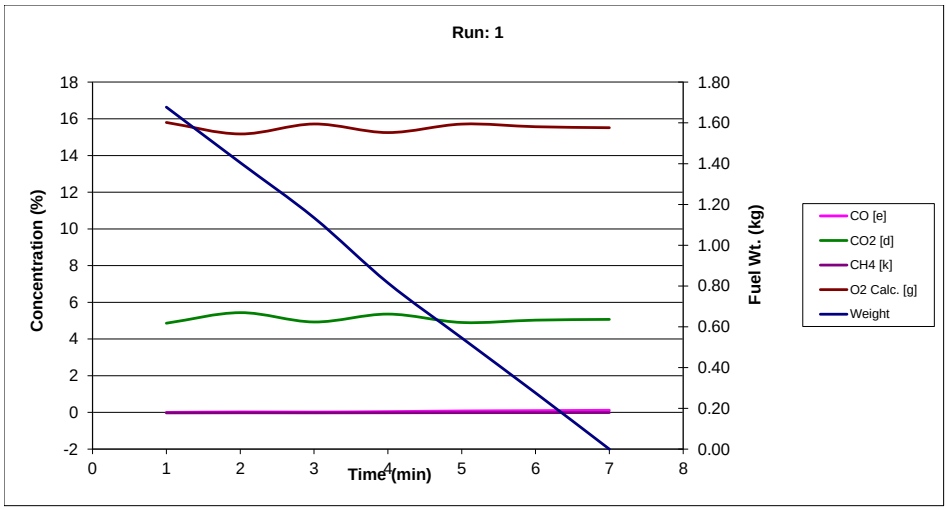
	HHV Basis	LHV Basis
Overall Efficiency	75.5%	81.4%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	76%	81.8%

Output Rate (kJ/h)	24,119	22,880	(Btu/h)
Burn Rate (kg/h)	1.61	3.54	(lb/h)
Input (kJ/h)	31,931	30,290	(Btu/h)

Test Load Weight (dry kg)	1.61	3.54	dry lb
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	4.45		
CO (g)	24		
Test Duration (h)	1.00		

Emissions	Particulate	CO	
g/MJ Output	0.18	0.98	
g/kg Dry Fuel	2.77	14.76	
g/h	4.45	23.70	0.395
lb/MM Btu Output	0.43	2.28	

Air/Fuel Ratio (A/F)	23.83



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

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The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco Group
Model: PS20W
Date: 8/12/2021
Run: 1
Control #: G103166910
Test Duration: 180
Output Category: Low

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 5.89
Burn Rate (dry kg/h): 0.85
Total Particulate Emissions: 4.45 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

						Temp. (ºF)	
	Averages	**0.26**	**2.32**	**18.10**	**229.89**	**83.19**	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	5.89	0.18	4.40	16.13	271.1	82.4
10	5.60	0.29	2.45	18.16	244.0	82.3
20	5.20	0.26	3.11	18.05	238.5	82.6
30	4.79	0.26	2.22	18.13	234.8	82.6
40	4.50	0.28	2.70	18.35	230.6	83.0
50	4.19	0.28	2.14	18.36	228.7	82.8
60	3.90	0.26	1.70	18.44	226.5	83.1
70	3.59	0.25	2.11	17.95	222.6	83.4
80	3.19	0.26	2.38	17.94	223.2	83.3
90	2.90	0.26	2.33	17.97	227.0	83.3
100	2.59	0.24	2.22	17.83	228.5	83.4
110	2.18	0.22	1.74	17.82	228.1	83.4
120	1.90	0.28	1.88	18.38	223.4	83.3
130	1.50	0.27	1.66	18.47	229.2	83.7
140	1.21	0.27	2.04	18.64	223.9	83.7
150	0.89	0.29	2.39	18.32	223.1	83.4
160	0.60	0.27	1.88	18.27	223.6	83.3
170	0.29	0.27	2.22	18.66	218.4	83.8
180	0.00	0.24	2.41	17.97	222.7	83.9

Manufacturer: Exeeco Group
Model: PS20W
Date: 08/12/21
Run: 1
Control #: G103166910
Test Duration: 180 min

	HHV	LHV
Eff	63.39%	68.28%
Comb Eff	92.75%	92.75%
HT Eff	68.34%	73.61%
Output	10,751	kJh
Burn Rate	0.85	kg/h
Grams CO	332	g
Input	16,959	kJh
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [o], [q], [s], [u], [w], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Ultimate CO_2
CO_{2ult} 19.60
F_o 1.042

Overall Heating Efficiency: 63.39%
Combustion Efficiency: 92.75%
Heat Transfer Efficiency: 68.34%

Heat Output	10,198	Btu/h	10,751 kJ/h
Heat Input	16,088	Btu/h	16,959 kJ/h
Burn Duration	3.00		h
Burn Rate	1.88	lb/h	0.853 kg/h
Stack Temp:	227.6	Deg. F	108.7 Deg. C

Air Fuel Ratio (AF)

Dry Molecular Weight (M_d)	29.10
Dry Moles Exhaust Gas (n.)	1602.06
Air Fuel Ratio (AF)	47.57

%HC 0.8

Combustion Efficiency: 92.75%
Total Input (kJ) 50,877 48,255 (Btu)
Total Output (kJ) 32,202 30,589 (Btu)
Efficiency 63.39%
Total CO (g) 331.74

Moisture of Wood (wet basis): 4.27
Initial Dry Weight W_{di} (kg): 2.56
Moisture Content Dry 4.46

Moisture Content M_{cwb}: 4.27
Dry kg : 2.56
CA: 47
HT: 73.6
Eff: 68.3

Load Weight lbs/l: 2.67
Fuel Heating

	HHV	LHV		HHV	LHV
Value in kJ/kg - CV	15,887	16,464	Btu/lb	6831.8	7343.4

| | | |

intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Ken Slater
	PROJECT #:	G103166910		REVIEWED BY:	Brian Ziegler
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001			DATE:	8/12/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	NA				
AMBIENT TEMPERATURE (°F):	82.44				
RESULTS					

PASS	X	FAIL	na	NO PASS/FAIL	na

Run: 1
Test Duration: 180
Output Category: Low

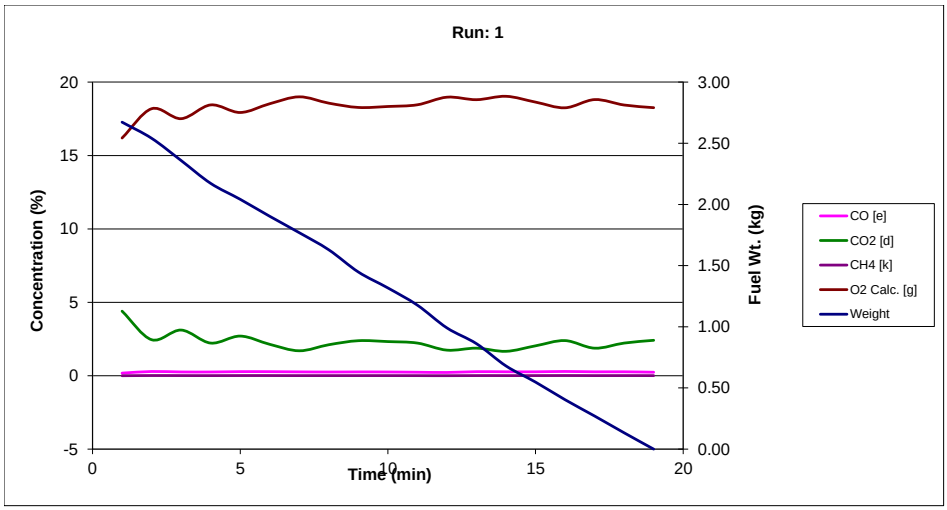
	HHV Basis	LHV Basis
Overall Efficiency	63.4%	68.3%
Combustion Efficiency	92.8%	92.8%
Heat Transfer Efficiency	68%	73.6%

Output Rate (kJ/h)	10,751	10,198	(Btu/h)
Burn Rate (kg/h)	0.85	1.88	(lb/h)
Input (kJ/h)	16,959	16,088	(Btu/h)

Test Load Weight (dry kg)	2.56	5.64	dry lb
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	4.45		
CO (g)	332		
Test Duration (h)	3.00		

Emissions	Particulate	CO	
g/MJ Output	0.14	10.29	
g/kg Dry Fuel	1.74	129.67	
g/h	1.48	110.58	1.843
lb/MM Btu Output	0.32	23.91	

Air/Fuel Ratio (A/F)	47.57



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco Group
Model: PS20W
Date: 8/12/2021
Run: 1
Control #: G103166910
Test Duration: 120
Output Category: Medium

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 6.21
Burn Rate (dry kg/h): 1.35
Total Particulate Emissions: 4.45 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

		0.17	4.23	16.24	270.30	81.54
	Averages				**Temp. (ºF)**	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	6.21	0.12	5.07	15.30	282.6	79.9
10	5.71	0.15	4.14	16.61	269.2	80.8
20	5.21	0.17	3.86	16.61	266.3	80.8
30	4.71	0.17	3.91	16.27	268.2	81.3
40	4.11	0.20	4.09	16.54	268.3	81.6
50	3.60	0.17	4.24	15.42	272.4	81.8
60	3.22	0.18	4.18	16.57	270.5	80.5
70	2.62	0.18	3.99	16.63	267.5	81.8
80	2.11	0.16	4.38	16.05	271.8	82.2
90	1.61	0.18	3.59	16.39	268.3	82.5
100	1.10	0.17	4.43	15.92	266.7	82.1
110	0.51	0.22	4.76	16.61	270.8	82.3
120	0.00	0.18	4.40	16.13	271.1	82.4

Manufacturer: Exeeco Group
Model: PS20W
Date: 08/12/21
Run: 1
Control #: G103166910
Test Duration: 120 min

	HHV	LHV
Eff	73.06%	78.69%
Comb Eff	97.46%	97.46%
HT Eff	74.96%	80.74%
Output	19,586	kJth
Burn Rate	1.35	kg/h
Gases CO	336	∞
Input	26,808	kJth
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [s], [u], [w], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Overall Heating Efficiency: 73.06%
Combustion Efficiency: 97.46%
Heat Transfer Efficiency: 74.96%

Air Fuel Ratio (AF)

Dry Molecular Weight (M_d)	29.33	
Dry Moles Exhaust Gas (N.t)	564.61	%HC
Air Fuel Ratio (AF)	27.78	0.8

Heat Output: 18,579 Btu/h 19,586 kJ/h
Heat Input: 25,430 Btu/h 26,808 kJ/h

Ultimate CO_2
CO_{2ult} 19.60
F_o 1.048

Burn Duration: 2.00 h
Burn Rate: 2.97 lb/h 1.348 kg/h
Stack Temp: 269.3 Deg. F 131.8 Deg. C

Combustion Efficiency: 97.46%
Total Input (k_J): 53,615 50,852 (Btu)
Total Output (k_J): 39,172 37,152 (Btu)
Efficiency: 73.06%
Total CO (g): 135.65

Moisture of Wood (wet basis): 4.27
Initial Dry Weight W_{di} (kg): 2.70
Moisture Content Dry: 4.46

Moisture Content M_{cwb}: 4.27
Dry kg: 2.70
CA: 10
HT: 0.8
GN: 0.8

Load Weight lbs/l: 2.82
Fuel Heating: HHV LHV HHV LHV
Value in kJ/kg - CV: 19,887 18,464 Btu/lb 8555.8 7943.4

Elapsed Time	Weight Remaining [kg]	% CO_2[a]	% CO_2 [d]	Excess Air EA	Total O_2	Calc. % O_2 [g]	Flue Gas (°C)	Room Temp (°C)	Combust Eff %	Heat Transfer %	Net Eff %	Air Fuel Ratio	Wet Wt Now	% Wet Consumed	Dry Wt. Now	% Dry Consumed	Total Input	Carbon [k]/t [a]	Hydrogen [l]/t [b]	Oxygen [m]/t [c]	Calorific Value	Mw Moisture Fuel Burnt	[h]	[a]	[e]	[j]	[k]	CO2	O2	CO	HC	N2	H2O	Moisture Present	Stack Temp K	CO2	O2	CO	N2	CH4	H2O	Room Temp K	CO2	O2	CO	N2	H2O Comb	H2O Fuel MC	Total Loss Rate	Total Loss	Chemical Loss 1	Sensible and Latent Loss	Total Output	Chem Loss 2	CO	HC
0	2.82	0.12	5.07	280.8%	20.64	16.51	139.2	26.6	98.9%	77.6%	76.8%	23.4	2.82	0.00	2.70	0.00	0	4.17	6.60	2.68	19887.00	4.27	79.90	21.03	1.24	4.12	-0.01	0.12	41.90	125.46	0.94	-0.06	641.26	33.29	2.48	412.35	4467.91	3375.74	3282.23	3245.94	4324.09	3827.58	299.78	164.00	423.53	269.47	2081.60	-57.10	1594.65	118.69	4614.80	0.00	0	0.00	0	0	0.00	0.00
10	2.59	0.15	4.14	362.2%	20.69	16.48	131.8	27.1	98.1%	75.8%	74.4%	28.3	2.59	8.07	2.48	8.07	6482	4.17	6.60	2.68	19887.00	4.27	79.23	21.02	1.03	3.40	0.00	0.10	40.47	161.28	1.45	-0.05	775.24	33.26	2.48	494.94	4162.50	3135.62	3048.90	3015.54	4090.39	3649.50	300.27	168.46	505.71	415.69	2338.07	-42.10	1583.61	118.03	5067.64	1658.29	120	1527.90	4824	120	13.26	0.20
20	2.36	0.17	3.66	364.9%	20.71	16.77	130.2	27.1	97.4%	75.0%	73.2%	30.1	2.36	16.11	2.26	16.11	4307	4.17	6.60	2.68	19887.00	4.27	79.21	21.01	0.97	3.19	0.00	0.10	40.13	174.52	1.77	-0.02	824.36	33.21	2.48	402.32	4094.97	3085.81	3001.72	2968.24	3933.17	3592.35	300.28	164.34	536.54	505.58	2446.95	-20.40	1579.58	117.86	5332.44	1154.97	104	1051.01	3152	104	10.72	-0.08
30	2.14	0.17	3.91	368.8%	20.71	16.71	131.2	27.4	97.6%	75.1%	73.2%	29.6	2.14	24.14	2.05	24.14	4780	4.17	6.60	2.68	19887.00	4.27	79.21	21.01	0.98	3.24	0.00	0.10	40.16	171.37	1.74	-0.02	812.55	33.21	2.48	404.38	4128.19	3109.96	3024.96	2991.20	3967.01	3620.14	300.65	165.77	532.96	498.34	2430.58	-19.21	1580.39	117.93	5306.75	1270.24	113	1156.79	3490	113	11.68	-0.08
40	1.86	0.20	4.09	364.6%	20.69	16.50	131.3	27.5	97.1%	75.8%	73.6%	28.2	1.86	33.86	1.78	33.86	4787	4.17	6.60	2.68	19887.00	4.27	79.21	21.01	1.03	3.39	0.00	0.10	39.89	161.00	1.96	0.03	772.68	33.11	2.48	404.45	4125.78	3108.00	3023.05	2989.39	3965.01	3617.80	300.70	164.57	500.39	560.89	2309.83	23.71	1575.73	117.62	5253.05	1264.33	139	1125.08	3522	139	13.22	0.10
50	1.63	0.17	4.24	349.1%	20.69	16.36	133.5	27.6	97.7%	76.0%	74.3%	27.5	1.63	42.00	1.56	42.00	5833	4.17	6.60	2.68	19887.00	4.27	79.23	21.02	1.06	3.49	0.00	0.11	40.25	155.44	1.64	-0.01	752.59	33.19	2.48	406.68	4214.71	3173.40	3086.27	3051.98	4053.96	3699.30	300.79	169.65	493.26	467.83	2296.89	-10.34	1581.86	118.11	5117.26	986.45	97	889.19	2967	97	9.83	-0.04

Averages	0.17	4.23	3.53	20.69	16.37	132.39	27.52	97.7%	76.0%	74.3%	27.47	1.42	49.56	1.36	49.56	55806	4.17	6.60	2.68	19887.00	4.27	79.23	21.01	1.06	3.49	0.00	0.11	40.22	156.97	1.66	-0.01	758.32	33.19	2.48	405.54	4171.68	3141.83	3055.77	3021.78	4010.76	3656.90	300.67	2181.62	6490.94	6197.94	29752.05	-115.83	20546.46	1534.25	5114.41	14443.777	1361.07	13082.7	41362.2	1361.1	1361.1	4.2

Oxygen Calculation | Input Data | Mass Balance (moles/100 mole dry flue gas) | kg Wood per 100 mole dry | Moles per kg of Dry Wood | Heat Content Change - Ambient to Stack Temperature | Flue Gas Constituent | Heat Content Change - Ambient to Room Temperature | Flue Gas Constituent | Energy Losses Rate of Dry Fuel | Total Loss Rate | Energy Losses Rate of Dry Fuel | Grams Produced

intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Ken Slater
	PROJECT #:	G103166910		REVIEWED BY:	Brian Ziegler
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001			DATE:	8/12/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	NA				
AMBIENT TEMPERATURE (°F):	79.93				
RESULTS					
PASS	X	FAIL	na	NO PASS/FAIL	na

Run: 1
Test Duration: 120
Output Category: Medium

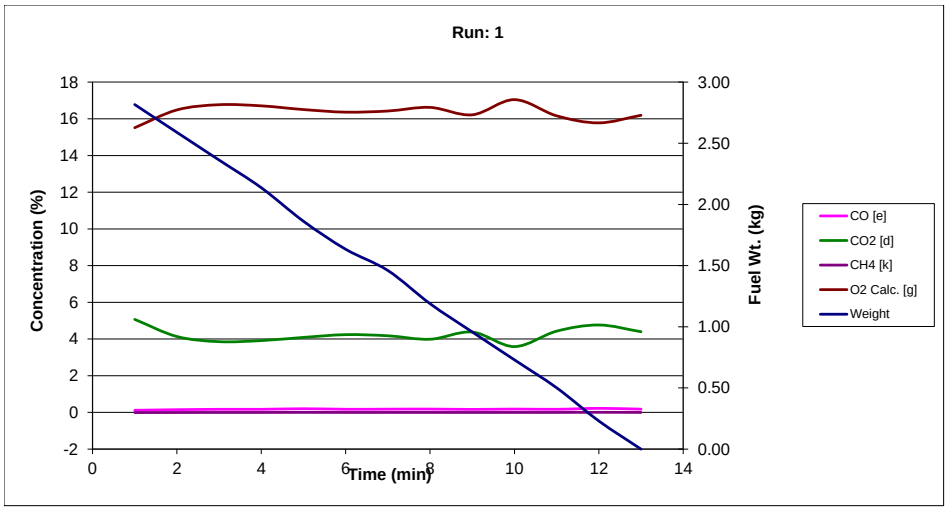
	HHV Basis	LHV Basis
Overall Efficiency	73.1%	78.7%
Combustion Efficiency	97.5%	97.5%
Heat Transfer Efficiency	75%	80.7%

Output Rate (kJ/h)	19,586	18,579	(Btu/h)
Burn Rate (kg/h)	1.35	2.97	(lb/h)
Input (kJ/h)	26,808	25,430	(Btu/h)

Test Load Weight (dry kg)	2.70	5.94	dry lb
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	4.45		
CO (g)	136		
Test Duration (h)	2.00		

Emissions	Particulate	CO	
g/MJ Output	0.11	3.46	
g/kg Dry Fuel	1.65	50.31	
g/h	2.23	67.82	1.130
lb/MM Btu Output	0.26	8.05	

Air/Fuel Ratio (A/F)	27.78



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco
Model: PS20W
Date: 8/12/2021
Run: 1
Control #: G103166910
Test Duration: 360
Output Category: Overall

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 15.79
Burn Rate (dry kg/h): 1.14
Total Particulate Emissions: 4.45 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

						Temp. (ºF)	
	Averages	**0.20**	**3.38**	**17.03**	**251.21**	**81.94**	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	15.79	0.00	4.86	14.96	278.1	78.4
10	15.19	0.03	5.44	15.60	280.0	77.9
20	14.60	0.02	4.93	15.70	280.8	78.7
30	13.89	0.04	5.36	14.83	283.2	79.3
40	13.30	0.08	4.90	15.64	281.2	79.3
50	12.70	0.10	5.03	14.77	280.8	80.0
60	12.10	0.12	5.07	15.30	282.6	79.9
70	11.60	0.15	4.14	16.61	269.2	80.8
80	11.10	0.17	3.86	16.61	266.3	80.8
90	10.60	0.17	3.91	16.27	268.2	81.3
100	10.00	0.20	4.09	16.54	268.3	81.6
110	9.49	0.17	4.24	15.42	272.4	81.8
120	9.11	0.18	4.18	16.57	270.5	80.5
130	8.51	0.18	3.99	16.63	267.5	81.8
140	8.00	0.16	4.38	16.05	271.8	82.2
150	7.50	0.18	3.59	16.39	268.3	82.5
160	6.99	0.17	4.43	15.92	266.7	82.1
170	6.40	0.22	4.76	16.61	270.8	82.3
180	5.89	0.18	4.40	16.13	271.1	82.4

Manufacturer: Execo
Model: PS20W
Date: 08/12/21
Run: 1
Control #: G103166910
Test Duration: 360 min

	HHV	LHV
Eff	71.09%	76.57%
Comb Eff	96.39%	96.39%
HT Eff	73.75%	79.44%
Output	16,164	kJh
Burn Rate	1.14	kg/h
Gases CO	47k	a
Input	22,737	kJh
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [r], [s], [u], [w], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Overall Heating Efficiency:	71.09%	Air Fuel Ratio (AF)	
Combustion Efficiency:	96.39%	Dry Molecular Weight (M_d)	29.23
Heat Transfer Efficiency:	73.75%	Dry Moles Exhaust Gas (n_t)	1187.98
		Air Fuel Ratio (AF)	34.22

%HC 0.8

Heat Output	15,333	Btu/h	16,164	kJ/h
Heat Input:	21,589	Btu/h	22,737	kJ/h
Burn Rate:	2.52	lb/h	1.143	kg/h
Stack Temp:	250.5	Deg. F	121.4	Deg. C

Ultimate CO_2

$CO_{2,ult}$	19.60	Burn Duration:	6.00 h
F_o	1.046		

Combustion Efficiency: 96.39%
Total Input (k_J): 136,424 129,392 (Btu)
Total Output (k_J): 96,960 91,980 (Btu)
Efficiency: 71.09%
Total CO (g): 475.99

Moisture of Wood (wet basis): 4.27
Initial Dry Weight W_{fo} (k_g): 6.66
Moisture Content Dry: 4.46

Moisture Content M_{cwb}: 4.27
Dry kg: 6.86
CA_r: 47
HR: 0.0
ON: 0.0

Load Wet/dry lbs/l: 7.17

Fuel Heating Value in kJ/kg - CV	HHV	LHV		HHV	LHV
	19,887	18,464	Btu/lb	8555.8	7943.4

| | | | |

intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Ken Slater
	PROJECT #:	G103166910		REVIEWED BY:	Brian Ziegler
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001			DATE:	8/12/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	NA				
AMBIENT TEMPERATURE (°F):	78.41				
RESULTS					

PASS	X	FAIL	na	NO PASS/FAIL	na

Run: 1
Test Duration: 360
Output Category: Overall

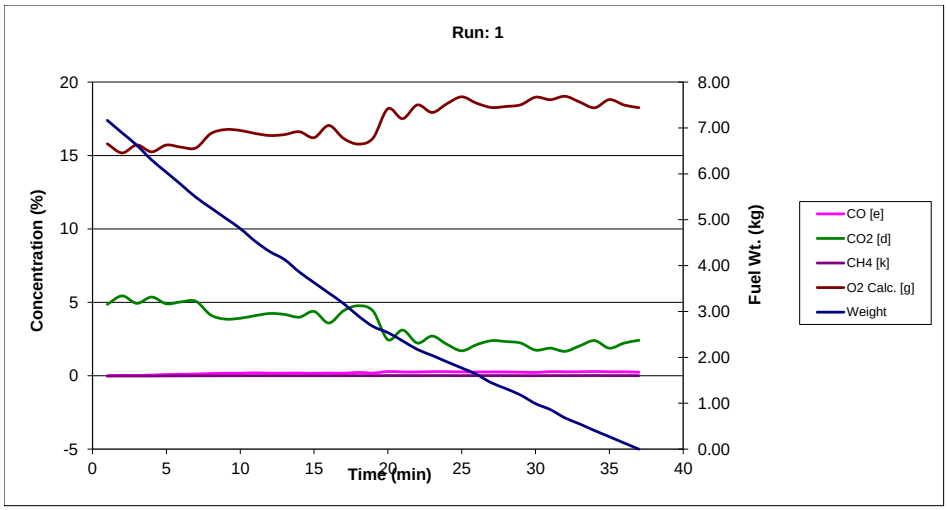
	HHV Basis	LHV Basis
Overall Efficiency	71.1%	76.6%
Combustion Efficiency	96.4%	96.4%
Heat Transfer Efficiency	74%	79.4%

Output Rate (kJ/h)	16,164	15,333	(Btu/h)
Burn Rate (kg/h)	1.14	2.52	(lb/h)
Input (kJ/h)	22,737	21,569	(Btu/h)

Test Load Weight (dry kg)	6.86	15.12	dry lb
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	4.45		
CO (g)	476		
Test Duration (h)	6.00		

Emissions	Particulate	CO	
g/MJ Output	0.05	4.91	
g/kg Dry Fuel	0.65	69.39	
g/h	0.74	79.33	1.322
lb/MM Btu Output	0.11	11.41	

Air/Fuel Ratio (A/F)	34.22



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

CLIENT:	Enerco Group	PERFORMED BY:	Ken Slater
PROJECT #:	G103680720	REVIEWED BY:	Brian Ziegler
PRODUCT:	Pellet Fueled room heater	MODEL:	PS20W
SAMPLE ID #:	MID2108031318-001	DATE:	8/12/2021
STANDARD:	ASTM E2779 VERSION YEAR: 2010	LOCATION:	Middleton
STANDARD TITLE:	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters		

RESULTS

PASS	na	FAIL	x	NO PASS/FAIL	na

Emissions Testing Initial Stove Check Out

Date Received	8/3/2021	Shipping Carrier	USF Holland

Shipping Damage?	No	Yes	Describe Damage	NA		
	X	na	Is Damage Repairable?		Yes	No
					na	na

Repairs Affected by	na	Date	na
Client Notified about Irreparable Damage?	na	Date	na

Overall Unit Dimensions (in)		
Height	Width	Depth
28.5	18.25	20

Unit Weight	
(lbs)	(Kg)
140	63.504

Unit Description (check appropriate box)					
Stove	na	Top Vent	na	Manual Draft	na
Insert	na	Rear Vent	X	Bimetal Spring	na
Catalytic	na	Grate	na	Remote T-Stat	X
Non-Catalytic	na	Ashpan	na	Blower	X
Other	Pellet Stove				

48-hr Conditioning Burn Dates	see client folder

Pre/Post Checks

Facility Conditions	Pre-Test	Post-Test
Air Velocity (fpm)	0	0
Smoke Capture Check	X	X
Heater Conditions		
Date Stack Cleaned	8/11/2021	na
Date Dilution Tunnel Cleaned	8/11/2021	na
Induced Draft Check	X	X
Tunnel Velocity	0.122	0.112
Pitot Leak Check		
Side A	X	X
Side B	X	X
Temperature System		
Ambient (between 65°F -90°F)	78	84
Proportional Checks		
CO Analyzer Drift Check	x	x
CO2 Analyzer Drift Check	x	x
O2 Analyzer Drift Check	x	x
Thermocouple Check	x	x

Sampling Train ID Numbers	Train 1	Train 2	Train 3
Probe	10	A	B
Filter - Front	19	21	23
Filter - Back	20	22	24
Filter <90°F	X	X	X

Pre-Test Scale Audit			
Scale Type	Audit Weight	Class	Measured Weight
Analytical (mg)	100.0000	S	100.0000
Platform (lbs)	10.00	F	10.00
Wood (lbs)	25.0	F	25.0

Limits of Weight Ranges	
Analytical Scale	50%-150% of dry filter weight, ± 0.1 mg
Platform Scale	20%-80% of ideal test load weight, ± 0.1 lbs. or 1%
Wood Scale	20%-80% of ideal test load weight, ± 0.1 lbs. or 1%

Sampling Equipment Check out

Leakage Checks Tunnel Samplers						
Sample	1		2		3	
Test	Pre	Post	Pre	Post	Pre	Post
Vacuum (in Hg)	10	10	10	10	10	10
Final 1 min DGM (ft^3)	0	0	0	0	0	0
Initial 1 min DGM (ft^3)	0	0	0	0	0	0
Change (C) (ft^3)	0	0	0	0	0	0
Allowable leakage	0.04	0.04	0.04	0.04	0.04	0.04
Check Okay	X	X	X	X	X	X

Leakage Checks Flue Gas Sampler		
Plugged Probe	Pre Test	Post Test
Vacuum (in Hg)	10	10
Rotameter Reading	0	0
Flow Rate (cfm)	0	0
Allowable (cfm)	0.04	0.04
Check Okay	X	X

Unplugged Flow Rate = .25cfm
Allowable Leakage = .04 x Sample Rate or .02 cfm

Continuous Analyzers

Pre-Test (Adjust and Record)						
Type	Zero		Span		Cal. (Record Only)	
	Actual	Should Be	Actual	Should Be	Actual	Should Be
CO_2	0	0	24.92	24.92	11.97	11.99
CO	0	0	7.75	7.748	3.94	4.00
O_2	0	0	20.9	20.89	9.97	10.01
					85.809	74.2204

79.02147675

Post Test (Record Only)								
Type	Zero	Span	Cal.	Zero Drift	Span Drift	Cal. Drift	OK?	Not OK*
CO_2	-0.03	24.72	11.82	-0.03	0.2	0.15	X	na
CO	-0.03	7.49	3.81	-0.03	0.26	0.13	X	na
O_2	0.02	20.76	9.92	-0.02	0.14	0.05	X	na

Test Data Log

Raw Dry Gas Meter Readings			
System	1	2	3
Final (ft^3)	51.093	51.081	8.49
Initial (ft^3)	0	0	0

Ambient Conditions	Start	End
Barometer (in Hg)	28.92	28.94
Dry Bulb (°F)	71.7	84
Humidity (%)	52.9	39.8

Comments
Unit levels, (P1)High, (P3)Medium, and (P4)Low, as tested on 8/28/17
Pretest started at 7:26am
8:27am, Test started
12:47pm, added 5lb of pellets to unit
Test complete at 2:27pm

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103680720		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031318-001			**DATE:**	8/12/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton
STANDARD TITLE:	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters				

RESULTS					
PASS	na	**FAIL**	x	**NO PASS/FAIL**	na

Room Conditions							
Room Temp (°F)		Barometric Pressure (in Hg)		Relative Humidity (%)		Air Velocity (ft/sec)	
78	84	28.92	28.94	52.9	39.8	0	0

Ave Dilution Tunnel Measurements				Sample Data			
Burn Time (min)	Velocity (ft/sec)	Flow Rate (dscf/min)	Temp (R) (°F)	Total Sample		Particulate Catch	
				1	2	1	2
360	21.87	231.96	555.47	48.18	49.54	10.70	11.00

Dilution Tunnel Dual Train Precision					
Sample Ratios		Total Emissions (g)		Deviation	
Train 1	Train 2	Train 1	Train 2	(%)	(g/kg)
1733.29	1685.69	18.55	18.54	0.01%	0.000

Results			
Burn Rate (kg/hr)	Initial Draft (in/wc)	Run Time (min)	Ave Draft (in/wc)
1.19	-0.250	360	-0.250

Emissions	
(g/hr)	(g/kg)
3.091	2.590

Burn Rates (kg/hr)		
High	Medium	Low
1.68	1.41	0.89

Fuel Consumed (lbs)		
High	Medium	Low
3.70	6.21	5.89

Fuel Moisture (% wet)
4.3%

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103680720		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031318-001			**DATE:**	8/12/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton

Table of Test Equipment Used				
Description	Asset #	Calibration Due	MU	Used in Test(s)
Timer	1212	4/5/2022	0.7 sec	ASTM E2779
Timer	646	4/5/2022	0.7 sec	ASTM E2779
Pressure Transducer	1406	1/13/2022	0.00007 in H2O	ASTM E2779
Data Acquisition	986	10/16/2021	0.06 Degrees F	ASTM E2779
Scale	1134	10/1/2021	.118 lbs	ASTM E2779
Hygrometer	1450	11/23/2021	0.35 RH	ASTM E2779
Flow Meter	1413	8/22/2021	0.020 lpm	ASTM E2779
Flow Meter	1414	8/22/2021	0.020 lpm	ASTM E2779
Flow Meter	1519	8/22/2021	0.020 lpm	ASTM E2779
Balance	713	10/6/2021	0.00044 g	ASTM E2779

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103680720		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
	SAMPLE ID #:	MID2108031318-001		**DATE:**	8/12/2021
	STANDARD(S):	ASTM E2779	**VERSION YEAR:** 2010	**LOCATION:**	Middleton

Pre-Burn Data																								
Time	Flue	Room	Tunnel	Meter #3	DGM 3	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	Filter 2	DGM 3	Filter 3	Meter #1	Meter #2	Draft	Tunnel	CO	CO2	O2	Scale	32.12295	Meter	Meter	Draft	Calculated
																		%	%	%	lbs	Corrected	#1	#2		
10.0	Temp 1	Temp 2	Dry Bulb 3	11	Out 12	In 13	Out 14	15	In 16	Out 17	18	In 19	20	21	22	23	24	25	25	27	28	Scale	Cu Ft	Cu Ft		Tunnel
0.0	272.37	74.73	90.17	0.02	71.97	74.48	73.08	69.01	73.54	72.68	69.35	71.73	69.28	0.02	0.02	0.00	1.45	8.44	25.29	21.05	35.43	3.31	0.00	0.00	-0.24979	0.1117637
10.0	274.78	74.90	91.13	0.02	72.58	74.89	73.43	69.57	73.98	73.13	69.52	72.60	70.11	0.02	0.02	0.00	1.45	0.00	4.70	15.96	34.74	2.62	0.00	0.00	-0.24979	0.1114254
20.0	278.66	75.56	91.20	0.02	72.99	75.09	73.71	70.08	73.94	73.55	70.15	72.87	70.80	0.02	0.02	0.00	1.43	0.00	5.02	15.18	34.03	1.90	0.00	0.00	-0.24981	0.1084749
30.0	277.77	75.45	91.08	0.02	73.12	75.33	74.28	70.83	74.29	73.93	70.86	73.32	71.74	0.02	0.02	0.00	1.45	0.00	4.67	16.07	33.42	1.29	0.00	0.00	-0.24981	0.1113766
40.0	277.69	75.24	91.23	0.02	73.51	75.29	74.46	71.24	74.75	74.26	71.33	73.73	71.98	0.02	0.02	0.00	1.43	0.00	4.89	16.07	32.82	0.70	0.00	0.00	-0.24983	0.1085724
50.0	278.74	75.15	90.99	0.02	73.61	75.31	74.56	71.61	74.76	74.57	71.35	73.69	72.09	0.02	0.02	0.00	1.47	0.02	5.10	15.70	32.12	0.00	0.00	0.00	-0.24982	0.1179025
60.0	275.25	74.87	90.49	0.02	73.37	75.38	74.66	71.89	74.63	74.36	71.64	73.91	72.40	0.02	0.02	0.00	1.48	0.00	4.62	15.51	35.52	3.40	0.00	0.00	-0.24983	0.1197253

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103680720		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031318-001			**DATE:**	8/12/2021
STANDARD(S):	ASTM E2779		**VERSION YEAR:** 2010	**LOCATION:**	Middleton

Raw Data

Time	Flue	Room	Tunnel	Meter #3	DGM 3	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	Filter 2	DGM 3	Filter 3	Meter #1	Meter #2	Draft	Tunnel	CO	CO2	O2	Scale	19.23	Meter	Meter	Meter	Draft	Calculated	31.33	25.12	19.23	14.23	
																		%	%	%	lbs	Corrected	#1	#2	#3		Tunnel	NA				
10.0	Temp 1	Temp 2	Dry Bulb 3	11	Out 12	In 13	Out 14	15	In 16	Out 17	18	In 19	20	21	22	23	24	25	25	27	28	Scale	Cu Ft	Cu Ft	Cu ft							
0.0	278.14	78.41	93.99	0.02	76.73	78.27	78.13	75.70	77.61	77.78	75.67	77.32	75.57	0.02	0.02	0.00	1.49	0.00	4.86	14.96	35.02	15.79	0.00	0.00	0.00	-0.25	0.1217	3.70				
10.0	280.00	77.86	94.16	4.04	75.88	74.76	77.23	77.40	73.69	76.12	77.69	73.39	77.96	4.03	4.03	0.00	1.42	0.03	5.44	15.60	34.42	15.19	1.42	1.42	1.43	-0.25	0.1055	3.10				
20.0	280.82	78.69	95.04	4.02	75.64	74.43	77.07	77.67	73.53	76.00	78.17	72.73	78.24	4.03	4.02	0.00	1.43	0.02	4.93	15.70	33.83	14.60	1.42	1.42	1.42	-0.25	0.1064	2.50				
30.0	283.22	79.28	95.97	4.03	75.36	73.76	77.12	78.32	73.11	75.76	78.58	72.54	78.72	4.03	4.03	0.00	1.44	0.04	5.36	14.83	33.12	13.89	1.42	1.42	1.42	-0.25	0.1104	1.80				
40.0	281.18	79.34	96.40	4.04	75.19	73.75	77.08	78.65	72.52	75.35	78.68	71.93	78.91	4.03	4.03	0.00	1.43	0.08	4.90	15.64	32.53	13.30	1.42	1.42	1.43	-0.25	0.108	1.20				
50.0	280.83	79.98	96.53	4.03	74.57	73.53	76.71	78.79	72.68	75.27	78.69	72.18	79.14	4.03	4.02	0.00	1.48	0.10	5.03	14.77	31.93	12.70	1.42	1.42	1.42	-0.25	0.1189	0.61				
60.0	282.57	79.93	97.37	4.03	74.56	73.63	76.60	78.95	72.21	74.81	79.08	72.12	79.28	4.02	4.02	0.00	1.42	0.12	5.07	15.30	31.33	12.10	1.42	1.42	1.42	-0.25	0.1047	0.00	6.21			
70.0	269.23	80.81	97.18	0.02	72.49	73.76	76.49	78.81	72.54	75.04	79.18	71.83	76.48	4.02	4.02	0.00	1.40	0.15	4.14	16.61	30.83	11.60	1.42	1.42		-0.25	0.0988		5.71			
80.0	266.31	80.84	96.14	0.02	71.91	73.58	75.88	78.57	72.00	74.45	78.89	71.41	75.65	4.02	4.02	0.00	1.40	0.17	3.86	16.61	30.33	11.10	1.42	1.42		-0.25	0.1012		5.21			
90.0	268.21	81.32	96.33	0.02	71.81	73.21	75.44	78.72	71.90	74.33	78.96	71.65	75.23	4.03	4.05	0.00	1.43	0.17	3.91	16.27	29.83	10.60	1.42	1.43		-0.25	0.1066		4.71			
100.0	268.34	81.58	95.82	0.02	71.64	73.00	75.49	78.62	72.05	74.24	79.04	71.23	74.63	4.02	4.03	0.00	1.43	0.20	4.09	16.54	29.22	10.00	1.42	1.42		-0.25	0.1084		4.11			
110.0	272.38	81.76	96.98	0.02	72.08	73.49	75.53	78.67	72.30	74.47	79.16	71.25	74.27	4.02	4.03	0.00	1.43	0.17	4.24	15.42	28.72	9.49	1.42	1.42		-0.25	0.1064		3.60			
120.0	270.54	80.49	97.00	0.02	73.43	74.43	76.22	78.82	73.99	75.26	79.53	72.53	74.05	4.01	4.01	0.00	1.44	0.18	4.18	16.57	28.34	9.11	1.42	1.42		-0.25	0.111		3.22			
130.0	267.52	81.75	97.23	0.02	72.45	73.90	75.94	79.10	72.86	74.91	79.50	72.33	74.10	4.01	4.02	0.00	1.44	0.18	3.99	16.63	27.74	8.51	1.42	1.42		-0.25	0.1105		2.62			
140.0	271.83	82.17	97.31	0.02	72.38	73.54	75.71	78.85	72.35	74.60	79.47	72.03	73.93	4.01	4.01	0.00	1.44	0.16	4.38	16.05	27.23	8.00	1.42	1.42		-0.25	0.1111		2.11			
150.0	268.33	82.54	96.91	0.02	72.22	73.71	75.43	78.89	72.48	74.54	79.57	71.83	73.69	4.01	4.01	0.00	1.44	0.18	3.59	16.39	26.73	7.50	1.42	1.42		-0.25	0.1098		1.61			
160.0	266.71	82.13	97.49	0.02	72.17	73.72	75.47	78.85	72.41	74.48	79.59	71.86	73.66	4.01	4.02	0.00	1.42	0.17	4.43	15.92	26.22	6.99	1.42	1.42		-0.25	0.1059		1.10			
170.0	270.83	82.28	97.59	0.02	71.98	73.60	75.33	78.72	72.16	74.36	79.46	71.63	73.48	4.01	4.02	0.00	1.41	0.22	4.76	16.61	25.63	6.40	1.42	1.42		-0.25	0.1022		0.51			
180.0	271.13	82.44	98.18	0.02	71.97	73.71	75.66	78.97	72.55	74.57	79.51	71.53	73.29	4.01	4.02	0.00	1.45	0.18	4.40	16.13	25.12	5.89	1.42	1.42		-0.25	0.1119		0.00	5.89	10.89	25.12
190.0	244.02	82.33	96.90	0.02	72.06	73.86	75.93	78.76	72.61	74.71	79.38	71.66	73.04	4.01	4.01	0.00	1.48	0.29	2.45	18.16	24.83	5.60	1.41	1.42		-0.25	0.119			5.60	10.60	24.83
200.0	238.46	82.59	94.78	0.02	72.40	73.69	76.06	78.58	72.87	74.64	79.15	71.83	73.31	4.00	4.01	0.00	1.45	0.26	3.11	18.05	24.43	5.20	1.41	1.42		-0.25	0.1124			5.20	10.20	24.43
210.0	234.82	82.59	94.83	0.02	72.26	73.82	75.91	78.39	72.64	74.64	78.88	71.77	73.25	4.01	4.01	0.00	1.43	0.26	2.22	18.13	24.02	4.79	1.41	1.42		-0.25	0.1077	NA		4.79	9.79	24.02
220.0	230.59	82.99	94.72	0.02	71.82	73.36	75.25	78.08	72.25	74.31	78.85	71.58	73.00	4.00	4.01	0.00	1.43	0.28	2.70	18.35	23.73	4.50	1.41	1.41		-0.25	0.1063			4.50	9.50	23.73
230.0	228.66	82.85	94.22	0.02	72.14	73.30	75.40	78.12	72.43	74.48	78.83	71.28	72.72	4.00	4.01	0.00	1.45	0.28	2.14	18.36	23.42	4.19	1.41	1.41		-0.25	0.1117			4.19	9.19	23.42
240.0	226.53	83.06	93.53	0.02	72.15	73.61	75.77	78.37	72.55	74.40	78.60	71.37	72.80	4.03	4.03	0.00	1.42	0.26	1.70	18.44	23.13	3.90	1.42	1.42		-0.25	0.1057			3.90	8.90	23.13
250.0	222.58	83.36	93.58	0.02	72.23	73.63	75.82	78.12	72.75	74.49	78.52	71.78	72.73	4.02	4.02	0.00	1.44	0.25	2.11	17.95	22.82	3.59	1.42	1.42		-0.25	0.1107			3.59	8.59	22.82
260.0	223.17	83.26	93.52	0.02	72.36	73.84	76.13	78.01	72.88	74.64	78.52	71.83	73.06	4.02	4.02	0.00	1.43	0.26	2.38	17.94	22.42	3.19	1.42	1.42		-0.25	0.1072			3.19	8.19	17.42
270.0	226.96	83.35	93.94	0.02	72.01	73.67	75.56	77.93	72.83	74.49	78.41	71.76	72.90	4.02	4.02	0.00	1.42	0.26	2.33	17.97	22.13	2.90	1.42	1.42		-0.25	0.1061			2.90	2.90	17.13
280.0	228.50	83.38	94.08	0.02	72.31	73.62	75.69	78.05	72.59	74.35	78.63	71.57	72.75	4.02	4.02	0.00	1.48	0.24	2.22	17.83	21.82	2.59	1.42	1.42		-0.25	0.1205			2.59	2.59	16.82
290.0	228.15	83.38	94.56	0.02	71.86	73.50	75.34	78.07	72.34	74.29	78.57	71.40	72.80	4.03	4.02	0.00	1.45	0.22	1.74	17.82	21.41	2.18	1.42	1.42		-0.25	0.1115			2.18	2.18	16.41
300.0	223.43	83.28	94.53	0.02	72.26	73.64	75.74	78.34	73.02	74.62	78.65	71.69	72.83	4.03	4.01	0.00	1.44	0.28	1.88	18.38	21.13	1.90	1.42	1.42		-0.25	0.1091			1.90	1.90	16.13
310.0	229.24	83.68	94.49	0.02	72.40	74.00	75.96	78.19	72.80	74.74	78.65	71.98	72.93	4.03	4.01	0.00	1.45	0.27	1.66	18.47	20.73	1.50	1.42	1.42		-0.25	0.1121			1.50	1.50	15.73
320.0	223.85	83.66	94.43	0.02	72.10	73.54	75.49	78.13	72.35	74.33	78.66	71.78	72.73	4.03	4.01	0.00	1.48	0.27	2.04	18.64	20.44	1.21	1.42	1.42		-0.25	0.1192			1.21	1.21	15.44
330.0	223.08	83.44	94.57	0.02	72.19	73.39	75.31	78.08	72.44	74.46	78.69	71.59	72.62	4.03	4.01	0.00	1.46	0.29	2.39	18.32	20.12	0.89	1.42	1.42		-0.25	0.114			0.89	0.89	15.12
340.0	223.57	83.28	94.11	0.02	72.45	73.91	75.88	78.10	73.09	74.73	78.78	71.83	72.79	4.03	4.01	0.00	1.47	0.27	1.88	18.27	19.83	0.60	1.42	1.41		-0.25	0.1167			0.60	0.60	14.83
350.0	218.41	83.79	93.84	0.02	72.17	73.62	75.67	78.18	72.37	74.43	78.61	71.76	72.88	4.03	4.03	0.00	1.46	0.27	2.22	18.66	19.52	0.29	1.42	1.42		-0.25	0.1147			0.29	0.29	14.52
360.0	222.68	83.94	94.32	0.02	72.40	73.88	75.89	78.40	72.74	74.77	78.89	72.05	72.95	4.03	4.04	0.00	1.45	0.24	2.41	17.97	19.23	0.00	1.42	1.42		-0.25	0.1125			0.00	0.00	14.23

intertek

NAME:		PERFORMED BY:	Sam Slater
PROJECT #:	Exergy Group	REVIEWED BY:	Brian Wagner
PROJECT:	4109380726	MODEL:	Profile
SAMPLE ID #	5002100001218 0001	DATE:	07/22/2021
SYNONYM(S)	RCFM 527737	LOCATION:	Hazleton
VERSION TYPE:	2010		

RESULTS

PASS	FAIL	NO PASS/FAIL
na	na	na

Test Increment (min): 360.0

	Start	End
Barometer (in Hg):	28.92	28.94
Dry Bulb (°F):	71.7	80
Humidity (%):	52.0	39.8

Calculated Number of Bends (Vertical): 15.76

Average																							
			0.00	4.28	17.03	351.21	81.94	95.47			73.80	75.98	78.35		72.77	74.81	78.60		73.17			79.26	0.11	-0.25
			%			°F	°F	%			°F	°F	°F		°F	°F	°F		°F			°F	in/s	in/s
Actual Time	Elapsed Time	Weight Remaining	CO		CO_2	O_2	Flue Gas	Room Temp	Tunnel Velocity	DGM 1 Reading	DGM 1 Inlet T	DGM 1 Outlet T	Filter 1 Temp	DGM 2 Reading	DGM 2 Inlet T	DGM 2 Outlet T	Filter 2 Temp	DGM 3 Reading	DGM 3 Inlet T	DGM 3 Outlet T	Filter 3 Temp	Tunnel Velocity	Draft
Time	Minutes	lbs							Dry Bulb	Reading	Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Velocity	
######	0.0	15.79	0.00		4.84	14.90	278.14	78.41	83.99	0.00	78.27	78.13	75.70	0.00	77.41	77.78	75.67	0.00	77.32	76.73	75.57	0.122	-0.250
######	10.00	15.59	0.03		5.44	15.60	280.00	77.86	94.16	1.42	74.76	77.23	77.40	1.42	73.69	76.12	77.69	1.43	72.39	75.88	77.96	0.105	-0.250
######	20.00	14.60	0.02		4.93	15.70	280.82	78.69	95.04	2.84	74.43	77.07	77.67	2.84	73.53	76.00	78.17	2.85	72.73	75.64	78.24	0.106	-0.250
######	30.00	13.89	0.04		5.16	14.83	283.22	79.28	95.97	4.27	73.76	77.12	78.32	4.26	73.11	75.74	78.72	4.27	72.56	75.26	78.72	0.110	-0.250
######	40.00	13.30	0.08		4.90	15.64	281.18	79.34	96.40	5.69	73.75	77.08	78.65	5.69	72.52	75.35	78.68	5.69	71.93	75.19	78.91	0.108	-0.250
######	50.00	12.70	0.10		5.03	14.77	280.83	79.98	96.53	7.11	73.53	76.71	78.79	7.11	72.68	75.27	78.69	7.12	72.38	74.57	79.14	0.119	-0.250
######	60.00	12.10	0.12		5.07	15.30	282.57	79.93	97.27	8.53	73.63	76.60	78.95	8.52	72.21	74.81	79.08	8.54	72.12	74.56	79.28	0.105	-0.250
######	70.00	11.60	0.11		4.14	14.61	269.21	80.81	97.18	9.95	73.76	76.49	78.81	9.94	72.54	75.04	79.18					0.099	-0.250	
######	80.00	11.10	0.17		3.86	14.61	266.21	80.84	96.14	11.37	73.58	75.88	78.57	11.36	72.00	74.45	78.89					0.101	-0.250	
######	90.00	10.60	0.17		3.91	14.27	268.21	81.32	96.33	12.79	73.21	75.44	78.72	12.79	71.90	74.33	78.96					0.107	-0.250	
######	100.00	10.00	0.20		4.09	14.54	268.34	81.58	95.82	14.21	73.00	75.49	78.62	14.21	72.05	74.24	79.04					0.108	-0.250	
######	110.00	9.40	0.17		4.24	15.42	272.38	81.76	96.98	15.63	73.49	75.53	78.67	15.64	72.30	74.47	79.16					0.106	-0.250	
######	120.00	9.11	0.18		4.18	16.57	270.54	80.49	97.00	17.05	74.43	76.22	78.82	17.05	73.99	75.24	79.53					0.111	-0.250	
######	130.00	8.51	0.18		3.99	16.62	267.52	81.75	97.23	18.46	73.90	75.94	78.67	18.47	72.86	74.91	79.60					0.110	-0.250	
######	140.00	8.00	0.16		4.28	16.05	271.83	82.17	97.31	19.88	73.54	75.71	78.85	19.89	72.35	74.60	79.67					0.111	-0.250	
######	150.00	7.50	0.18		3.59	16.39	268.33	82.64	96.91	21.30	73.71	75.43	78.89	21.31	72.48	74.54	79.57					0.110	-0.250	
######	160.00	6.99	0.17		4.43	15.92	266.71	82.13	97.49	22.71	73.72	75.47	78.85	22.72	72.41	74.48	79.59					0.106	-0.250	
######	170.00	6.40	0.22		4.76	16.61	270.83	82.28	97.59	24.13	73.60	75.33	78.72	24.14	72.16	74.36	79.46					0.102	-0.250	
######	180.00	5.89	0.18		4.60	16.13	271.13	82.64	98.18	25.55	73.71	75.66	78.97	25.56	72.15	74.57	79.51					0.112	-0.250	
######	190.00	5.50	0.24		4.45	15.16	264.62	82.33	96.60	26.96	73.86	75.93	78.76	26.98	72.61	74.71	79.38					0.119	-0.250	
######	200.00	5.20	0.26		3.11	18.05	258.86	82.59	94.78	28.38	73.69	76.06	78.58	28.39	72.87	74.64	79.15					0.112	-0.250	
######	210.00	4.79	0.26		3.22	18.11	259.82	82.59	94.83	29.79	73.82	75.91	78.39	29.81	72.64	74.64	78.88					0.108	-0.250	
######	220.00	4.50	0.28		2.70	18.15	260.59	82.99	94.72	31.20	73.36	75.25	78.08	31.22	72.25	74.31	78.85					0.106	-0.250	
######	230.00	4.19	0.28		2.14	18.36	258.66	82.85	94.22	32.62	73.30	75.40	78.12	32.64	72.43	74.48	78.83					0.112	-0.250	
######	240.00	3.90	0.24		1.70	18.64	256.53	83.06	93.53	34.04	73.61	75.77	78.37	34.06	72.55	74.60	78.60					0.106	-0.250	
######	250.00	3.59	0.26		2.11	17.95	252.59	83.26	93.58	35.46	73.63	75.82	78.12	35.48	72.75	74.69	78.52					0.111	-0.250	
######	260.00	3.35	0.24		2.28	17.94	253.17	83.26	93.52	36.88	73.84	76.13	78.01	36.90	72.88	74.64	78.52					0.107	-0.250	
######	270.00	3.00	0.26		2.33	17.97	250.96	83.35	93.84	38.30	73.67	75.56	77.93	38.32	72.83	74.49	78.41					0.106	-0.250	
1:07 PM	280.00	2.59	0.24		2.22	17.83	248.56	83.38	94.08	39.71	73.62	75.69	78.05	39.73	72.59	74.35	78.63					0.121	-0.250	
1:17 PM	290.00	2.18	0.22		1.74	17.82	249.15	83.38	94.54	41.14	73.50	75.54	78.07	41.15	72.34	74.29	78.57					0.111	-0.250	
1:27 PM	300.00	1.90	0.28		1.88	18.28	253.41	83.28	94.53	42.56	73.64	75.74	78.04	42.57	73.02	74.61	78.53					0.109	-0.250	
1:37 PM	310.00	1.50	0.27		1.66	18.47	249.24	83.68	94.49	43.98	74.00	75.96	78.19	43.99	72.80	74.74	78.65					0.112	-0.250	
1:47 PM	320.00	1.21	0.27		2.04	18.04	223.85	83.66	94.43	45.40	73.54	75.49	78.13	45.40	72.35	74.33	78.66					0.119	-0.250	
1:57 PM	330.00	0.80	0.27		2.19	18.21	222.09	83.64	94.57	46.83	73.39	75.31	78.08	46.82	72.44	74.46	78.69					0.114	-0.250	
2:07 PM	340.00	0.50	0.27		1.88	18.27	223.57	83.28	94.11	48.25	73.91	75.88	78.10	48.23	73.09	74.73	78.78					0.117	-0.250	
2:17 PM	350.00	0.20	0.27		2.22	18.66	218.61	83.79	93.84	49.67	73.42	75.67	78.18	49.66	72.37	74.43	78.61					0.115	-0.250	
2:27 PM	360.00	0.00	0.24		7.41	17.97	222.05	83.94	94.32	51.09	73.88	75.89	78.40	51.08	72.74	74.77	78.89					0.112	-0.250	

6" Tunnel 0.1963 ft2
12" Tunne 0.7854 ft2

Tunnel area (ft2): 0.1963
Wood moisture (% wet): 0.06
Load Weight (lbs wet): 15.792192
Burn Rate (Dry lbs/hr): 1.193

Total Gas Volume (DGM 1): 48.368
Total Gas Volume (DGM 2): 49.529
Average Barometric Pressure: 28.93
Molecular Weight: 29
Pitot Correction: 0.957774
Calibration Factor (DGM #1): 0.9885
Calibration Factor (DGM #2): 1.0340
(1) VS: 0.04905
(2) VS: 0.04771

Final Temperature (DGM #1) Deemed Rankin: 534.905
Final Temperature (DGM #2) Deemed Rankin: 533.788
Final Tunnel Temperature Deemed Rankin: 555.474
Final Tunnel Velocity (feet per second): 21.676646
Standardized Tunnel Flow (dscfm): 231.96459

Elapsed Time	Reading	DGM 1 Inlet T	DGM 1 Outlet T	DGM 2 Reading	DGM 2 Inlet T	DGM 2 Outlet T	Tunnel Dry Bulb	Tunnel Velocity	Velocity DGM 1	Velocity DGM 2	Filter Face Tunnel	Filter Face Delta-P	Tunnel Temp. Inlet + Tunnel	Tunnel Temp. Outlet Tunnel	Average Temp. 100.8	Average Temp. 100.9	#1 dQ/dt	#2 dQ/dt	Average 0.3
Minutes	lbs										in. H2O	Velocity	Meter 1	Meter 2	Vol. Std.	Vol. Std.			SQRT
Time	Reading	Inlet T	Outlet T	Reading	Inlet T	Outlet T	Dry Bulb	Velocity	DGM 1	DGM 2	Tunnel	Fr/Sec	Dev. R	Dev. R	Flt1	Flt1	Time		Delta-P
0.00	0.00	78.27	78.13	0.00	77.409108	77.7764	93.994				0.122	22.867	538.2	537.7			0	0.348854	
10.00	1.42	74.76	77.23	1.42	73.667586	76.1159	94.1608	11.52	11.86	0.105	21.388	536.0	534.9	101.72	101.82	1.227	1.276	10	0.326749
20.00	2.84	74.43	77.07	2.84	73.528804	75.9985	95.0408	11.55	11.83	0.106	21.498	535.8	534.8	101.58	101.35	1.339	1.373	20	0.326233
30.00	4.27	73.76	77.12	4.26	73.11261	75.7564	95.9733	11.54	11.87	0.110	21.910	535.6	534.4	99.89	99.86	1.339	1.377	30	0.332208
40.00	5.69	73.75	77.08	5.69	72.515457	75.3534	96.3996	11.54	11.89	0.108	21.488	535.4	533.9	100.93	101.21	1.338	1.379	40	0.328709
50.00	7.11	73.53	76.71	7.11	72.477513	75.2678	96.5271	11.56	11.87	0.119	22.750	535.1	534.0	96.48	96.34	1.341	1.377	50	0.349776
60.00	8.53	73.63	76.60	8.52	72.207321	74.811	97.3669	11.54	11.86	0.105	21.367	535.1	533.5	102.68	102.78	1.338	1.376	60	0.323564
70.00	9.95	73.76	76.49	9.94	72.538719	75.042	97.1826	11.52	11.86	0.099	20.753	535.1	533.8	105.53	105.70	1.336	1.376	70	0.319318
80.00	11.37	73.58	75.88	11.36	71.995345	74.449	96.535	11.53	11.86	0.101	20.981	534.7	533.2	104.27	104.51	1.338	1.376	80	0.318577
90.00	12.79	73.21	75.44	12.79	71.899521	74.3291	96.3274	11.54	11.95	0.107	21.541	534.3	533.1	102.02	102.69	1.341	1.386	90	0.326504
100.00	14.21	73.00	75.49	14.21	72.049958	74.2376	95.8189	11.55	11.90	0.108	21.707	534.2	533.1	101.11	101.26	1.340	1.380	100	0.329172
110.00	15.63	73.49	75.53	15.64	72.301993	74.4659	96.9818	11.55	11.90	0.106	21.516	534.5	533.4	102.05	102.27	1.340	1.380	110	0.326163
120.00	17.05	74.43	76.22	17.05	73.866343	75.258	97.0021	11.55	11.83	0.111	21.996	535.3	534.6	99.28	99.25	1.333	1.372	120	0.333208
130.00	18.46	73.90	75.94	18.47	72.862961	74.9111	97.2345	11.52	11.85	0.110	21.948	534.9	533.9	99.80	99.85	1.336	1.375	130	0.332407
140.00	19.88	73.54	75.71	19.89	72.350281	74.5992	97.3091	11.52	11.85	0.111	22.010	534.6	533.5	99.64	99.67	1.337	1.375	140	0.333327
150.00	21.30	73.71	75.43	21.31	72.477715	74.5192	96.9085	11.52	11.85	0.110	21.873	534.6	533.5	100.12	100.22	1.337	1.375	150	0.33116
160.00	22.71	73.72	75.47	22.72	72.455617	74.4805	97.4902	11.52	11.86	0.106	21.488	534.6	533.4	102.04	102.17	1.336	1.375	160	0.325363
170.00	24.13	73.60	75.33	24.14	72.556563	74.3386	97.1676	11.53	11.87	0.102	21.114	534.5	533.3	103.98	104.14	1.337	1.377	170	0.319674
180.00	25.55	73.71	75.66	25.56	72.551871	74.5846	98.1813	11.52	11.86	0.112	22.107	534.7	533.6	99.30	99.43	1.336	1.375	180	0.336527
190.00	26.96	73.86	75.93	26.98	72.621401	74.7261	96.8964	11.49	11.84	0.119	22.768	534.9	533.7	95.94	96.15	1.333	1.373	190	0.344926
200.00	28.38	73.69	76.06	28.39	72.868935	74.6426	96.781	11.49	11.83	0.112	22.086	534.9	533.8	98.48	98.64	1.332	1.372	200	0.335237
210.00	29.79	73.82	75.91	29.81	72.656322	74.6256	96.8159	11.49	11.84	0.108	21.626	534.9	533.6	100.68	100.82	1.333	1.372	210	0.328152
220.00	31.20	73.36	75.25	31.22	72.269871	74.5085	96.7394	11.50	11.84	0.106	21.476	534.3	533.3	101.49	101.58	1.334	1.373	220	0.325995
230.00	32.62	73.30	75.40	32.64	72.494433	74.6161	96.2152	11.50	11.83	0.112	22.012	534.4	533.5	98.92	98.91	1.334	1.372	230	0.334286
240.00	34.04	73.61	75.77	34.06	72.551094	74.7084	93.5305	11.55	11.88	0.106	21.399	534.7	533.5	102.04	102.09	1.340	1.378	240	0.32518
250.00	35.46	73.63	75.82	35.48	72.752548	74.6861	93.578	11.54	11.87	0.111	21.896	534.7	533.6	99.59	99.61	1.338	1.377	250	0.332714
260.00	36.88	73.84	76.13	36.90	72.875198	74.6422	93.5585	11.53	11.86	0.107	21.543	535.0	533.8	101.11	101.17	1.338	1.376	260	0.327362
270.00	38.30	73.67	75.56	38.32	72.830513	74.4984	93.9409	11.54	11.87	0.106	21.445	534.6	533.7	101.95	101.83	1.338	1.377	270	0.325672
280.00	39.71	73.62	75.69	39.73	72.588899	74.8472	94.0752	11.54	11.86	0.121	22.860	534.7	533.5	95.50	95.51	1.338	1.376	280	0.347198
290.00	41.14	73.50	75.54	41.15	72.341766	74.2895	94.5607	11.58	11.86	0.111	21.990	534.4	533.3	99.79	99.99	1.343	1.376	290	0.333848
300.00	42.56	73.64	75.74	42.57	73.022766	74.6317	94.5316	11.56	11.84	0.109	21.761	534.7	533.6	100.60	100.11	1.341	1.373	300	0.330379
310.00	43.98	74.00	75.96	43.99	72.799427	74.7407	94.4968	11.55	11.83	0.112	22.049	535.0	533.8	99.16	98.79	1.340	1.373	310	0.334764
320.00	45.40	73.54	75.49	45.40	72.35218	74.2267	94.4267	11.56	11.85	0.119	22.736	534.5	533.3	96.33	96.04	1.341	1.375	320	0.345204
330.00	46.83	73.39	75.31	46.82	72.455479	74.4634	94.7231	11.57	11.84	0.114	22.241	534.4	533.4	98.51	98.03	1.342	1.373	330	0.337656
340.00	48.25	73.91	75.88	48.23	73.086784	74.7266	94.1057	11.56	11.82	0.117	22.493	534.9	533.9	97.17	96.66	1.340	1.371	340	0.341418
350.00	49.67	73.42	75.67	49.66	72.372327	74.4272	93.8354	11.57	11.91	0.115	22.293	534.6	533.4	98.12	98.28	1.342	1.381	350	0.33867
360.00	51.09	73.88	75.89	51.08	72.737183	74.7719	94.323	11.55	11.91	0.112	22.086	534.9	533.8	98.94	99.23	1.340	1.381	360	0.335378

Deviation (g/kg)

Train #1	2.9900	#DIV/0!
Train #2	2.5891	#DIV/0!
Deviation	0.0005	

RESULTS

Average emission rate (lb/hr): 3.094

Burn Rate (Dry lb/hr: 1.193

PRESSURE FACTOR: 0.96491

TEMPERATURE FACTORS

DGM #1: 0.98709
DGM #2: 0.98916

DRY GAS METER VALUES

DGM #1	Final:	51.093
	Initial:	0.001
DGM #2	Final:	51.081
	Initial:	0.001

TOTAL TUNNEL VOLUME (scf): 83507

SAMPLE RATIOS

Sample Train 1:	1733.288
Sample Train 2:	1685.693

TOTAL EMISSIONS

Sample Train 1 (g):	**10.51**
Sample Train 2 (g):	**10.54**

EMISSION RATES

Sample Train 1 (g/hr):	**3.09**
Sample Train 2 (g/hr):	**3.09**

MAX Allowed: 7.50%

DEVIATION: 0.01%

Trains 1 Train 2

Cs 0.000723394 0.000723048
Cr 0 0
Di 18.55 18.54

Bi AVERAGE 18.54403186

Deviation (g/kg)

Train #1	2.9900	#DIV/0!
Train #2	2.5891	#DIV/0!
Deviation	0.0005	

Average Pressure: 28.93
Average Temperature: 28.92
Start: 28.92
End: 28.94

SAMPLING TIMES

	Before	After	Before	After	Before	After	Before	After
	78	84	28.92	28.94	52.9	39.8	6	6

Average Dilution Tunnel Measurements

Sample Data							
Burn	Velocity	Flow Rate	Temp	Total Sample		Particulate Catch	
Time	(ft/sec)	(dscfm)	(F)	1	2	1	2
360	21.87	231.96	555.47	48.18	49.54	10.7	11.0

Total Sample Train 1: 10.7
Total Sample Train 2: 11
Filter and seal Sample Train 1: 10.5
Filter and seal Sample Train 2: 10.5
Probe Sample Train 1: 0.2
Probe Sample Train 2: 0.5

Room Particulate Correction

0	Milligram Catch (mg)		
Vmr	46.5264	Total Volume Sampled (dscf)	
		Barometer (gHg) at 100	
		flow rate in 0.12924 cfm	

Dilution Tunnel Dual Train Precision

Sample Ratios			Total Emissions (g)		Deviation
Train 1	Train 2	Train 1	Train 2	(%)	g/kg
1733.288	1685.693	10.51	10.54	0.01%	0.0005

	Burn	Initial	Average
	Rate	Draft	Draft
	1.193	-0.250	-0.250

Stack Static (new): -0.69
Barometer: 28.93
Average Room Temp: 81.94

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103680720		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031318-001			**DATE:**	8/12/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See Equipment Tab			**CALIBRATION DUE:**	See Equipment Tab
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	48 hr conditioning burn				
AMBIENT TEMPERATURE (°F):	78.41				
RESULTS					
PASS	na	**FAIL**	x	**NO PASS/FAIL**	na

E&E Tunnel Traverse Worksheet

Static Pressure (in Hg)	**0.395**
Barometer (in Hg)	28.92

Position	Tunnel Velocity	
	(ft/sec)	(ft/sec^2)
A CENTER	0.105	0.3240
B CENTER	0.104	0.3225
A1	0.093	0.3050
A2	0.102	0.3194
A3	0.101	0.3178
A4	0.085	0.2915
B1	0.092	0.3033
B2	0.094	0.3066
B3	0.101	0.3178
B4	0.083	0.2881
Average		0.3096

	Pitot
Constant =	0.9577

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Ken Slater
	PROJECT #:	G103680720		**REVIEWED BY:**	Brian Ziegler
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031318-001			**DATE:**	8/12/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2010	**LOCATION:**	Middleton

E&E Pellet Fuel Data

Brand of Pellets Used	Marthwood

	Wet	Dry
Moisture Content (%)	4.27%	4.46%

Weight Used During Test	
Wet (lbs)	Dry (kg)
15.79	7.16

Burn Rate (kg/hr)	1.193489

Moisture Calculation	
Before Weight of Pellets - Wet (lbs)	1.17
After weight of pellets - Dry (lbs)	1.12
Weight of moisture removed from oven (lbs)	0.05

Weight added to Scale (lbs)	25.00

intertek	CLIENT:	Kaarco Group	PERFORMED BY:	Alan Slater	
	PROJECT #:	6160680720	REVIEWED BY:	Brian Ziegler	
Total Quality Assured	PRODUCT:	Pellet Fueled room heater	MODEL:	Flyttlv	
	SAMPLE ID #:	0001016883-018-001	DATE:	8/13/2021	
	STANDARD(S):	ASTM E2779	VERSION YEAR:	2010	LOCATION: Middleton

Test Duration (min): 60.0

	Start	End
Barometer (in Hg)	28.92	28.94
Dry Bulb (F)	71.7	84
Humidity (%)	52.9	34.6

Moisture content of wood (Wet) (%): 15.79

		Average		5.06	5.08	20.26	280.97	79.07	95.64		74.59	75.42	66.95	0.11	-0.25
Actual	Elapsed	Weight	*	*	*	*1	*2	*3	*	*	*	*	*	*	*
Time	Time	Remaining				Flue	Room	Tunnel	DGM 3	DGM 3	DGM 3	DGM 3	Filter 3	Tunnel	
Time	hh:mm:ss	lbs	CO	CO_2	O_2	Gas	Temp	Dry Bulb	Reading	Inlet T	Outlet T	Temp	Temp	Velocity	Draft
0:00:00	0.0	15.79	0.00	4.86	14.96	278.14	78.41	93.99	0.00	78.27	76.73	75.57	0.122	-0.250	
0:00:00	10.00	15.19	0.03	5.44	15.40	280.00	77.86	94.16	1.43	74.76	75.88	77.96	0.105	-0.250	
0:00:00	20.00	14.60	0.02	4.93	15.70	280.82	78.69	95.04	2.85	74.43	75.64	78.24	0.106	-0.250	
0:00:00	30.00	13.89	0.04	5.36	14.83	283.22	79.28	95.97	4.27	73.76	75.36	78.72	0.110	-0.250	
0:00:00	40.00	13.30	0.08	4.90	15.64	281.18	79.34	96.40	5.69	73.75	75.19	78.91	0.108	-0.250	
0:00:00	50.00	12.70	0.10	5.03	14.77	280.83	79.98	96.53	7.12	73.53	74.57	79.14	0.119	-0.250	
0:00:00	60.00	12.10	0.12	5.07	15.30	282.57	79.93	97.37	8.54	73.63	74.56	0.12	0.105	-0.250	

Total Gas Volume (DGM 3): 8.168
Average Barometric Pressure: 28.93
Molecular Weight: 29
Pitot Correction: 0.9577
Calibration Factor (DGM #3): 1.0000
(1) VS: #DIV/0!

Tunnel area (ft2): 0.1963

Final Temperature (DGM #3) Degrees Rankin: 535.004
Final Tunnel Velocity (feet per second): 21.9275531
Final Tunnel Temperature Degrees Rankin: 555.637521
Standardized Tunnel Flow (dscfm): 232.563541

Elapsed Time	DGM 3 Baseline	DGM 3 Inlet T	DGM 3 Outlet T	Tunnel Dry Bulb	Filter Face Velocity DGM 1	Filter Face Velocity DGM 2	Delta-P (in. H2O) Tunnel	Tunnel Velocity Pi/Sec	Average Inlet + Outlet Tunnel Temp. Meter 3 Deg. R		#3 dDGM Vol. Std. ft3		Average 0.3 SQRT Delta-P	
0.00	0.00	78.27	76.73	93.99602			0.122	22.967	537.5				0	0.368853613
10.00	1.43	74.76	75.88	94.16084	11.74	#VALUE!	0.105	21.383	535.3	#REF!	1.361		10	0.32478888
20.00	2.85	74.43	75.64	95.04083	11.70	#VALUE!	0.106	21.498	535.0	#REF!	1.357		20	0.32623313
30.00	4.27	73.76	75.36	95.97332	11.73	#VALUE!	0.110	21.910	534.6	#REF!	1.361		30	0.33220946
40.00	5.69	73.75	75.19	96.3996	11.76	#VALUE!	0.108	21.688	534.5	#REF!	1.364		40	0.32870904
50.00	7.12	73.53	74.57	96.53712	11.74	#VALUE!	0.119	22.750	534.0	#REF!	1.361		50	0.34477566
60.00	8.54	73.63	74.56	97.36691	11.75	#VALUE!	0.105	21.367	534.1	#REF!	1.363		60	0.32356408

1st hour emission rate (gr/hr): 3.501

Stack Static (neg): -0.395
Fuel Moisture (Dry): 0.08
Barometer: 28.93
Average Room Temp.: 79.07

PRESSURE FACTOR: 0.96691

BAROMETRIC PRESSURE
Average: 28.93
Start: 28.92
End: 28.94

TEMPERATURE FACTORS
DGM #1: 0.98691
DGM #3: 0.98691

DRY GAS METER VALUES
DGM #3 Final: 8.540
Initial: 0.001
DGM #3: 8.16477
DGM #1: 8.16477

VOLUMES SAMPLED

TOTAL TUNNEL VOLUME (scf): 13954

SAMPLE RATIOS
Sample Train 2: 1709.027
Sample Train 3 (g): 3.93

TEMPERATURES (DEG. RANKIN)
DGM #1: 535.004

TOTAL EMISSIONS

CALIBRATION FACTORS
DGM #1: 1.0020

TUNNEL FLOW RATE: 232.563

PARTICULATE CATCH (mg)
Total Sample Train 2: 2.3
Filter and seal Sample Train 3: 0.2
0
Probe Sample Train 3: 0.1

intertek
Total Quality. Assured.

Manufacturer: ENERCO GROUP
Job # G104788739

Model: PS20W
Run 3

Page ___ of ___
Date 8-27-21
Tech Ken Slater

DILUTION TUNNEL PARTICULATE SAMPLER DATA

FILTER TYPE: Gelman 47mm A/E

Pre-test Weight Record		SYSTEM 1			SYSTEM 2			SYSTEM 3			Temp	Humidity
		Probe & Housing Number	Front Filter + gasket Number	Back Filter + gasket Number	Probe & Housing Number	Front Filter + gasket Number	Back Filter + gasket Number	Probe & Housing Number	Front Filter + gasket Number	Back Filter + gasket Number		
Date	Time	4	10	11	5	12	13	6	14	15	°F	%
8-24-21	8:30A	89.9125	1.8588	1.8296	90.9925	1.8537	1.8573	91.5209	1.8238	1.8611	81	56
8-25-21	8:00A	89.9117	1.8587	1.8296	90.9919	1.8536	1.8572	91.5205	1.8235	1.8611	80	54
8-27-21	7:45A	89.9126	1.8587	1.8295	90.9927	1.8534	1.8571	91.5214	1.8235	1.8607	84	46.5
NA												
NA												
NA		Total:	3.6882		Total:	3.7105		Total:	3.6842		NA	NA

Post-test Weight Record		SYSTEM 1		SYSTEM 2		SYSTEM 3		Temp	Humidity
		Probe & Housing Number	Combined Filter/gasket Number	Probe & Housing Number	Combined Filter/gasket Number	Probe & Housing Number	Combined Filter/gasket Number		
Date	Time	4	10+11	5	12+13	6	14+15	°F	%
8-27-21	3:00p	89.9127	3.6955	90.9927	3.7183	91.5214	3.6886	84	46.5
8-30-21	12:00p	89.9125	3.6920	90.9925	3.7150	91.5211	3.6855	79	52
8-31-21	7:30A	89.9125	3.6920	90.9925	3.7150	91.5211	3.6855	81	50
NA									
NA									
NA									

Dry Down Weight

Date	Time	P1	F1	P2	F2	P3	F3	Gr/hr	Lb/MMbtu	Btu
8-27-21	3:10p	0.1	7.3	0	7.8	0	4.4	2.202	NA	NA
8-30-21	7:30A	0.1	3.8	0	4.5	0	2.3	1.217		
8-31-21	7:30A	0.1	3.8	0	4.5	0	2.3	1.217		
NA										
NA										
NA										

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco Group
Model: PS20W
Date: 8/27/2021
Run: 3
Control #: G104788739
Test Duration: 60
Output Category: High

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 3.91
Burn Rate (dry kg/h): 1.70
Total Particulate Emissions: 7.3 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

						Temp. (ºF)	
	Averages	0.00	4.95	15.77	280.99	80.05	
Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%) CO	CO_2	O_2	Flue Gas	Room Temp	
0	3.91	0.00	4.70	16.19	281.6	80.3	
10	3.22	0.00	5.61	14.88	283.2	80.1	
20	2.62	0.00	4.96	15.94	281.9	79.7	
30	1.92	0.00	4.58	16.01	280.2	80.0	
40	1.32	0.00	5.64	15.17	279.4	80.1	
50	0.72	0.00	4.54	15.83	281.3	80.2	
60	0.00	0.00	4.60	16.38	279.3	80.0	

Manufacturer: Exeeco Group
Model: PS20W
Date: 08/27/21
Run: 3
Control #: G104788739
Test Duration: 60 min

	HHV	LHV
Eff	74.67%	80.42%
Comb Eff	99.50%	99.50%
HT Eff	75.04%	80.83%
Output	25,242	kJh
Burn Rate	1.79	kg/h
Gases CO	0	n
Input	33,806	kJh
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [j], [k], [n], [r], [s], [w], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Overall Heating Efficiency:	74.67%	Air Fuel Ratio (AF)	
Combustion Efficiency:	99.50%	Dry Molecular Weight (M_d)	29.42
Heat Transfer Efficiency:	75.04%	Dry Moles Exhaust Gas (N.)	858.11 kMC
		Air Fuel Ratio (AF)	24.76 0.0

Heat Output:	23,945	Btu/h	25,242	kJ/h	
Heat Input:	32,068	Btu/h	33,806	kJ/h	
Ultimate CO_2					
$CO_{2,ult}$	19.60	Burn Duration:	1.00	h	
F_o	1.049	Burn Rate:	3.75	lb/h	1.700 kg/h
		Stack Temp:	260.9	Deg. F	126.3 Deg. C

Combustion Efficiency: 99.50%
Total Input (kJ): 33,806 32,063 (Btu)
Total Output (kJ): 25,242 23,941 (Btu)
Efficiency: 74.67%
Total CO (g): 0.00

Moisture of Wood (wet basis): 4.27
Initial Dry Weight W_{d_0} (kg): 1.70
Moisture Content Dry: 4.46

Moisture Content M_{cwb}: 4.27
Dry kg: 1.70
CA_r: 0.0
HR: 0.0
DR: 0.0

Load Wet/dry lbs/l: 1.78
Fuel Heating: HHV 19,887 LHV 18,464 Btu/lb HHV 8315.8 LHV 7943.4

	Oxygen Calculation			Input Data		Combust Eff	Heat Transfer	Net Eff	Air Fuel Ratio	Wet Wt Now	% Wet Consumed	Dry Wt. Now	% Dry Consumed	Total Input	Fuel Properties Carbon	Hydrogen	Oxygen	Calorific Value	Mw Moisture Fuel Burnt	Mass Balance (moles/100 mole dry flue gas)				kg Wood per 100 mole dry	Moles per kg of Dry Wood				Moisture Present	Stack Temp	Heat Content Change - Ambient to Stack Temperature Flue Gas Constituent						Room Temp	Energy Losses Sum of Dry Fuel Flue Gas Constituent						Total Loss Rate	Total Loss	Chemical Loss 1	Sensible and Latent Loss	Total Output	Chem Loss 2	Grams Produced	
Elapsed Time	INPUT DATA Weight Remaining [kg]	% CO [d]	% CO_2 [d]	Excess Air EA	Total O_2	Calc. % O_2 [g]	Flue Gas (°C)	Room Temp (°C)	%	%	Wt	x	y	Input	Carbon [k]/r [a]	[k]/r [b]	[k]/r [c]	Value	Burnt	[h]	[a]	[e]	[j]	[k]	Nk	CO_2	O_2	CO	HC	N_2	H_2O	Present	K	CO_2	O_2	CO	N_2	CH_4	H_2O Comb	H_2O Fuel MC	K	Rate	Loss	Loss 1	Latent Loss	Output	Loss 2	CO	HC
0	1.78	0.00	4.70	321.2%	20.67	16.97	138.7	26.8	101.0%	76.7%	77.5%	25.9	1.78	0.00	1.70	0.00	0	4.17	6.60	2.68	19887.00	4.27	79.33	21.04	1.12	3.75	-0.03	0.11	42.40	140.99	0.00	-0.23	710.37	33.62	2.48	411.81	6457.94	3353.45	3260.62	3224.56	4296.66	3601.74	299.97	187.69	479.50	0.22	2290.63	-203.25	1809.43	118.63	4492.84	0.00	0	0.00	0	0	0.00	0.00
10	1.46	0.00	5.61	252.8%	20.62	16.90	139.6	26.7	100.8%	76.9%	78.0%	21.7	1.46	17.60	1.40	17.60	8546	4.17	6.60	2.68	19887.00	4.27	79.38	21.06	1.24	4.47	-0.02	0.13	42.06	132.43	0.00	-0.18	594.81	33.52	2.48	412.72	6593.21	3384.67	3296.86	3254.47	4336.65	3627.95	299.86	189.25	360.54	0.21	1935.78	-159.91	1855.99	118.72	4670.67	1749.23	-58	1817.58	6797	-58	0.01	-1.23
20	1.19	0.00	4.96	299.1%	20.65	16.99	139.9	26.5	100.9%	77.4%	78.1%	24.6	1.19	32.96	1.14	32.96	5634	4.17	6.60	2.68	19887.00	4.27	79.35	21.05	1.18	3.96	-0.02	0.12	42.09	139.14	0.00	-0.21	673.12	33.59	2.48	412.03	6478.14	3398.73	3275.48	3229.25	4312.95	3619.54	299.66	188.47	448.51	0.12	2180.42	-189.30	1839.53	118.67	4655.63	1233.96	-53	1287.30	6800	-53	0.00	-0.96
30	0.87	0.00	4.68	332.6%	20.68	16.92	137.9	26.6	101.1%	76.4%	77.2%	26.6	0.87	50.93	0.83	50.93	5629	4.17	6.60	2.68	19887.00	4.27	79.32	21.04	1.09	3.66	-0.03	0.11	42.11	148.09	0.00	-0.24	739.87	33.64	2.48	411.02	6452.12	3334.72	3242.98	3205.68	4298.27	3680.21	299.79	186.64	492.84	0.10	2339.81	-210.56	1809.49	118.57	4537.88	1264.45	-59	1263.72	6345	-59	0.00	-1.07
40	0.60	0.00	5.64	252.2%	20.62	14.98	127.5	26.7	100.8%	79.2%	79.8%	21.6	0.60	66.26	0.57	66.26	5181	4.17	6.60	2.68	19887.00	4.27	79.38	21.06	1.25	4.49	-0.02	0.13	42.06	111.70	0.00	-0.18	592.06	33.52	2.48	410.61	6461.57	3319.49	3227.82	3192.08	4247.99	3662.57	299.88	185.52	370.79	0.16	1889.85	-158.78	1803.36	118.53	4009.43	1044.63	-41	1085.77	4197	-41	0.00	-0.74
50	0.33	0.00	4.64	336.3%	20.68	16.14	139.5	26.8	101.3%	76.2%	77.0%	26.9	0.33	81.59	0.31	81.59	6915	4.17	6.60	2.68	19887.00	4.27	79.32	21.04	1.08	3.63	-0.03	0.11	42.11	148.79	0.00	-0.24	736.08	33.64	2.48	411.62	6451.23	3349.55	3255.88	3219.87	4287.89	3666.09	299.95	187.46	501.57	0.16	2370.09	-212.96	1810.28	118.61	4575.22	2027.84	-54	2123.80	6797	-54	0.01	-1.69

intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Brian Ziegler
	PROJECT #:	G104788739		REVIEWED BY:	Ken Slater
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	NID2108031258-001			DATE:	8/27/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	See Client Folder				
AMBIENT TEMPERATURE (°F):	80.28				
RESULTS					

PASS	X	FAIL	na	NO PASS/FAIL	na

Run: 3
Test Duration: 60
Output Category: High

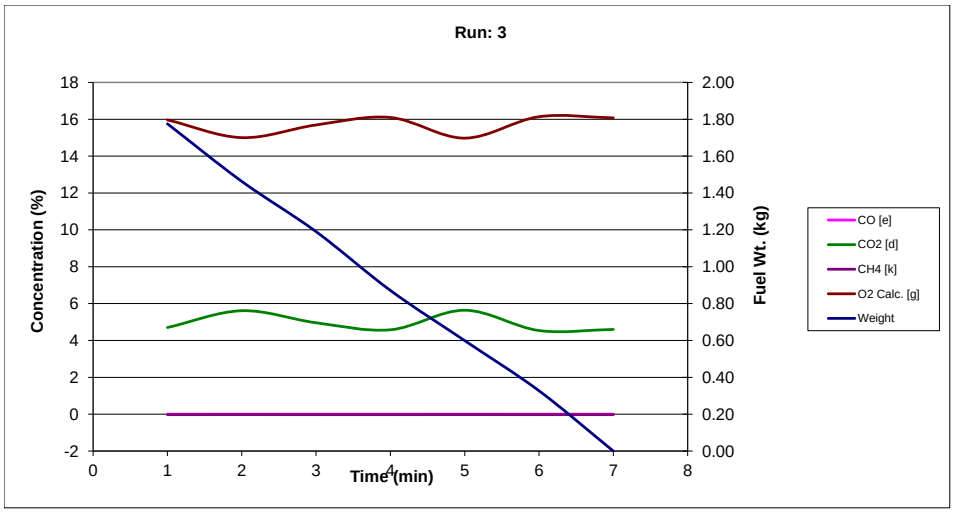
	HHV Basis	LHV Basis
Overall Efficiency	74.7%	80.4%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	75%	80.8%

Output Rate (kJ/h)	25,242	23,945	(Btu/h)
Burn Rate (kg/h)	1.70	3.75	(lb/h)
Input (kJ/h)	33,806	32,068	(Btu/h)

Test Load Weight (dry kg)	1.70	3.75	dry lb
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	7.3		
CO (g)	0		
Test Duration (h)	1.00		

Emissions	Particulate	CO	
g/MJ Output	0.29	0.00	
g/kg Dry Fuel	4.29	0.02	
g/h	7.30	0.03	0.000
lb/MM Btu Output	0.67	0.00	

Air/Fuel Ratio (A/F)	24.76



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

Tony Joseph
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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco Group
Model: PS20W
Date: 8/27/2021
Run: 3
Control #: G104788739
Test Duration: 180
Output Category: Low

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 5.30
Burn Rate (dry kg/h): 0.77
Total Particulate Emissions: 7.3 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

						Temp. (ºF)	
	Averages	**0.00**	**2.44**	**18.24**	**190.68**	**79.52**	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	5.30	0.00	2.32	17.85	189.3	79.2
10	5.01	0.00	2.44	18.60	184.1	79.5
20	4.69	0.00	2.79	17.68	190.7	79.5
30	4.41	0.00	2.21	18.26	190.7	79.1
40	4.10	0.00	2.62	18.51	190.0	79.5
50	3.81	0.00	2.35	18.42	191.9	79.4
60	3.50	0.00	2.22	18.19	194.5	79.4
70	3.31	0.00	2.08	18.61	186.9	79.3
80	2.99	0.00	2.26	18.72	186.5	79.4
90	2.71	0.00	2.38	18.21	192.9	79.4
100	2.40	0.00	2.33	18.62	189.8	79.2
110	2.10	0.00	2.24	18.52	188.8	79.4
120	1.80	0.00	2.41	18.25	199.4	79.3
130	1.51	0.00	2.35	18.38	192.6	79.7
140	1.20	0.00	2.52	18.11	192.4	79.7
150	0.91	0.00	2.86	17.69	188.2	79.9
160	0.60	0.00	2.66	17.69	191.5	80.2
170	0.31	0.00	2.63	18.28	188.2	80.3
180	0.00	0.00	2.74	18.01	194.4	79.7

Manufacturer: Exeeco Group
Model: PS20W
Date: 08/27/21
Run: 3
Control #: G104788739
Test Duration: 180 min

	HHV	LHV
Eff	74.60%	80.35%
Comb Eff	99.50%	99.50%
HT Eff	74.97%	80.75%
Output	11,381	kJ/h
Burn Rate	0.77	kg/h
Grams CO	0	g
Input	15,256	kJ/h
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [o], [q], [s], [u], [w], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Ultimate CO_2
$CO_{2,ult}$ 19.60
F_o 1.041

Overall Heating Efficiency:	74.60%	Heat Output:	10,796 Btu/h	11,381 kJ/h
Combustion Efficiency:	99.50%	Heat Input:	14,472 Btu/h	15,256 kJ/h
Heat Transfer Efficiency:	74.97%			

Air Fuel Ratio (AF)	
Dry Molecular Weight (M_d)	29.13
Dry Moles Exhaust Gas (n.)	1728.98
Air Fuel Ratio (AF)	55.17

%HC 0.8

Burn Duration: 3.00 h
Burn Rate: 1.69 lb/h 0.767 kg/h
Stack Temp: 160.8 Deg. F 88.2 Deg. C

Combustion Efficiency:	99.50%				
Total Input (kJ)	45,769	43,410	(Btu)		
Total Output (kJ)	34,143	32,383	(Btu)		
Efficiency:	74.60%				
Total CO (g)	0.00				

Moisture of Wood (wet basis):	4.27		
Initial Dry Weight W_{d_i} (kg):	2.30		
Moisture Content Dry	4.46		
Moisture Content M_{cwb}:	4.27		
Dry kg :	2.30		
C_A :	18		
M_c :	4.27		
DN :	4.46		

Load Wet/dry lbs/l: **2.40**

Fuel Heating Value in kJ/kg - CV	HHV	LHV		HHV	LHV
	19,887	18,464	Btu/lb	8555.8	7943.4

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intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Brian Ziegler
	PROJECT #:	G104788739		REVIEWED BY:	Ken Slater
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001			DATE:	8/27/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	See Client Folder				
AMBIENT TEMPERATURE (°F):	79.24				
RESULTS					

PASS	X	FAIL	na	NO PASS/FAIL	na

Run:	3
Test Duration:	180
Output Category:	Low

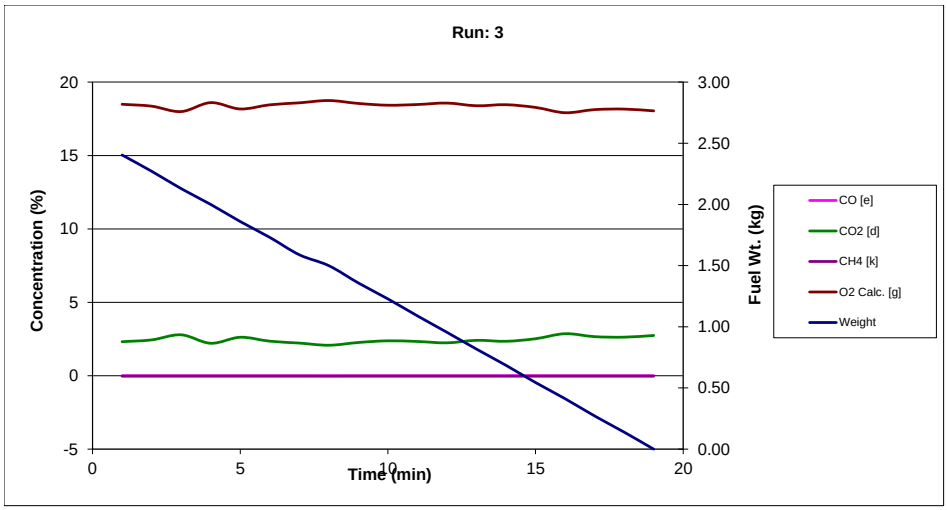
	HHV Basis	LHV Basis
Overall Efficiency	74.6%	80.3%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	75%	80.8%

Output Rate (kJ/h)	11,381	10,796	**(Btu/h)**
Burn Rate (kg/h)	0.77	1.69	**(lb/h)**
Input (kJ/h)	15,256	14,472	**(Btu/h)**

Test Load Weight (dry kg)	2.30	5.07	**dry lb**
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	7.3		
CO (g)	0		
Test Duration (h)	3.00		

Emissions	Particulate	CO	
g/MJ Output	0.21	0.00	
g/kg Dry Fuel	3.17	0.01	
g/h	2.43	0.01	0.000
lb/MM Btu Output	0.50	0.00	

Air/Fuel Ratio (A/F)	50.17



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

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Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco Group
Model: PS20W
Date: 8/27/2021
Run: 3
Control #: G104788739
Test Duration: 120
Output Category: Medium

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 3.59
Burn Rate (dry kg/h): 0.78
Total Particulate Emissions: 7.3 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

Averages		**0.00**	**2.65**	**17.95**	**195.77**	**79.52**
					Temp. (ºF)	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	3.59	0.00	4.60	16.38	279.3	80.0
10	3.30	0.00	2.16	18.30	208.4	79.6
20	3.00	0.00	3.00	18.01	191.2	79.9
30	2.70	0.00	2.58	17.42	190.8	79.6
40	2.40	0.00	2.88	17.96	189.4	79.7
50	2.11	0.00	2.45	18.19	185.0	79.5
60	1.80	0.00	2.37	17.89	189.6	79.6
70	1.50	0.00	1.86	18.90	185.3	79.2
80	1.20	0.00	2.59	17.70	187.3	79.2
90	0.90	0.00	2.59	18.19	187.2	79.2
100	0.60	0.00	2.40	18.20	181.9	79.5
110	0.32	0.00	2.66	18.30	180.3	79.5
120	0.00	0.00	2.32	17.85	189.3	79.2

Manufacturer: Exeeco Group
Model: PS20W
Date: 08/27/21
Run: 3
Control #: G104788739
Test Duration: 120 min

	HHV	LHV
Eff	74.69%	80.23%
Comb Eff	99.50%	99.60%
HT Eff	74.86%	80.63%
Output	11,159	kJ/h
Burn Rate	0.79	kg/h
Gases CO	0	n
Input	15,518	kJ/h
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [o], [q], [s], [u], [v], [y], and [z] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

Ultimate CO_2
CO_{2ult} 19.60
F_o 1.042

Overall Heating Efficiency:	74.69%	Air Fuel Ratio (AF)	
Combustion Efficiency:	99.50%	Dry Molecular Weight (M_d)	29.15
Heat Transfer Efficiency:	74.86%	Dry Moles Exhaust Gas (N.)	1619.14
		Air Fuel Ratio (AF)	46.22

Heat Output	10,965	Btu/h	11,559	kJ/h
Heat Input	14,730	Btu/h	15,518	kJ/h
Burn Duration:	2.00	h		
Burn Rate:	1.72	lb/h	0.780	kg/h
Stack Temp:	188.8	Deg. F	87.1	Deg. C

Combustion Efficiency:	99.50%		
Total Input (kJ)	31,036	29,436	(Btu)
Total Output (kJ)	23,118	21,927	(Btu)
Efficiency:	74.49%		
Total CO (g)	0.02		

Moisture of Wood (wet basis):	4.27			
Initial Dry Weight W_{di} (kg):	1.66			
Moisture Content Dry	4.46			

Moisture Content M_{cwb}: 4.27

Dry kg :	1.56
CA:	46
HA:	0.0
ON:	46.0

Load Wet/dry lbs/l: 1.63
Fuel Heating: HHV 15,887 LHV 15,464 Btu/lb HHV 8815.8 LHV 7943.4
Value in kJ/kg - CV:

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intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Brian Zieg;er
	PROJECT #:	G104788739		REVIEWED BY:	Ken Slater
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001			DATE:	8/27/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	See Client Folder				
AMBIENT TEMPERATURE (°F):	79.95				
RESULTS					

PASS	X	FAIL	na	NO PASS/FAIL	na

Run:	3
Test Duration:	120
Output Category:	Medium

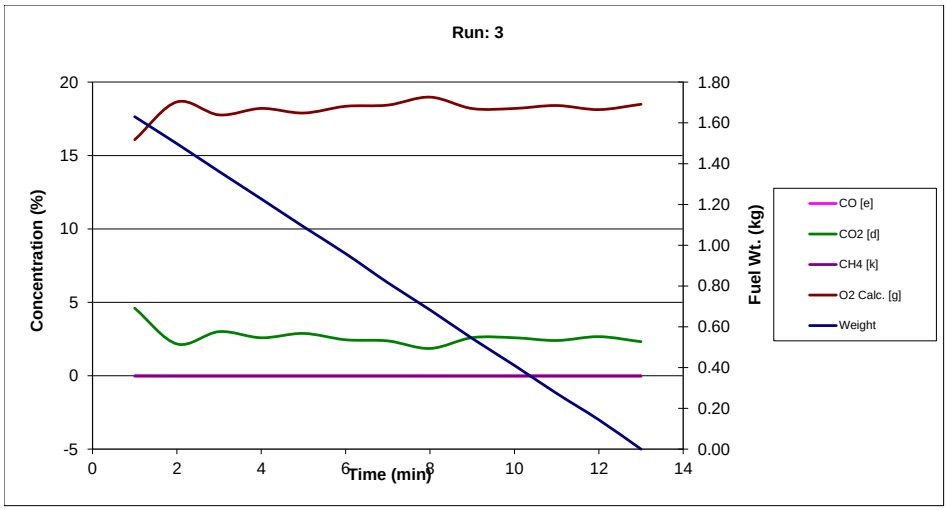
	HHV Basis	LHV Basis
Overall Efficiency	74.5%	80.2%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	75%	80.6%

Output Rate (kJ/h)	11,559	10,965	**(Btu/h)**
Burn Rate (kg/h)	0.78	1.72	**(lb/h)**
Input (kJ/h)	15,518	14,720	**(Btu/h)**

Test Load Weight (dry kg)	1.56	3.44	**dry lb**
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	7.3		
CO (g)	0		
Test Duration (h)	2.00		

Emissions	Particulate	CO	
g/MJ Output	0.32	0.00	
g/kg Dry Fuel	4.68	0.01	
g/h	3.65	0.01	0.000
lb/MM Btu Output	0.73	0.00	

Air/Fuel Ratio (A/F)	46.22



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

This Excel spreadsheet calculates solid fuel appliance efficiency and heat output in accordance with the procedure specified in CSA B415.1-09. In general the column headings correspond to the variables used in the Standard.

All data from a test run are entered on the "Data" sheet. The cells requiring data entry are highlighted. Please note that input data can be entered in either yard/pound or SI units. Select the units in cells F4 and F5 of the "Data" sheet.

Particulate emissions determined using the dilution tunnel method should be entered in cell C13 of the "Data" sheet as total grams of emissions.

Since oxygen concentrations are calculated for the efficiency determination, entry of measured oxygen data is optional. However, it might be useful to include the measured oxygen values for comparison to the calculated values for diagnostic purposes. A deviation of more than 1 or 2 percentage points can indicate inaccurate CO, CO_2, or fuel composition input data.

Selection of an appliance type in cell F2 of the "Data" sheet is needed for the air/fuel ratio calculation in accordance with Clause 16.3.5 of the Standard.

The "CSA B415.1 Calculations" and "Report" sheets include calculation of efficiencies based on the Lower Heating Value (LHV) of the fuel, which is not required in CSA B415.1-09. The LHV is calculated from the Higher Heating Value (HHV) and fuel composition data in accordance with ASTM E711.

The "CSA B415.1 Calculations" sheet is locked and password protected to prevent inadvertent modifications.

The "Chart" sheet includes a chart of flue gas composition data and fuel consumption. The range of cells in the "CSA B415.1 Calculations" sheet to be charted or plotted might need to be adjusted to correspond to the number of data points entered.

Please report any errors or problems to Tony Joseph at CSA.

Tony Joseph
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Project Manager, Energy & Utilities
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Spreadsheet created by: Rick Curkeet, PE, Intertek Testing Services, NA Inc.
Version 2.2 14 December 2009

VERSION: 2.2 12/14/2009

Manufacturer: Enerco
Model: PS20W
Date: 8/27/2021
Run: 3
Control #: G104788739
Test Duration: 360
Output Category: Overall

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Default Fuel Values

	D. Fir	Oak
HHV (kJ/kg)	19,810	19,887
%C	48.73	50
%H	6.87	6.6
%O	43.9	42.9
%Ash	0.5	0.5

Wood Moisture (% wet): 4.27
Load Weight (lb wet): 12.81
Burn Rate (dry kg/h): 0.93
Total Particulate Emissions: 7.3 g

Fuel Data

	D. Fir	
HHV	19,887	kJ/kg
%C	50	
%H	6.6	
%O	42.9	
%Ash	0.5	

Note 1: For other fuels, use the heating value and fuel composition determined by analysis of fuel sample in accordance with Clause 9.2.

Note 2: In cases where the "Fuel Weight Remaining" is the same for three or more readings in a row, a "divide by zero error" will occur in the calculation sheet. In such cases, adjust the weight values by interpolation between the first occurence and the next reading showing a decrease in weight.

						Temp. (ºF)	
	Averages	**0.00**	**2.93**	**17.73**	**207.20**	**79.61**	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%) CO**	**CO_2**	**O_2**	**Flue Gas**	**Room Temp**
0	12.81	0.00	4.70	16.19	281.6	80.3
10	12.12	0.00	5.61	14.88	283.2	80.1
20	11.52	0.00	4.96	15.94	281.9	79.7
30	10.81	0.00	4.58	16.01	280.2	80.0
40	10.21	0.00	5.64	15.17	279.4	80.1
50	9.61	0.00	4.54	15.83	281.3	80.2
60	8.89	0.00	4.60	16.38	279.3	80.0
70	8.60	0.00	2.16	18.30	208.4	79.6
80	8.30	0.00	3.00	18.01	191.2	79.9
90	8.00	0.00	2.58	17.42	190.8	79.6
100	7.70	0.00	2.88	17.96	189.4	79.7
110	7.41	0.00	2.45	18.19	185.0	79.5
120	7.10	0.00	2.37	17.89	189.6	79.6
130	6.80	0.00	1.86	18.90	185.3	79.2
140	6.49	0.00	2.59	17.70	187.3	79.2
150	6.20	0.00	2.59	18.19	187.2	79.2
160	5.90	0.00	2.40	18.20	181.9	79.5
170	5.62	0.00	2.66	18.30	180.3	79.5
180	5.30	0.00	2.32	17.85	189.3	79.2

Manufacturer: Ecreco
Model: PS20W
Date: 08/27/21
Run: 3
Control #: G104788739
Test Duration: 360 min

	HHV	LHV
Eff	75.57%	81.40%
Comb Eff	99.50%	99.50%
HT Eff	75.95%	81.81%
Output	13,932	kJh
Burn Rate	0.93	kg/h
Grams CO	0	g
Input	18,435	kJh
MC wet	4.27	

Note: In the "Input data", "Calc. % O_2", "Fuel Properties" and "Mass Balance" columns, [a], [d], [g], [k], [l], [n], [o], [x], [w], [z], [ad], [j], and [k] refer to their respective variables in Clauses 3.3.7.3 to 13.7.5.

Overall Heating Efficiency:	75.57%
Combustion Efficiency:	99.50%
Heat Transfer Efficiency:	75.95%

Air Fuel Ratio (AF)	
Dry Molecular Weight (M_d)	29.18
Dry Moles Exhaust Gas (N.)	1448.18
Air Fuel Ratio (AF)	41.75

Heat Output	13,216	Btu/h	13,932 kJ/h
Heat Input	17,488	Btu/h	18,435 kJ/h
Burn Duration:	6.00		h
Burn Rate:	2.04	lb/h	0.927 kg/h
Stack Temp:	205.1	Deg. F	96.2 Deg. C

Ultimate CO_2
$CO_{2,ult}$ 19.60
F_o 1.044

Combustion Efficiency:	99.50%		
Total Input (kJ)	110,611	104,909	(Btu)
Total Output (kJ)	83,594	79,295	(Btu)
Efficiency:	75.57%		
Total CO (g)	0.07		

Moisture of Wood (wet basis):	4.27		
Initial Dry Weight W_{fo} (kg):	5.56		
Moisture Content Dry	4.46		

Moisture Content M_{cwb}: 4.27

Dry kg :	5.56
CA:	10
HA:	5.56
ON:	4.46

Load Weight lbs/l:	5.81				
Fuel Heating	HHV	LHV		HHV	LHV
Value in kJ/kg - CV:	19,887	18,464	Btu/lb	8555.8	7943.4

| | | | |

intertek Total Quality. Assured.	CLIENT:	Enerco Group		PERFORMED BY:	Brian Ziegler
	PROJECT #:	G104788739		REVIEWED BY:	Ken Slater
	PRODUCT:	Pellet Fuel Room Heater		MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001			DATE:	8/27/2021
STANDARD(S):	CSA B415.1	VERSION YEAR:	2010	LOCATION:	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See emissions TDP			CALIBRATION DUE:	See emissions TDP
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	See Client Folder				
AMBIENT TEMPERATURE (°F):	80.28				
RESULTS					
PASS	X	FAIL	na	NO PASS/FAIL	na

Run: 3
Test Duration: 360
Output Category: Overall

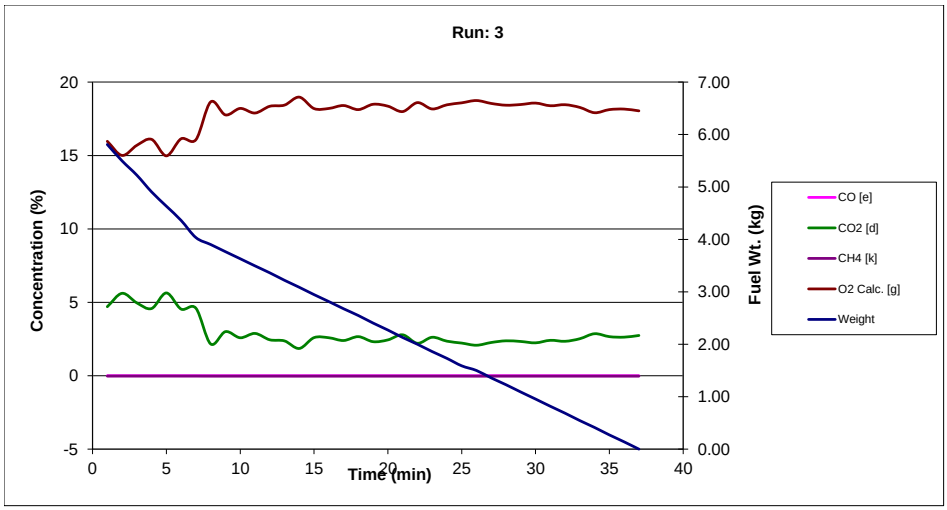
	HHV Basis	LHV Basis
Overall Efficiency	75.6%	81.4%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	76%	81.8%

Output Rate (kJ/h)	13,932	13,216	(Btu/h)
Burn Rate (kg/h)	0.93	2.04	(lb/h)
Input (kJ/h)	18,435	17,488	(Btu/h)

Test Load Weight (dry kg)	5.56	12.26	dry lb
MC wet (%)	4.27		
MC dry (%)	4.46		
Particulate (g)	7.3		
CO (g)	0		
Test Duration (h)	6.00		

Emissions	Particulate	CO	
g/MJ Output	0.09	0.00	
g/kg Dry Fuel	1.31	0.01	
g/h	1.22	0.01	0.000
lb/MM Btu Output	0.20	0.00	

Air/Fuel Ratio (A/F)	41.75



Note: In the legend, [d], [e], [g], and [k] refer to their respective variables in Clauses 13.7.3 and 13.7.5

CLIENT:	Enerco Group	PERFORMED BY:	Brian Ziegler
PROJECT #:	G104788739	REVIEWED BY:	Ken Slater
PRODUCT:	Pellet Fueled room heater	MODEL:	PS20W
SAMPLE ID #:	MID2108031258-001	DATE:	8/27/2021
STANDARD:	ASTM E2779 VERSION YEAR: 2017	LOCATION:	Middleton
STANDARD TITLE:	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters		

RESULTS

PASS	X	FAIL	na	NO PASS/FAIL	na

Emissions Testing Initial Stove Check Out

Date Received	8/4/2021	Shipping Carrier	USF Holland

Shipping Damage?	No	Yes		
	X	na	Describe Damage	NA
			Is Damage Repairable?	Yes / No
				na / na

Repairs Affected by	na	Date	na
Client Notified about Irreparable Damage?	na	Date	na

Overall Unit Dimensions (in)			Unit Weight	
Height	Width	Depth	(lbs)	(Kg)
28.5	18.25	20	140	63.504

Unit Description (check appropriate box)					
Stove	na	Top Vent	na	Manual Draft	na
Insert	na	Rear Vent	X	Bimetal Spring	na
Catalytic	na	Grate	na	Remote T-Stat	X
Non-Catalytic	na	Ashpan	na	Blower	X
Other	Pellet Stove				

48-hr Conditioning Burn Dates	see client folder

Pre/Post Checks

Facility Conditions	Pre-Test	Post-Test
Air Velocity (fpm)	0	0
Smoke Capture Check	X	X
Heater Conditions		
Date Stack Cleaned	8/11/2021	na
Date Dilution Tunnel Cleaned	8/11/2021	na
Induced Draft Check	X	X
Tunnel Velocity	0.118	0.104
Pitot Leak Check		
Side A	X	X
Side B	X	X
Temperature System		
Ambient (between 65°F -90°F)	80	80
Proportional Checks		
CO Analyzer Drift Check	x	x
CO2 Analyzer Drift Check	x	x
O2 Analyzer Drift Check	x	x
Thermocouple Check	x	x

Sampling Train ID Numbers	Train 1	Train 2	Train 3
Probe	4	5	6
Filter - Front	10	12	14
Filter - Back	11	13	15
Filter <90°F	X	X	X

Pre-Test Scale Audit			
Scale Type	Audit Weight	Class	Measured Weight
Analytical (mg)	100.0000	S	100.0000
Platform (lbs)	10.00	F	10.00
Wood (lbs)	25.0	F	25.0

Limits of Weight Ranges	
Analytical Scale	50%-150% of dry filter weight, ± 0.1 mg
Platform Scale	20%-80% of ideal test load weight, ± 0.1 lbs. or 1%
Wood Scale	20%-80% of ideal test load weight, ± 0.1 lbs. or 1%

Sampling Equipment Check out

Leakage Checks Tunnel Samplers						
Sample	1		2		3	
Test	Pre	Post	Pre	Post	Pre	Post
Vacuum (in Hg)	10	10	10	10	10	10
Final 1 min DGM (ft^3)	0	0	0	0	0	0
Initial 1 min DGM (ft^3)	0	0	0	0	0	0
Change (C) (ft^3)	0	0	0	0	0	0
Allowable leakage	0.04	0.04	0.04	0.04	0.04	0.04
Check Okay	X	X	X	X	X	X

Leakage Checks Flue Gas Sampler		
Plugged Probe	Pre Test	Post Test
Vacuum (in Hg)	10	10
Rotameter Reading	0	0
Flow Rate (cfm)	0	0
Allowable (cfm)	0.04	0.04
Check Okay	X	X

Unplugged Flow Rate = .25cfm
Allowable Leakage = .04 x Sample Rate or .02 cfm

Continuous Analyzers

Pre-Test (Adjust and Record)						
Type	Zero		Span		Cal. (Record Only)	
	Actual	Should Be	Actual	Should Be	Actual	Should Be
CO_2	0	0	24.94	24.92	12.01	11.99
CO	0	0	7.75	7.748	3.96	4.00
O_2	0	0	20.89	20.89	9.96	10.01
					85.809	74.2204

79.02147675

Post Test (Record Only)								
Type	Zero	Span	Cal.	Zero Drift	Span Drift	Cal. Drift	OK?	Not OK*
CO_2	-0.04	24.55	11.78	-0.04	0.39	0.23	X	na
CO	-0.34	7.61	3.24	-0.34	0.14	0.72	X	na
O_2	0	20.8	9.93	0	0.09	0.03	X	na

Test Data Log

Raw Dry Gas Meter Readings			
System	1	2	3
Final (ft^3)	50.845	50.879	8.46
Initial (ft^3)	0	0	0

Ambient Conditions	Start	End
Barometer (in Hg)	29.04	29.01
Dry Bulb (°F)	84	84
Humidity (%)	46.5	41.5

Comments
Unit levels, (P1)High, (P3)Medium, and (P4)Low, as tested on 8/28/17
8:48 test started - Setting P1
9:48 changed to medium burn setting -p3
11:48 changed to low burning setting -p4
2:48 end of test

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Brian Ziegler
	PROJECT #:	G104788739		**REVIEWED BY:**	Ken Slater
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/27/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2017	**LOCATION:**	Middleton
STANDARD TITLE:	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters				

RESULTS					
PASS	X	**FAIL**	na	**NO PASS/FAIL**	na

Room Conditions							
Room Temp (°F)		Barometric Pressure (in Hg)		Relative Humidity (%)		Air Velocity (ft/sec)	
80	80	29.04	29.01	46.5	41.5	0	0

Ave Dilution Tunnel Measurements				Sample Data			
Burn Time (min)	Velocity (ft/sec)	Flow Rate (dscf/min)	Temp (R) (°F)	Total Sample		Particulate Catch	
				1	2	1	2
360	21.78	234.12	549.67	48.77	48.23	3.90	4.50

Dilution Tunnel Dual Train Precision					
Sample Ratios		Total Emissions (g)		Deviation	
Train 1	Train 2	Train 1	Train 2	(%)	(g/kg)
1728.24	1747.70	6.74	7.86	7.70%	0.194

Results			
Burn Rate (kg/hr)	Initial Draft (in/wc)	Run Time (min)	Ave Draft (in/wc)
0.97	0.029	360	0.024

Emissions	
(g/hr)	(g/kg)
1.217	1.258

Burn Rates (kg/hr)		
High	Medium	Low
1.77	0.81	0.80

Fuel Consumed (lbs)		
High	Medium	Low
3.91	3.59	5.30

Fuel Moisture (% wet)
4.3%

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Brian Ziegler
	PROJECT #:	G104788739		**REVIEWED BY:**	Ken Slater
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/27/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2017	**LOCATION:**	Middleton

Table of Test Equipment Used				
Description	Asset #	Calibration Due	MU	Used in Test(s)
Timer	1212	4/5/2022	0.7 sec	ASTM E2779
Timer	646	4/5/2022	0.7 sec	ASTM E2779
Pressure Transducer	1406	1/13/2022	0.00007 in H2O	ASTM E2779
Data Acquisition	986	10/16/2021	0.06 Degrees F	ASTM E2779
Scale	1134	10/1/2021	.118 lbs	ASTM E2779
Hygrometer	1450	11/23/2021	0.35 RH	ASTM E2779
Flow Meter	1413	2/20/2022	0.020 lpm	ASTM E2779
Flow Meter	1414	2/20/2022	0.020 lpm	ASTM E2779
Flow Meter	1519	2/20/2022	0.020 lpm	ASTM E2779
Balance	713	10/6/2021	0.00044 g	ASTM E2779

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Brian Ziegler
	PROJECT #:	G104788739		**REVIEWED BY:**	Ken Slater
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
	SAMPLE ID #:	MID2108031258-001		**DATE:**	8/27/2021
	STANDARD(S):	ASTM E2779	**VERSION YEAR:** 2017	**LOCATION:**	Middleton

Pre-Burn Data																								
Time	Flue	Room	Tunnel	Meter #3	DGM 3	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	Filter 2	DGM 3	Filter 3	Meter #1	Meter #2	Draft	Tunnel	CO	CO2	O2	Scale	30.72501	Meter	Meter	Draft	Calculated
																		%	%	%	lbs	Corrected	#1	#2		
10.0	Temp 1	Temp 2	Dry Bulb 3	11	Out 12	In 13	Out 14	15	In 16	Out 17	18	In 19	20	21	22	23	24	25	25	27	28	Scale	Cu Ft	Cu Ft		Tunnel
0.0	141.66	79.18	87.49	0.02	68.46	70.00	69.37	-110.73	69.41	69.09	123.86	67.48	125.63	0.02	0.02	0.00	1.42	0.62	0.13	20.67	34.93	4.20	0.00	0.00	-0.2498	0.1057793
10.0	267.29	78.78	99.08	0.02	68.54	70.35	69.51	-105.75	69.38	69.43	125.48	68.12	126.18	0.02	0.02	0.00	1.45	3.83	11.56	10.59	34.03	3.31	0.00	0.00	-0.2498	0.1132076
20.0	272.90	78.37	101.22	0.02	71.90	73.87	72.52	67.04	73.32	72.91	-7.07	70.14	-1768.00	0.02	0.02	0.00	1.47	3.71	11.39	11.25	33.42	2.70	0.00	0.00	-0.24982	0.1180846
30.0	275.25	77.62	101.97	0.02	72.70	75.30	73.79	69.87	74.36	73.95	69.70	72.37	69.12	0.02	0.02	0.00	1.41	0.00	3.65	16.13	32.73	2.00	0.00	0.00	-0.24982	0.1035908
40.0	277.03	76.57	96.91	0.02	71.69	73.82	72.42	70.33	72.57	72.51	70.13	72.38	69.44	0.02	0.02	0.00	1.38	0.00	4.44	16.21	32.12	1.40	0.00	0.00	-0.24982	0.0944099
50.0	276.39	75.85	95.75	0.02	70.40	72.45	71.28	70.42	71.28	71.16	70.26	71.10	69.53	0.02	0.02	0.00	2.69	0.00	4.79	15.97	31.42	0.70	0.00	0.00	-0.24984	0.4222288
60.0	276.95	75.49	95.61	0.02	70.65	72.45	71.13	70.47	71.02	71.14	70.23	70.94	69.89	0.02	0.02	0.00	1.52	0.00	4.63	16.12	30.73	0.00	0.00	0.00	-0.24984	0.1291493

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Brian Ziegler
	PROJECT #:	G104788739		**REVIEWED BY:**	Ken Slater
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/27/2021
STANDARD(S):	ASTM E2779		**VERSION YEAR:** 2017	**LOCATION:**	Middleton

Raw Data

Time	Flue	Room	Tunnel	Meter #3	DGM 3	DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	Filter 2	DGM 3	Filter 3	Meter #1	Meter #2	Draft	Tunnel	CO	CO2	O2	Scale	22.22	Meter	Meter	Meter	Draft	Calculated	31.11	27.52	22.22	0.00
																		%	%	%	lbs	Corrected	#1	#2	#3				NA		
10.0	Temp 1	Temp 2	Dry Bulb 3	11	Out 12	In 13	Out 14	15	In 16	Out 17	18	In 19	20	21	22	23	24	25	25	27	28	Scale	Cu Ft	Cu Ft	Cu ft		Tunnel				
0.0	281.59	80.28	100.46	0.02	75.09	77.06	76.04	75.65	75.94	75.84	75.19	75.59	74.77	0.02	0.02	0.00	1.47	0.00	4.70	16.19	35.03	12.81	0.00	0.00	0.00	-0.25	0.1181	3.91			
10.0	283.23	80.08	100.93	4.00	76.51	76.11	77.48	79.34	75.41	76.92	78.23	75.41	78.50	4.01	4.00	0.00	1.50	0.00	5.61	14.88	34.34	12.12	1.42	1.41	1.41	-0.25	0.124	3.22			
20.0	281.95	79.72	100.76	3.99	76.47	76.27	77.76	80.11	75.45	77.06	79.22	75.58	79.69	4.00	4.00	0.00	1.45	0.00	4.96	15.94	33.74	11.52	1.41	1.41	1.41	-0.25	0.1136	2.62		NA	
30.0	280.16	79.95	101.08	3.99	76.55	76.11	78.17	80.73	75.62	77.10	79.59	75.46	79.89	3.99	4.00	0.00	1.43	0.00	4.58	16.01	33.03	10.81	1.41	1.41	1.41	-0.25	0.1085	1.92			
40.0	279.43	80.12	99.61	4.00	76.76	76.22	78.35	81.35	75.52	77.41	80.39	75.72	80.61	4.00	4.01	0.00	1.45	0.00	5.64	15.17	32.43	10.21	1.41	1.42	1.41	-0.25	0.1134	1.32			
50.0	281.26	80.24	100.16	3.99	76.83	76.34	78.54	81.68	75.50	77.38	80.37	75.56	80.74	4.01	4.00	0.00	1.48	0.00	4.54	15.83	31.83	9.61	1.41	1.41	1.41	-0.25	0.1201	0.72			
60.0	279.34	79.95	100.02	3.99	76.86	76.27	78.55	81.93	75.40	77.49	80.64	75.81	80.89	4.00	4.00	0.00	1.47	0.00	4.60	16.38	31.11	8.89	1.41	1.41	1.41	-0.25	0.1169	0.00	3.59		
70.0	208.38	79.62	91.50	0.02	75.42	76.01	78.33	81.06	75.44	77.51	80.15	75.13	78.38	4.00	4.00	0.00	1.43	0.00	2.16	18.30	30.82	8.60	1.41	1.41		-0.25	0.1063		3.30		
80.0	191.17	79.88	88.15	0.02	75.48	76.35	78.33	80.56	75.34	77.51	79.46	75.17	77.81	4.00	4.00	0.00	1.43	0.00	3.00	18.01	30.52	8.30	1.41	1.41		-0.25	0.1082		3.00		
90.0	190.84	79.62	87.49	0.02	75.25	76.11	78.47	80.04	75.25	77.39	78.95	75.13	77.35	4.00	4.00	0.00	1.42	0.00	2.58	17.42	30.22	8.00	1.41	1.41		-0.25	0.1062		2.70		
100.0	189.36	79.73	86.63	0.02	75.19	75.72	78.28	79.72	74.87	77.20	78.78	74.94	77.19	4.00	4.00	0.00	1.44	0.00	2.88	17.96	29.92	7.70	1.41	1.41		-0.25	0.1094		2.40		
110.0	185.01	79.47	86.03	0.02	75.60	76.17	78.53	79.71	75.53	77.73	78.80	75.16	77.15	4.00	4.00	0.00	1.43	0.00	2.45	18.19	29.63	7.41	1.41	1.41		-0.25	0.1072		2.11		
120.0	189.60	79.55	86.04	0.02	75.14	75.64	78.16	79.28	74.99	77.33	78.31	74.93	76.77	4.00	4.00	0.00	1.50	0.00	2.37	17.89	29.32	7.10	1.41	1.41		-0.25	0.1242		1.80		
130.0	185.28	79.16	85.54	0.02	75.18	75.57	78.07	79.23	74.79	77.12	78.21	74.70	76.62	4.00	4.00	0.00	1.47	0.00	1.86	18.90	29.02	6.80	1.41	1.41		-0.25	0.118		1.50		
140.0	187.33	79.24	85.84	0.02	74.70	75.29	78.06	79.18	74.58	77.10	78.07	74.50	76.38	4.01	4.01	0.00	1.43	0.00	2.59	17.70	28.71	6.49	1.41	1.42		-0.25	0.1078		1.20		
150.0	187.18	79.16	85.36	0.02	75.01	75.55	78.11	78.94	74.76	77.07	77.94	74.78	76.00	4.01	4.01	0.00	1.48	0.00	2.59	18.19	28.42	6.20	1.41	1.41		-0.25	0.1191		0.90		
160.0	181.93	79.54	85.56	0.02	74.94	75.71	78.22	79.09	74.97	77.08	78.07	74.64	76.29	4.00	4.01	0.00	1.51	0.00	2.40	18.20	28.12	5.90	1.41	1.41		-0.25	0.1283		0.60		
170.0	180.29	79.54	85.86	0.02	74.78	75.77	77.92	78.90	74.76	77.11	77.95	74.41	76.00	4.01	4.01	0.00	1.42	0.00	2.66	18.30	27.84	5.62	1.41	1.42		-0.25	0.105		0.32		
180.0	189.32	79.24	86.98	0.02	74.91	75.28	77.74	79.04	74.76	77.12	78.04	74.42	76.00	4.01	4.01	0.00	1.44	0.00	2.32	17.85	27.52	5.30	1.42	1.42		-0.25	0.1107		0.00	5.30	
190.0	184.11	79.51	87.14	0.02	74.85	75.35	77.86	78.96	74.46	76.90	78.04	74.22	75.77	4.01	4.01	0.00	1.46	0.00	2.44	18.60	27.23	5.01	1.41	1.42		-0.25	0.115			5.01	
200.0	190.67	79.46	86.62	0.02	74.72	75.48	77.78	78.80	74.75	76.97	77.92	74.48	75.94	4.01	4.01	0.00	1.47	0.00	2.79	17.68	26.91	4.69	1.42	1.42		-0.25	0.1176			4.69	
210.0	190.73	79.13	86.35	0.02	74.83	75.54	77.86	78.71	74.97	77.06	78.05	74.63	75.84	4.00	4.01	0.00	1.48	0.00	2.21	18.26	26.63	4.41	1.41	1.42		-0.25	0.1198			4.41	
220.0	189.98	79.45	86.71	0.02	75.23	75.78	78.22	79.08	75.09	77.40	78.10	74.90	75.71	4.00	4.01	0.00	1.48	0.00	2.62	18.51	26.32	4.10	1.41	1.41		-0.25	0.1196	NA		4.10	
230.0	191.93	79.35	86.67	0.02	75.24	76.15	78.23	79.09	75.03	77.17	78.09	74.62	75.64	4.00	4.00	0.00	1.47	0.00	2.35	18.42	26.04	3.81	1.41	1.41		-0.25	0.1175			3.81	
240.0	194.49	79.36	87.20	0.02	75.01	75.74	78.15	78.78	75.01	77.12	78.09	74.89	75.77	4.00	4.00	0.00	1.43	0.00	2.22	18.19	25.72	3.50	1.41	1.41		-0.25	0.1063			3.50	
250.0	186.93	79.33	86.54	0.02	75.15	75.94	78.21	79.24	74.97	77.20	78.44	75.04	75.86	3.99	4.00	0.00	1.46	0.00	2.08	18.61	25.53	3.31	1.41	1.41		-0.25	0.1157			3.31	
260.0	186.48	79.36	86.77	0.02	75.21	75.69	78.24	79.34	75.04	77.32	78.29	74.94	76.00	3.99	4.00	0.00	1.44	0.00	2.26	18.72	25.21	2.99	1.41	1.41		-0.25	0.1093			2.99	
270.0	192.93	79.35	86.71	0.02	75.37	76.15	78.37	79.26	75.61	77.47	78.45	75.01	75.94	3.99	4.00	0.00	1.41	0.00	2.38	18.21	24.93	2.71	1.41	1.41		-0.25	0.102			2.71	
280.0	189.84	79.18	87.26	0.02	75.28	75.94	78.24	79.43	75.27	77.32	78.38	75.02	75.95	4.00	4.00	0.00	1.43	0.00	2.33	18.62	24.62	2.40	1.41	1.41		-0.25	0.1071			2.40	
290.0	188.83	79.40	87.02	0.02	75.46	76.09	78.49	79.35	75.40	77.36	78.26	75.05	76.01	4.00	4.01	0.00	1.44	0.00	2.24	18.52	24.32	2.10	1.41	1.42		-0.25	0.1112			2.10	
300.0	199.36	79.30	88.08	0.02	75.37	76.16	78.45	79.37	75.37	77.45	78.31	75.13	76.09	4.00	4.01	0.00	1.50	0.00	2.41	18.25	24.02	1.80	1.41	1.41		-0.25	0.1249			1.80	
310.0	192.64	79.66	87.84	0.02	75.69	76.29	78.51	79.45	75.32	77.45	78.61	75.11	76.00	4.00	4.01	0.00	1.42	0.00	2.35	18.38	23.73	1.51	1.41	1.41		-0.25	0.1058			1.51	
320.0	192.41	79.69	87.08	0.02	75.67	76.06	78.67	79.60	75.36	77.61	78.72	75.14	76.13	4.00	4.01	0.00	1.43	0.00	2.52	18.11	23.42	1.20	1.41	1.41		-0.25	0.1073			1.20	
330.0	188.17	79.91	88.36	0.02	75.38	75.92	78.46	79.51	75.22	77.76	78.66	75.17	76.11	4.00	4.00	0.00	1.43	0.00	2.86	17.69	23.13	0.91	1.41	1.41		-0.25	0.1073			0.91	
340.0	191.50	80.18	88.98	0.02	75.55	76.02	78.19	79.60	75.22	77.73	78.96	75.06	76.17	4.00	4.00	0.00	1.45	0.00	2.66	17.69	22.82	0.60	1.41	1.41		-0.25	0.1125			0.60	
350.0	188.19	80.28	88.67	0.02	75.61	76.04	78.53	79.78	75.30	77.64	79.09	75.37	76.29	3.99	4.00	0.00	1.43	0.00	2.63	18.28	22.53	0.31	1.41	1.41		-0.25	0.1069			0.31	
360.0	194.39	79.69	89.71	0.02	75.54	75.97	78.60	79.79	75.29	77.56	79.00	75.20	76.18	3.99	4.00	0.00	1.41	0.00	2.74	18.01	22.22	0.00	1.41	1.41		-0.25	0.1036			0.00	

intertek

CLIENT:	Energy Group	PERFORMED BY:	Jordan Jaeger
PROJECT #:	4104788729	REVIEWED BY:	Jordan Jaeger
PRODUCT:	Pellet Fueled room heater	MODEL:	PH3PW
SAMPLE ID #	5402103031252B 0805	DATE:	07/27/2021
SYNONYM(S):	PH3W-SP7750	LOCATION:	Washington

RESULTS			
PASS	x	FAIL	
NO PASS/FAIL		TBF	

Test Operator Entry: 3602

	Start	End
Barometer (in Hg)	29.04	29.03
Dry Bulb (°F)	84	80
Humidity (%)	46.1	43.9

Calculated Constant (if stored constantly): 12.81

Average																								
	0.00	4.93	17.73	207.20	79.61	89.67			75.94	78.17	79.53			75.18	77.27	78.59			75.59			79.30	0.11	0.02
Actual Time	Allowed Time Remaining	Weight Remaining	CO	CO_2	O_2	Flue Gas	Room Temp	Tunnel Velocity	DGM 1 Reading	DGM 1 Inlet T	DGM 1 Outlet T	Filter 1 Temp	DGM 2 Reading	DGM 2 Inlet T	DGM 2 Outlet T	Filter 2 Temp	DGM 3 Reading	DGM 3 Inlet T	DGM 3 Outlet T	Filter 3 Temp	Tunnel Velocity	Draft
Time	Minutes	lbs				Gas	Temp	Dry Bulb	Reading	Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Velocity	
######	0.0	12.81	0.00	4.70	16.19	281.59	80.28	100.46	0.00	77.06	76.04	75.45	0.00	75.84	75.84	75.19	0.00	75.59	75.08	74.77	0.118	0.039
######	10.00	12.32	0.00	5.41	14.88	283.23	80.08	100.93	1.42	76.31	77.48	79.34	1.41	75.41	76.92	78.23	1.41	75.41	76.51	78.10	0.124	0.039
######	20.00	11.52	0.00	4.96	15.94	281.95	79.72	100.76	2.83	76.27	77.76	80.11	2.83	75.45	77.06	79.22	2.82	75.58	76.47	79.69	0.114	0.039
######	30.00	10.81	0.00	4.58	16.01	280.16	79.95	101.08	4.23	76.31	78.17	80.73	4.24	75.62	77.10	79.59	4.23	75.46	76.55	79.89	0.108	0.040
######	40.00	10.21	0.00	5.64	15.17	279.43	80.12	99.61	5.65	76.22	78.35	81.35	5.65	75.52	77.41	80.39	5.64	75.72	76.76	80.61	0.113	0.030
######	50.00	9.61	0.00	4.54	15.83	281.26	80.24	100.16	7.06	76.34	78.54	81.68	7.07	75.50	77.38	80.37	7.05	75.56	76.83	80.74	0.120	0.030
######	60.00	8.89	0.00	4.60	16.28	279.34	79.95	100.02	8.47	76.27	78.55	81.93	8.48	75.40	77.49	80.64	8.46	75.81	76.86	80.89	0.117	0.030
######	70.00	8.60	0.00	2.16	18.30	268.38	79.62	91.50	9.89	76.01	78.33	81.06	9.89	75.44	77.51	80.15					0.106	0.035
######	80.00	8.30	0.00	3.00	18.01	191.17	79.88	88.15	11.30	76.35	78.33	80.56	11.30	75.34	77.51	79.46					0.108	0.024
######	90.00	8.00	0.00	2.18	17.42	190.84	79.62	87.49	12.71	76.31	78.47	80.04	12.71	75.25	77.39	78.95					0.106	0.024
######	100.00	7.70	0.00	2.88	17.96	189.36	79.73	86.43	14.12	75.72	78.28	79.72	14.13	74.87	77.20	78.78					0.109	0.024
######	110.00	7.41	0.00	2.45	18.19	185.01	79.67	86.03	15.54	76.17	78.53	79.71	15.54	75.13	77.39	78.80					0.107	0.024
######	120.00	7.10	0.00	2.37	17.85	189.60	79.55	86.04	16.95	75.64	78.16	79.28	16.95	74.99	77.33	78.31					0.124	0.024
######	130.00	6.80	0.00	1.86	18.90	185.28	79.16	85.54	18.36	75.57	78.07	79.23	18.37	74.79	77.12	78.21					0.118	0.024
######	140.00	6.49	0.00	2.59	17.70	187.33	79.24	85.84	19.78	75.29	78.06	79.18	19.78	74.58	77.10	78.07					0.108	0.024
######	150.00	6.20	0.00	2.59	18.19	187.18	79.16	85.36	21.19	75.35	78.11	78.94	21.19	74.76	77.07	77.94					0.119	0.024
######	160.00	5.90	0.00	2.60	18.20	181.93	79.54	85.56	22.60	75.71	78.22	79.09	22.61	74.97	77.08	78.07					0.128	0.022
######	170.00	5.62	0.00	2.66	18.30	180.29	79.54	85.66	24.02	75.77	77.92	78.90	24.02	74.76	77.11	77.95					0.105	0.022
######	180.00	5.30	0.00	2.32	17.85	189.32	79.24	86.98	25.43	75.28	77.74	79.04	25.44	74.76	77.12	78.04					0.111	0.022
######	190.00	5.01	0.00	2.44	18.60	183.12	79.51	87.14	26.85	75.35	77.86	78.96	26.86	74.46	76.90	78.04					0.115	0.022
######	200.00	4.69	0.00	2.79	17.68	190.67	79.66	86.62	28.26	75.48	77.78	78.80	28.27	74.75	76.97	77.92					0.118	0.022
######	210.00	4.41	0.00	2.21	18.26	190.73	79.13	86.35	29.68	75.54	77.86	78.71	29.69	74.97	77.06	78.05					0.120	0.022
######	220.00	4.10	0.00	2.62	18.51	189.96	79.45	86.71	31.09	75.78	78.22	79.08	31.10	75.09	77.40	78.10					0.120	0.022
######	230.00	3.81	0.00	2.35	18.41	193.93	79.35	86.67	32.50	76.15	78.23	79.09	32.52	75.03	77.17	78.09					0.118	0.022
######	240.00	3.50	0.00	2.22	18.19	194.49	79.36	87.20	33.91	75.74	78.15	78.78	33.93	75.01	77.12	78.09					0.106	0.022
######	250.00	3.21	0.00	2.08	18.41	186.93	79.33	86.54	35.32	75.96	78.21	79.24	35.34	74.97	77.20	78.44					0.116	0.022
1:08 PM	260.00	2.95	0.00	2.26	18.72	185.49	79.36	86.77	36.73	75.69	78.24	79.34	36.75	75.04	77.32	78.29					0.109	0.022
1:18 PM	270.00	2.71	0.00	2.38	18.21	192.03	79.35	86.71	38.14	76.15	78.37	79.26	38.16	75.61	77.47	78.45					0.102	0.022
1:28 PM	280.00	2.40	0.00	2.33	18.62	189.84	79.18	87.26	39.55	75.94	78.24	79.43	39.57	75.27	77.32	78.38					0.107	0.022
1:38 PM	290.00	2.10	0.00	2.24	18.52	188.63	79.40	87.02	40.97	76.09	78.49	79.35	40.99	75.40	77.36	78.26					0.111	0.022
1:48 PM	300.00	1.81	0.00	2.61	18.25	189.26	79.50	88.08	42.38	76.16	78.65	79.37	42.40	75.37	77.45	78.31					0.125	0.022
1:58 PM	310.00	1.51	0.00	2.35	18.38	192.64	79.66	87.84	43.79	76.29	78.51	79.45	43.82	75.32	77.45	78.41					0.106	0.022
2:08 PM	320.00	1.20	0.00	2.52	18.11	192.41	79.69	87.08	45.21	76.06	78.67	79.60	45.23	75.34	77.41	78.72					0.107	0.022
2:18 PM	330.00	0.91	0.00	2.86	17.65	188.17	79.91	88.04	46.62	75.92	78.46	79.51	46.65	75.22	77.76	78.66					0.107	0.022
2:28 PM	340.00	0.60	0.00	2.66	17.69	191.99	80.18	88.98	48.03	76.02	78.19	79.03	48.06	75.22	77.73	78.96					0.113	0.022
2:38 PM	350.00	0.31	0.00	2.63	18.28	188.12	80.28	88.67	49.44	76.04	78.53	78.78	49.47	75.30	77.64	79.09					0.107	0.022
2:48 PM	360.00	0.00	0.00	2.74	18.01	194.39	79.69	89.71	50.85	75.97	78.60	78.79	50.88	75.29	77.56	79.00					0.104	0.022

6" Tunnel 0.1963 ft2
12" Tunne 0.7854 ft2

Tunnel area (ft2): 0.1963
Wood moisture (% wet): 0.06
Load Weight (lbs wet): 12.80182
Burn Rate (Dry lbs/hr): 0.968

Total Gas Volume (DGM 1): 48.747
Total Gas Volume (DGM 2): 48.305
Average Barometric Pressure: 29.025
Molecular Weight: 29
Pitot Correction: 0.84077
Calibration Factor (DGM #1): 1.0015
Calibration Factor (DGM #2): 0.9923
(1) VS: 0.04076
(2) VS: 0.04931

Final Temperature (DGM #1) Deemed Rankin: 537.655
Final Temperature (DGM #2) Deemed Rankin: 536.223
Final Tunnel Temperature Deemed Rankin: 548.468
Final Tunnel Velocity (feet per second): 21.775647
Standardized Tunnel Flow (dscfm): 234.12048

Elapsed Time	DGM 1 Reading	DGM 1 Inlet T	DGM 1 Outlet T	DGM 2 Reading	DGM 2 Inlet T	DGM 2 Outlet T	Tunnel Dry Bulb	Velocity DGM 1	Velocity DGM 2	Filter Face Tunnel	Filter Face Delta-P	Tunnel Temp. Outlet FrTec	Velocity Inlet + Outlet Temp. Dev. R	Meter 1 Inlet + Outlet Temp. Dev. R	Meter 2 Inlet + Outlet Temp. Dev. R	Average 99.5 Proportional Rates PR1	Average 99.5 PR2	#1 dQ/dt Vol. Std. Rate fR1	#2 dQ/dt Vol. Std. Rate fR2	Time	Average SQRT Delta-P
0.00	0.00	77.06	76.04	0.00	75.960361	75.84	100.456				0.118	22.503	536.5	535.9						0	0.343612
10.00	1.42	76.31	77.48	1.41	75.4562B8	76.9189	100.931	11.70	11.54		0.124	22.062	536.8	536.2		96.55	96.27	1.357	1.338	10	0.352077
20.00	2.83	76.27	77.76	2.83	75.4483S2	77.0616	100.759	11.65	11.53		0.114	22.082	537.0	536.3		100.45	100.48	1.353	1.338	20	0.357102
30.00	4.23	76.31	78.17	4.24	75.622879	77.0954	101.084	11.64	11.52		0.108	21.581	537.1	536.4		102.66	102.70	1.350	1.336	30	0.329345
40.00	5.65	76.22	78.35	5.65	75.521652	77.6091	99.6122	11.67	11.56		0.113	22.035	537.3	536.5		100.46	100.68	1.353	1.341	40	0.336717
50.00	7.06	76.34	78.54	7.07	75.457383	77.8868	100.155	11.68	11.54		0.120	22.447	537.4	536.4		97.78	97.69	1.355	1.338	50	0.338523
60.00	8.47	76.27	78.55	8.48	75.4533S3	77.6916	100.024	11.67	11.52		0.117	22.381	537.4	536.4		99.03	98.87	1.354	1.337	60	0.341883
70.00	9.89	76.01	78.33	9.89	75.4575A5	77.5125	91.4979	11.66	11.54		0.106	21.182	537.2	536.5		103.05	103.00	1.353	1.338	70	0.326057
80.00	11.30	76.35	78.33	11.30	75.3400D4	77.5086	88.1464	11.65	11.53		0.108	21.308	537.3	536.4		101.63	101.72	1.352	1.338	80	0.329003
90.00	12.71	76.31	78.47	12.71	75.2525A1	77.3876	87.4931	11.68	11.53		0.106	21.096	537.3	536.3		102.76	102.71	1.352	1.338	90	0.329336
100.00	14.12	75.72	78.28	14.13	74.8746D3	77.1971	86.6311	11.68	11.54		0.109	21.392	537.0	536.0		101.29	101.19	1.355	1.339	100	0.330754
110.00	15.54	76.17	78.53	15.54	75.1263B2	77.7284	86.0266	11.68	11.53		0.107	21.167	537.4	536.6		102.12	101.99	1.354	1.338	110	0.327456
120.00	16.95	75.64	78.16	16.95	74.987305	77.3299	86.0406	11.68	11.54		0.124	22.784	536.9	536.2		94.97	94.92	1.355	1.339	120	0.352471
130.00	18.36	75.57	78.07	18.37	74.787483	77.1167	85.5414	11.67	11.54		0.118	22.197	536.8	536.0		97.36	97.35	1.354	1.339	130	0.343537
140.00	19.78	75.29	78.06	19.78	74.57872	77.102	85.8408	11.70	11.57		0.108	21.219	536.7	535.8		102.16	102.14	1.357	1.342	140	0.328316
150.00	21.19	75.35	78.11	21.19	74.764488	77.0756	85.3668	11.70	11.56		0.119	22.295	536.8	535.9		97.09	97.07	1.357	1.341	150	0.345117
160.00	22.60	75.71	78.22	22.61	74.965698	77.0807	85.5622	11.68	11.56		0.128	23.141	537.0	536.0		93.40	93.49	1.354	1.340	160	0.358154
170.00	24.02	75.77	77.92	24.02	74.7606B8	77.1083	85.8178	11.70	11.57		0.105	20.947	536.8	535.9		103.46	103.50	1.357	1.342	170	0.324162
180.00	25.43	75.28	77.74	25.44	74.76368	77.1497	86.9765	11.71	11.57		0.111	21.528	536.5	535.8		103.04	100.92	1.358	1.342	180	0.332752
190.00	26.85	75.35	77.86	26.86	74.4568P4	76.8999	87.1425	11.70	11.58		0.115	21.947	536.6	535.7		99.04	99.12	1.357	1.343	190	0.33818
200.00	28.26	75.48	77.78	28.27	74.750511	76.9726	86.6223	11.71	11.57		0.118	22.182	536.6	535.8		97.95	97.91	1.358	1.343	200	0.342968
210.00	29.68	75.54	77.86	29.69	74.967117	77.0564	86.3459	11.69	11.56		0.120	22.373	536.7	536.0		96.89	96.89	1.356	1.341	210	0.344627
220.00	31.09	75.78	78.22	31.10	75.091668	77.4007	86.7208	11.68	11.55		0.120	22.271	537.0	536.2		96.80	96.83	1.354	1.340	220	0.345871
230.00	32.50	76.15	78.23	32.52	75.0503173	77.5483	86.6652	11.66	11.54		0.118	22.175	537.2	536.5		97.53	97.63	1.353	1.339	230	0.342795
240.00	33.91	75.74	78.15	33.93	75.04329	77.1226	87.2913	11.68	11.54		0.106	21.093	536.9	536.1		102.78	102.75	1.355	1.339	240	0.325068
250.00	35.32	75.96	78.21	35.34	74.96917	77.2047	86.5492	11.65	11.54		0.116	21.998	537.1	536.1		98.10	98.01	1.355	1.338	250	0.340152
260.00	36.73	75.69	78.24	36.75	75.0588A5	77.321	86.767	11.65	11.53		0.109	21.390	537.0	536.2		101.06	101.10	1.352	1.337	260	0.330675
270.00	38.14	76.15	78.37	38.16	75.0165D8	77.471	86.7067	11.65	11.53		0.102	20.661	537.3	536.5		104.54	104.45	1.351	1.336	270	0.319427
280.00	39.55	75.94	78.24	39.57	75.2655S1	77.2303	87.2562	11.68	11.53		0.107	21.179	537.1	536.3		102.39	102.35	1.355	1.337	280	0.327275
290.00	40.97	76.09	78.49	40.99	75.4555S1	77.3627	87.016	11.68	11.56		0.111	21.575	537.3	536.4		100.40	100.56	1.355	1.341	290	0.334511
300.00	42.38	76.16	78.65	42.40	75.3653S6	77.4467	88.0802	11.67	11.55		0.125	22.895	537.3	536.4		94.73	94.84	1.354	1.340	300	0.353468
310.00	43.79	76.29	78.51	43.82	75.3169G1	77.6541	87.8438	11.67	11.55		0.106	21.059	537.4	536.4		102.89	103.05	1.353	1.340	310	0.325248
320.00	45.21	76.06	78.67	45.23	75.364371	77.6135	87.0755	11.67	11.55		0.107	21.192	537.4	536.5		102.12	102.19	1.353	1.339	320	0.327522
330.00	46.62	75.92	78.46	46.65	75.2124J3	77.7394	88.357	11.66	11.54		0.107	21.215	537.2	536.5		102.31	102.28	1.353	1.339	330	0.327498
340.00	48.03	76.02	78.19	48.06	75.2169T2	77.7269	88.9795	11.66	11.53		0.113	21.744	537.1	536.5		99.84	99.82	1.352	1.337	340	0.33547
350.00	49.44	76.04	78.53	49.47	75.298752	77.6413	88.6714	11.64	11.52		0.107	21.186	537.3	536.5		102.20	102.22	1.350	1.337	350	0.326958
360.00	50.85	75.97	78.60	50.88	75.2851J6	77.5408	89.7104	11.65	11.52		0.104	20.879	537.3	536.4		103.97	103.96	1.351	1.336	360	0.321922

PRESSURE FACTOR: 0.97009

BAROMETRIC PRESSURE
Average: 29.025
Start: 29.04
End: 29.01

TEMPERATURE FACTORS
DGM #1: 0.98314
DGM #2: 0.98466

DRY GAS METER VALUES
VOLUMES SAMPLED
DGM #1 Final: 50.845
Initial: 0.001
DGM #1: 48.76822
DGM #2: 48.23501
DGM #2 Final: 50.879
Initial: 0.001
TOTAL TUNNEL VOLUME (scf): 84283

SAMPLE RATIOS
Sample Train 1: 1728.244
Sample Train 2: 1747.699

TOTAL EMISSIONS

EMISSION RATES
Sample Train 1 (g/hr): 1.12
Sample Train 2 (g/hr): 1.31

MAX Allowed: 7.50%

DEVIATION: 7.70%

Train 1 Train 2

Cs 7.9470E-05 0.3111E-05
Cr 0 0
Di 6.74 7.86

Di AVERAGE 7.301297E-05

Deviation (g/kg)
Train #1 1.1609 #DIV/0!
Train #2 1.3646 #DIV/0!
Deviation 0.1957

RESULTS

Average emission rate (lb/hr): 1.217

Burn Rate (Dry lb/hr): 0.968

Stack Static (new): 0.42
Barometer: 29.035
Average Room Temp: 79.61

CALIBRATION FACTORS
DGM #1: 1.0057
DGM #2: 0.9923

TUNNEL FLOW RATE: 234.120

PARTICULATE CATCH (mg)
Total Sample Train 1: 3.9
Total Sample Train 2: 4.5
Filter and seal Sample Train 1: 1.4
Filter and seal Sample Train 2: 0.1
Probe Sample Train 1: 0.1
Probe Sample Train 2: 0

Room Particulate Correction
K 1 Milligram Catch (mg)
Total Volume Sampled (dscf)
Barometer (gHem) at 100
flow rate is @ 12924 cfm

Room Temp		Bar Pressure		Relative Humidity		Air Velocity	
Before	After	Before	After	Before	After	Before	After
80	80	29.04	29.03	46.1	43.9	0	0

Average Dilution Tunnel Measurements

Burn	Velocity	Flow Rate	Temp	Sample Data				Particulate Catch
Time	(ft/sec)	(dscfmm)	(R)	1	2	1	2	
360	21.78	234.12	549.47	48.77	48.23	3.9	4.5	

Dilution Tunnel Dual Train Precision

Sample Ratios		Total Emissions (g)		Deviation	
Train 1	Train 2	Train 1	Train 2	(%)	g/kg
1728.244	1747.699	6.74	7.86	7.70%	0.19068

Burn	Initial	Average
Rate	Draft	Draft
0.968	0.029	0.024

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Brian Ziegler
	PROJECT #:	G104788739		**REVIEWED BY:**	Ken Slater
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/27/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2017	**LOCATION:**	Middleton
EQUIPMENT					
ASSET # - DESCRIPTION:	See Equipment Tab			**CALIBRATION DUE:**	See Equipment Tab
CONDITIONING					
SAMPLE CONDITIONING (IF APPLICABLE):	48 hr conditioning burn				
AMBIENT TEMPERATURE (°F):	80.28				
RESULTS					
PASS	X	**FAIL**	na	**NO PASS/FAIL**	na

E&E Tunnel Traverse Worksheet

Static Pressure (in Hg)	**0.416**
Barometer (in Hg)	29.04

Position	Tunnel Velocity	
	(ft/sec)	(ft/sec^2)
A CENTER	0.106	0.3256
B CENTER	0.109	0.3302
A1	0.09	0.3000
A2	0.101	0.3178
A3	0.103	0.3209
A4	0.07	0.2646
B1	0.086	0.2933
B2	0.106	0.3256
B3	0.113	0.3362
B4	0.088	0.2966
Average		0.3111

	Pitot
Constant =	0.9488

intertek Total Quality. Assured.	**CLIENT:**	Enerco Group		**PERFORMED BY:**	Brian Ziegler
	PROJECT #:	G104788739		**REVIEWED BY:**	Ken Slater
	PRODUCT:	Pellet Fueled room heater		**MODEL:**	PS20W
SAMPLE ID #:	MID2108031258-001			**DATE:**	8/27/2021
STANDARD(S):	ASTM E2779	**VERSION YEAR:**	2017	**LOCATION:**	Middleton

E&E Pellet Fuel Data

Brand of Pellets Used	Marthwood

	Wet	Dry
Moisture Content (%)	4.27%	4.46%

Weight Used During Test	
Wet (lbs)	Dry (kg)
12.81	5.81

Burn Rate (kg/hr)	0.967668

Moisture Calculation	
Before Weight of Pellets - Wet (lbs)	1.17
After weight of pellets - Dry (lbs)	1.12
Weight of moisture removed from oven (lbs)	0.05

Weight added to Scale (lbs)	25.00

intertek

CLIENT:	Kramer Grinnell
PROJECT #:	G1047387291
PRODUCT:	Pellet Fueled room heater
SAMPLE ID #:	0001016083-258-001
STANDARD(S):	ASTM E2779
VERSION YEAR:	2017
PERFORMED BY:	Brian Ziegler
REVIEWED BY:	Kim Slater
MODEL:	P105W
DATE:	8/27/2021
LOCATION:	Middleton

Test Duration (min): 60.0

	Start	End
Barometer (in Hg)	29.04	29.01
Dry Bulb (F)	84	84
Humidity (%)	40.5	41.5

Tunnel area (ft2): 0.1963

Final Temperature (DGM #1) Degrees Rankin: 536.389
Final Tunnel Velocity (feet per second): 22.337726
Final Tunnel Temperature Degrees Rankin: 560.43172
Standardized Tunnel Flow (dscfm): 235.508649

Total Gas Volume (DGM 3): 8.010
Average Barometric Pressure: 29.025
Molecular Weight: 29
Pitot Correction: 0.98377
Calibration Factor (DGM #3): 0.9964
(1) VS: #DIV/0!

Average Inlet =
Outlet

Moisture content of wood (Wet) (%):		12.81										
	Average		5.00	4.95	15.77	280.99	80.05	100.43		76.34	76.44	67.74	0.12	-0.25
Actual	Elapsed Time	Weight Remaining	*	*	*	*1	*2	*3	*	*	*	*	*	*
Time	Minutes	lbs	CO	CO_2	O_2	Flue Gas	Room Temp	Tunnel Dry Bulb	DGM 3 Reading	DGM 3 Inlet T	DGM 3 Outlet T	Filter 3 Temp	Tunnel Velocity	Draft
0:00:00	0.0	12.81	0.00	4.70	16.19	281.59	80.28	100.46	0.00	77.06	75.09	74.77	0.118	-0.250
0:00:00	10.00	12.12	0.00	5.61	14.88	283.23	80.08	100.93	1.41	76.11	76.51	78.50	0.124	-0.250
0:00:00	20.00	11.52	0.00	4.96	15.94	281.95	79.72	100.76	2.82	76.27	76.47	79.69	0.114	-0.250
0:00:00	30.00	10.81	0.00	4.58	16.35	280.16	79.95	101.08	4.23	76.11	76.55	79.89	0.108	-0.250
0:00:00	40.00	10.21	0.00	5.64	15.17	279.43	80.12	99.61	5.64	76.22	76.76	80.61	0.113	-0.250
0:00:00	50.00	9.61	0.00	4.54	15.83	281.26	80.24	100.16	7.05	76.34	76.83	80.74	0.120	-0.250
0:00:00	60.00	8.89	0.00	4.60	16.38	279.34	79.95	100.02	8.46	76.27	76.86	0.00	0.117	-0.250

Elapsed Time	DGM 3 Readlne	DGM 3 Inlet T	DGM 3 Outlet T	Tunnel Dry Bulb	Filter Face Velocity DGM 1	Filter Face Velocity DGM 2	Delta-P (in. H2O) Tunnel	Tunnel Velocity P/Sec	Meter 3 Dev. R		#3 dDGM Vol. Std. ft3	Time	Average 0.3 SQRT Delta-P
0.00	0.00	77.06	75.09	100.4562			0.118	22.503	536.1			0	0.36361243
10.00	1.41	76.11	76.51	100.9309	11.52	#VALUE!	0.124	23.067	536.3	#REF!	1.336	10	0.35207711
20.00	2.82	76.27	76.47	100.7589	11.50	#VALUE!	0.114	22.082	536.4	#REF!	1.334	20	0.33710389
30.00	4.23	76.11	76.55	101.084	11.50	#VALUE!	0.108	21.581	536.3	#REF!	1.334	30	0.32934521
40.00	5.64	76.22	76.76	99.61223	11.52	#VALUE!	0.113	22.035	536.5	#REF!	1.336	40	0.33671741
50.00	7.05	76.34	76.83	100.1555	11.51	#VALUE!	0.120	22.667	536.6	#REF!	1.335	50	0.34652294
60.00	8.46	76.27	76.86	100.0244	11.51	#VALUE!	0.117	22.381	536.6	#REF!	1.335	60	0.34188275

1st hour emission rate (gr/hr): 4.955

PRESSURE FACTOR: 0.97009

TEMPERATURE FACTORS
DGM #1: 0.98436

VOLUMES SAMPLED
DGM #3: 8.010443

TOTAL TUNNEL VOLUME (scf): 14131

SAMPLE RATIOS
Sample Train 2: 1763.135

TOTAL EMISSIONS
Sample Train 3 (g): 4.06

BAROMETRIC PRESSURE
Average: 29.025
Start: 29.04
End: 29.01

DRY GAS METER VALUES
DGM #3 Final: 8.458
Initial: 0.001
DGM #3: 8.010443

TEMPERATURES (DEG. RANKIN)
DGM #1: 536.389

CALIBRATION FACTORS
DGM #1: 0.9924

TUNNEL FLOW RATE: 235.509

Stack Static (mag): -0.416
Fuel Moisture (Dry): 0.08
Barometer: 29.025
Average Room Temp.: 80.05

PARTICULATE CATCH (mg)
Total Sample Train 3: 2.3
Filter and seal Sample Train 3: 2.3
0
Probe Sample Train 3: 0

intertek
Total Quality. Assured.

Manufacturer: ENERCO GROUP
Job # G104788739

Model: PS20W
Run 3

Page ___ of ___
Date 8-27-21
Tech Ken Slater

DILUTION TUNNEL PARTICULATE SAMPLER DATA

FILTER TYPE: Gelman 47mm A/E

Pre-test Weight Record		SYSTEM 1			SYSTEM 2			SYSTEM 3			Temp	Humidity
		Probe & Housing Number	Front Filter + gasket Number	Back Filter + gasket Number	Probe & Housing Number	Front Filter + gasket Number	Back Filter + gasket Number	Probe & Housing Number	Front Filter + gasket Number	Back Filter + gasket Number		
Date	Time	4	10	11	5	12	13	6	14	15	°F	%
8-24-21	8:30A	89.9125	1.8588	1.8296	90.9925	1.8537	1.8573	91.5209	1.8238	1.8611	81	56
8-25-21	8:00A	89.9117	1.8587	1.8296	90.9919	1.8536	1.8572	91.5205	1.8235	1.8611	80	54
8-27-21	7:45A	89.9126	1.8587	1.8295	90.9927	1.8534	1.8571	91.5214	1.8235	1.8607	84	46.5
NA												
NA												
NA		Total:	3.6882		Total:	3.7105		Total:	3.6842		NA	NA

Post-test Weight Record		SYSTEM 1		SYSTEM 2		SYSTEM 3		Temp	Humidity
		Probe & Housing Number	Combined Filter/gasket Number	Probe & Housing Number	Combined Filter/gasket Number	Probe & Housing Number	Combined Filter/gasket Number		
Date	Time	4	10+11	5	12+13	6	14+15	°F	%
8-27-21	3:00p	89.9127	3.6955	90.9927	3.7183	91.5214	3.6886	84	46.5
8-30-21	12:00p	89.9125	3.6920	90.9925	3.7150	91.5211	3.6855	79	52
8-31-21	7:30A	89.9125	3.6920	90.9925	3.7150	91.5211	3.6855	81	50
NA									
NA									
NA									

Dry Down Weight

Date	Time	P1	F1	P2	F2	P3	F3	Gr/hr	Lb/MMbtu	Btu
8-27-21	3:10p	0.1	7.3	0	7.8	0	4.4	2.202	NA	NA
8-30-21	7:30A	0.1	3.8	0	4.5	0	2.3	1.217		
8-31-21	7:30A	0.1	3.8	0	4.5	0	2.3	1.217		
NA										
NA										
NA										

Fox Valley Metrology
3114 Medalist Drive
Oshkosh, WI 54902
(920) 426-5894 • Fax (920) 426-8120
http://www.FoxValleyMetrology.com

CERTIFICATE OF CALIBRATION

Certificate No. ACT-1272

CERTIFICATION NUMBER	CL095-41671-502
FOR	Intertek 8431 Murphy Drive Middleton, WI 53562
PURCHASE ORDER #	
TEST INSTRUMENT	Timer
MAKE	Cole-Parmer
MODEL	94440-10
SERIAL NUMBER	N/A
IDENTIFICATION	646
CUSTOMER LOCATION	Hearth
CONDITION RECEIVED	In Tolerance
CONDITION RETURNED	In Tolerance
CALIBRATED BY	Christopher Moore
CALIBRATION LOCATION	On Site
ENVIRONMENT	72.0°F, 22.2°C, 21.0%RH
CALIBRATION DATE	04/05/2021
RECALIBRATION DUE	04/05/2022

PROCEDURES FOLLOWED

FVE-033 rev. 1

This certificate shall not be altered in any form or reproduced, except in full, without prior written approval from originating lab. These results relate only to the item(s) calibrated.
Form Revision 7: 07/14/2020

STANDARDS USED

INSTRUMENT	SERIAL NUMBER	TRACE NUMBER	NEXT CAL
FVS-553	N/A	CL022-19908-397	01/31/2022
FVS-811B	N/A	CK281-24359-397	10/31/2021

Total expanded measurement uncertainties expressed are based on a confidence level of 95%; coverage factor of (k=2). The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered “shared responsibility.”) Uncertainties expressed in nominal units.

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). Calibration was completed in accordance with ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994 and ANSI/NCSL Z540.3-2006. Other standards listed upon request.

CALIBRATION RESULTS

*** DENOTES "OUT OF TOLERANCE"**

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
Timer	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
	60.0	59.5	60.5	60.0	60.0	0.06
	60.0	59.5	60.5	60.1	60.1	0.07
	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
	300.0	299.5	300.5	300.1	300.1	0.06
	300.0	299.5	300.5	300.0	300.0	0.07
	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
	1800.0	1799.5	1800.5	1800.2	1800.2	0.06
	1800.0	1799.5	1800.5	1800.1	1800.1	0.07

Fox Valley Metrology
3114 Medalist Drive
Oshkosh, WI 54902
(920) 426-5894 • Fax (920) 426-8120
http://www.FoxValleyMetrology.com

CERTIFICATE OF CALIBRATION

ACCREDITED ISO/IEC 17025 CALIBRATION AND TESTING LABORATORY
Certificate No. ACT-1272

CERTIFICATION NUMBER	CL096-32776-430
FOR	Intertek 8431 Murphy Drive Middleton, WI 53562
PURCHASE ORDER #	
TEST INSTRUMENT	Scales Analytical Balance
MAKE	Ohaus
MODEL	Explorer E12140
SERIAL NUMBER	B258010639
IDENTIFICATION	713
CUSTOMER LOCATION	
CONDITION RECEIVED	In Tolerance
CONDITION RETURNED	In Tolerance
CALIBRATED BY	Danny Scherr
CALIBRATION LOCATION	On Site
ENVIRONMENT	70.0°F, 21.1°C, 36.0%RH
CALIBRATION DATE	04/06/2021
RECALIBRATION DUE	10/06/2021

PROCEDURES FOLLOWED
FVE-020 rev. 2

This certificate shall not be altered in any form or reproduced, except in full, without prior written approval from originating lab. These results relate only to the item(s) calibrated.
Form Revision 7: 07/14/2020

STANDARDS USED

INSTRUMENT	SERIAL NUMBER	TRACE NUMBER	NEXT CAL
FVS-019D	26623	CK240-48617-466	08/31/2022
FVS-469	N/A	CL084-50197-397	03/31/2022

Total expanded measurement uncertainties expressed are based on a confidence level of 95%; coverage factor of (k=2). The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered “shared responsibility.”) Uncertainties expressed in nominal units.

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). Calibration was completed in accordance with ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994 and ANSI/NCSL Z540.3-2006. Other standards listed upon request.

CALIBRATION RESULTS

* DENOTES "OUT OF TOLERANCE"

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
Increasing Load	(g)	(g)	(g)	(g)	(g)	(g)
	0.0000	-0.0001	0.0001	0.0000	0.0000	0.00007
	5.0000	4.9999	5.0001	5.0000	5.0000	0.00007
	10.0000	9.9998	10.0002	10.0000	10.0000	0.00006
	20.0000	19.9998	20.0002	19.9999	20.0000	0.00006
	50.0000	49.9997	50.0003	49.9998	50.0000	0.00011
	100.0000	99.9997	100.0003	99.9998	99.9998	0.00022
	200.0000	199.9997	200.0003	200.0002	200.0002	0.00044
	210.0000	209.9997	210.0003	210.0002	210.0002	0.00045
Decreasing Load	(g)	(g)	(g)	(g)	(g)	(g)
	20.0000	19.9998	20.0002	19.9999	20.0000	0.00007
	5.0000	4.9999	5.0001	5.0000	5.0000	0.00006
Shift Test	(g)	(g)	(g)	(g)	(g)	(g)
Front	70.0000	69.9997	70.0003	69.9998	70.0000	0.00015
Left	70.0000	69.9997	70.0003	70.0000	70.0000	0.00015
Right	70.0000	69.9997	70.0003	69.9997	70.0000	0.00015
Back	70.0000	69.9997	70.0003	69.9997	70.0000	0.00016

COMMENTS
Scale Capacity = 210 g; Precision = .0001 g; Class = I; Total Divisions = 2100000

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CERTIFICATE OF CALIBRATION

Certificate No. ACT-1272

CERTIFICATION NUMBER	CL106-36819-548
FOR	Intertek 8431 Murphy Drive Middleton, WI 53562
PURCHASE ORDER #	
TEST INSTRUMENT	Data Acquisition
MAKE	Omega
MODEL	OMB-DAQ-56 (Intertek)
SERIAL NUMBER	N/A
IDENTIFICATION	986
CUSTOMER LOCATION	Hearth
CONDITION RECEIVED	In Tolerance
CONDITION RETURNED	In Tolerance
CALIBRATED BY	Brandon Covington
CALIBRATION LOCATION	FVM
ENVIRONMENT	67.0°F, 19.4°C, 30.0%RH
CALIBRATION DATE	04/16/2021
RECALIBRATION DUE	10/16/2021

PROCEDURES FOLLOWED

FVE-006 rev. 2
FVE-011 rev. 2

This certificate shall not be altered in any form or reproduced, except in full, without prior written approval from originating lab. These results relate only to the item(s) calibrated.
Form Revision 7: 07/14/2020

STANDARDS USED

INSTRUMENT	SERIAL NUMBER	TRACE NUMBER	NEXT CAL
FVS-687	4029719	CK139-45952-397	05/31/2021
FVS-707	N/A	CK301-35851-397	10/31/2021

Total expanded measurement uncertainties expressed are based on a confidence level of 95%; coverage factor of (k=2). The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered “shared responsibility.”) Uncertainties expressed in nominal units.

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). Calibration was completed in accordance with ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994 and ANSI/NCSL Z540.3-2006. Other standards listed upon request.

CALIBRATION RESULTS

*** DENOTES "OUT OF TOLERANCE"**

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
TEMPERATURE	(°F)	(°F)	(°F)	(°F)	(°F)	(°F)
INPUT						
K -Type						
CH1	1000.0	998.2	1001.8	999.8	999.8	0.6
CH2	1000.0	998.2	1001.8	1000.3	1000.3	0.7
CH3	1000.0	998.2	1001.8	1000.3	1000.3	0.6
CH4	1000.0	998.2	1001.8	998.7	998.7	0.6
CH5	1000.0	998.2	1001.8	999.9	999.9	0.6
CH6	1000.0	998.2	1001.8	999.3	999.3	0.6
CH7	1000.0	998.2	1001.8	999.7	999.7	0.7
CH8	1000.0	998.2	1001.8	999.8	999.8	0.7
CH9	1000.0	998.2	1001.8	999.7	999.7	0.7
CH11(#1 on right side of box)	5.0000	4.9989	5.0012	5.0004	5.0004	0.0006

Fox Valley Metrology
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http://www.FoxValleyMetrology.com

CERTIFICATE OF CALIBRATION

ACCREDITED ISO/IEC 17025 CALIBRATION AND TESTING LABORATORY

Certificate No. ACT-1272

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
	10.0000	9.9977	10.0023	10.0003	10.0003	0.0007
CH12	1000.0	998.2	1001.8	1000.1	1000.1	0.7
CH13	1000.0	998.2	1001.8	999.6	999.6	0.6
CH14	1000.0	998.2	1001.8	999.6	999.6	0.6
CH15	1000.0	998.2	1001.8	999.7	999.7	0.6
CH16	1000.0	998.2	1001.8	999.8	999.8	0.7
CH17	1000.0	998.2	1001.8	999.5	999.5	0.6
CH18	1000.0	998.2	1001.8	999.3	999.3	0.7
CH19	1000.0	998.2	1001.8	999.4	999.4	0.7
CH20	1000.0	998.2	1001.8	999.2	999.2	0.6
	(VDC)	(VDC)	(VDC)	(VDC)	(VDC)	(VDC)
CH21	5.0000	4.9989	5.0012	5.0006	5.0006	0.0007
	10.0000	9.9977	10.0023	10.0007	10.0007	0.0007
CH22	5.0000	4.9989	5.0012	5.0006	5.0006	0.0006
	10.0000	9.9977	10.0023	10.0007	10.0007	0.0007
CH23	5.0000	4.9989	5.0012	5.0006	5.0006	0.0007
	10.0000	9.9977	10.0023	10.0006	10.0006	0.0006
CH24	5.0000	4.9989	5.0012	5.0006	5.0006	0.0007
	10.0000	9.9977	10.0023	10.0006	10.0006	0.0006

COMMENTS

Channel 11 is actually number 1 on the right side of junction block. Channel 11 is also wired backwards.

4300 N Bell School Rd.
Loves Park, IL 61111

490 Enterprise Dr.
Lake Mills, WI 53551

CREAM CITY SCALE LLC
STATELINE

www.creamcityscale.com

PJLA Calibration
Accreditation # 82374

Certificate of Calibration

Customer:	Intertek Testing Services	**Certificate ID:**	1134210904_286292
Address:	8431 Murphy Drive	**ISO Number:**	ISO/IEC 17025 82374
City, State Zip:	Middleton, WISCONSIN 53562	**Date**	4/9/2021

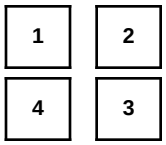
Indicator Mfg.	**Base Mfg.**	**Cal Date**	**Scale ID**	**Scale Location**
Rice Lake	Rice Lake	4/9/2021	1134	Hearth
Indicator Model	**Base Model**	**Due Date**	**Scale Class**	**Scale Range**
520	4x4 HP-1K	10/9/2021	III	0 - 1000 lb x 0.1 lb
Indicator Serial	**Base Serial**	**Procedure**	**Scale Status**	
1494600044	C42769	QWI 6.4.2	In Service	
Test Interval				
6 Months				

EQUIPMENT CONDITIONS

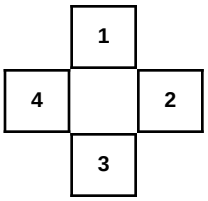
[Working] Non-Working Clean Dirty Out Of Level

SHIFT TEST **Shift Test Result:** **[Pass]** Fail Adjust Not Applicable

Position



Position



All tolerances calculated in conformance with Handbook 44 Table 6.

LOAD TEST

Preliminary Load Test		
Test Wt.	**Reading**	**Error**
0.0 lb	0.0 lb	0.0 lb
100.0 lb	100.0 lb	0.0 lb
250.0 lb	250.0 lb	0.0 lb
500.0 lb	500.0 lb	0.0 lb
1000.0 lb	999.3 lb	-0.7 lb

In maintenance tolerance? Yes **[No]** N/A

Final Load Test		
Test Wt.	**Reading**	**Error**
0.0 lb	0.0 lb	0.0 lb
100.0 lb	100.0 lb	0.0 lb
250.0 lb	250.0 lb	0.0 lb
500.0 lb	500.0 lb	0.0 lb
1000.0 lb	1000.0 lb	0.0 lb

In acceptance tolerance? **[Yes]** No N/A

TEST INFORMATION

Test Weight Classification:	F
Traceability Certificate Number(s):	W20-004A Cal Date: 1/6/2020 Recal Date: 1/6/2022, W20-004B Cal Date: 1/6/2020 Recal Date: 1/6/2022
Standards Used:	1000 lb #81; 50 lb #81, 82, 83, 84, 85, 86, 87, 88, 89, 90
Expanded Uncertainty:	See Comments
Test Location:	**[Onsite]** Offsite
Overall Result:	Pass Fail **[Adjust]**
Was the scale within customers required accuracy?	**[Yes]** No N/A
Environmental Conditions:	**[Acceptable]** Unacceptable
Temperature:	67°F
Humidity:	42%
Comments / Notes:	Scale is accurate and correct. Adjusted corners and calibrated accurate. Measurement of Uncertainty: 100 lbs.= .0118 lb./ 250 lbs.= .0295 lb./ 500 lbs.= .059 lb./ 1000 lbs.= .118 lb.
Technician:	Mark Baker

Scales were calibrated with certified test weights. Adjustments made to restore and/or maintain the accuracy of the scale conform to the tolerances established by the National Institute of Standards and Technology as specified in Handbook 44 Section 2.20, manufacturers specifications or other written agreement with customer. Best measurement of uncertainty calculated using a coverage factor of K=2. This provides confidence level of 95%. Acceptance rule w=0. Overall result of PASS or ADJUST indicates measurement below or equal to the acceptance limit: AL=TL. Overall result of FAIL indicates measurement result above acceptance limit AL=TL. This certificate shall not be reproduced, except in full, without the written approval of the laboratory. Measurement uncertainty available upon request.This calibration test is accredited and meets the requirements of ISO/IEC 17025:2017 & ANSI/NCSL Z540-1-1994 as verified by Perry Johnson Laboratory Accreditation. Refer to certificate and scope of accreditation 82374.

Fox Valley Metrology
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Oshkosh, WI 54902
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http://www.FoxValleyMetrology.com

CERTIFICATE OF CALIBRATION

Certificate No. ACT-1272

CERTIFICATION NUMBER	CL095-41794-502
FOR	Intertek 8431 Murphy Drive Middleton, WI 53562
PURCHASE ORDER #	
TEST INSTRUMENT	Timer
MAKE	Cole-Parmer
MODEL	94440-10
SERIAL NUMBER	101587800
IDENTIFICATION	1212
CUSTOMER LOCATION	Hearth
CONDITION RECEIVED	In Tolerance
CONDITION RETURNED	In Tolerance
CALIBRATED BY	Christopher Moore
CALIBRATION LOCATION	On Site
ENVIRONMENT	72.0°F, 22.2°C, 21.0%RH
CALIBRATION DATE	04/05/2021
RECALIBRATION DUE	04/05/2022

PROCEDURES FOLLOWED

FVE-033 rev. 1

This certificate shall not be altered in any form or reproduced, except in full, without prior written approval from originating lab. These results relate only to the item(s) calibrated.
Form Revision 7: 07/14/2020

STANDARDS USED

INSTRUMENT	SERIAL NUMBER	TRACE NUMBER	NEXT CAL
FVS-553	N/A	CL022-19908-397	01/31/2022
FVS-811B	N/A	CK281-24359-397	10/31/2021

Total expanded measurement uncertainties expressed are based on a confidence level of 95%; coverage factor of (k=2). The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered “shared responsibility.”) Uncertainties expressed in nominal units.

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). Calibration was completed in accordance with ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994 and ANSI/NCSL Z540.3-2006. Other standards listed upon request.

CALIBRATION RESULTS

*** DENOTES "OUT OF TOLERANCE"**

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
Timer	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
	60.0	59.5	60.5	60.0	60.0	0.06
	60.0	59.5	60.5	59.9	59.9	0.07
	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
	300.0	299.5	300.5	300.0	300.0	0.06
	300.0	299.5	300.5	300.0	300.0	0.06
	(sec)	(sec)	(sec)	(sec)	(sec)	(sec)
	1800.0	1799.5	1800.5	1800.0	1800.0	0.07
	1800.0	1799.5	1800.5	1799.9	1799.9	0.06

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Oshkosh, WI 54902
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CERTIFICATE OF CALIBRATION

Certificate No. ACT-1272

CERTIFICATION NUMBER	CL194-30656-679
FOR	Intertek 8431 Murphy Drive Middleton, WI 53562
PURCHASE ORDER #	
TEST INSTRUMENT	Pressure Transducer Differential Pressure Transducer
MAKE	Omega
MODEL	PX263-01D5V (Intertek)
SERIAL NUMBER	X15160229
IDENTIFICATION	1406
CUSTOMER LOCATION	
CONDITION RECEIVED	In Tolerance
CONDITION RETURNED	In Tolerance
CALIBRATED BY	Danny Scherr
CALIBRATION LOCATION	On Site
ENVIRONMENT	70.0°F, 21.1°C, 48.0%RH
CALIBRATION DATE	07/13/2021
RECALIBRATION DUE	01/13/2022

PROCEDURES FOLLOWED

FVE-060 rev. 0

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Form Revision 7: 07/14/2020

STANDARDS USED

INSTRUMENT	SERIAL NUMBER	TRACE NUMBER	NEXT CAL
FVS-469	N/A	CL084-50197-397	03/31/2022
FVS-789	7543203	CL138-51841-614	05/31/2022
FVS-789A	7461971	CL138-52996-466	05/31/2022

Total expanded measurement uncertainties expressed are based on a confidence level of 95%; coverage factor of (k=2). The statement of compliance in this certificate was issued without taking the uncertainty of measurement into consideration. The customer shall assess the results and uncertainty when determining if the results meet their needs. (This is considered “shared responsibility.”) Uncertainties expressed in nominal units.

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). Calibration was completed in accordance with ISO/IEC 17025:2017, ANSI/NCSL Z540-1-1994 and ANSI/NCSL Z540.3-2006. Other standards listed upon request.

CALIBRATION RESULTS

*** DENOTES "OUT OF TOLERANCE"**

FEATURE	NOMINAL	LOWER LIMIT	UPPER LIMIT	AS FOUND	AS LEFT	UNCERTAINTY
Pressure/Vacuum	(inH20)	(inH20)	(inH20)	(inH20)	(inH20)	(inH20)
Low	-0.0000	-0.0025	0.0025	0.0002	0.0002	0.7
Vacuum	-0.0500	-0.0525	-0.0475	-0.0501	-0.0501	0.7
	-0.1000	-0.1025	-0.0975	-0.1003	-0.1003	0.7
	-0.5000	-0.5025	-0.4975	-0.4998	-0.4998	0.6
	-1.0000	-1.0025	-0.9975	-0.9989	-0.9989	0.7
High	0.0000	-0.0025	0.0025	0.0002	0.0002	0.6
pressure	0.0500	0.0475	0.0525	0.0500	0.0500	0.7
	0.1000	0.0975	0.1025	0.0996	0.0996	0.6
	0.5000	0.4975	0.5025	0.4999	0.4999	0.6
	1.0000	0.9975	1.0025	0.9990	0.9990	0.7

130 Derry Court
York, PA 17406
Phone: 717-764-7700
www.intertek.com/building

CERTIFICATE OF CALIBRATION

Certificate Number: 43897

CALIBRATION LABORATORY

INTERTEK B&C
130 DERRY COURT
YORK, PA 17406

OWNER

INTERTEK - 625
8431 MURPHY DRIVE
MIDDLETON, WI 53562

EQUIPMENT INFORMATION

Asset Number: 001450
Serial Number: 16962472
Manufacturer: COMET
Model Number: T7510
Description: TEMPERATURE AND HUMIDITY SENSOR
Size/Range: -30 to 80°C, 0 to 100% RH
Resolution: 2

CALIBRATION INFORMATION

Procedure: 31-33 RH - TEMP
Temp./RH: 76.1 °F / 36.8 %
Cal Date: 11/23/20
Due Date: 11/23/21
Initial Calibration Result:
Calibration Result: PASS
Performed By: ED SULLIVAN

CALIBRATION NOTES

No Visual Defects.
Uncertainties 15% RH: 1.65, 50% RH: 0.35, 80% RH: 1.16, 59 F: 0.22, 73.4 F: 0.21

IAS ACCREDITED Calibration Laboratory

Architectural Testing, Inc., an Intertek company ("Intertek B&C"), certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST). Intertek B&C's Calibration Laboratory is accredited by the International Accreditation Service, Inc. (IAS) to ISO/IEC 17025:2005 (Certificate CL-118). The measurement uncertainties for this calibration are based upon 95% (k=2) confidence limits. This report may not be reproduced, except in full, without the written approval of Intertek B&C.

Servicing Technician:

ED SULLIVAN
METROLOGY TECHNICIAN
Intertek B&C

Approved By:

MATT ROSARIO
CALIBRATIONS MANAGER
Intertek B&C

This certificate is complete only when all data pages are included.

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CERTIFICATE OF CALIBRATION

Certificate Number: 43897

TEST POINTS

Seq.	Description	Standard	Tolerance -	Tolerance +	As Found	As Left	Units	Uncertainty
1	59.0 Degr F	59.0	58.0	60.0	59.1	59.1	Degr F	0
2	59.0 Degr F	59.0	58.0	60.0	59.0	59.0	Degr F	0
3	59.0 Degr F	59.0	58.0	60.0	58.8	58.8	Degr F	0
4	15% RH (15 C)	15.0	12.5	17.5	16.0	16.0	%	0
5	15% RH (15 C)	15.0	12.5	17.5	16.0	16.0	%	0
6	15% RH (15 C)	15.0	12.5	17.5	15.8	15.8	%	0
7	50% RH (15 C)	50.0	47.5	52.5	49.7	49.7	%	0
8	50% RH (15 C)	50.0	47.5	52.5	49.7	49.7	%	0
9	50% RH (15 C)	50.0	47.5	52.5	49.5	49.5	%	0
10	80% RH (15 C)	80.0	77.5	82.5	78.4	78.4	%	0
11	80% RH (15 C)	80.0	77.5	82.5	78.5	78.5	%	0
12	80% RH (15 C)	80.0	77.5	82.5	78.5	78.5	%	0
13	73.4 Degr F	73.4	72.4	74.4	73.9	73.9	Degr F	0
14	73.4 Degr F	73.4	72.4	74.4	73.7	73.7	Degr F	0
15	73.4 Degr F	73.4	72.4	74.4	73.7	73.7	Degr F	0
16	15% RH (23 C)	15.0	12.5	17.5	17.3	17.3	%	0
17	15% RH (23 C)	15.0	12.5	17.5	17.0	17.0	%	0
18	15% RH (23 C)	15.0	12.5	17.5	16.9	16.9	%	0
19	50% RH (23 C)	50.0	47.5	52.5	49.6	49.6	%	0
20	50% RH (23 C)	50.0	47.5	52.5	49.6	49.6	%	0
21	50% RH (23 C)	50.0	47.5	52.5	49.8	49.8	%	0
22	80% RH (23 C)	80.0	77.5	82.5	78.2	78.2	%	0
23	80% RH (23 C)	80.0	77.5	82.5	78.2	78.2	%	0
24	80% RH (23 C)	80.0	77.5	82.5	78.3	78.3	%	0

STANDARDS USED TO CALIBRATE EQUIPMENT

Company	I.D.	Description	Last Cal.	Cal. Due Date
INTERTEK - 118	005581	HUMIDITY & TEMPERATURE GENERATOR	7/10/2020	7/10/2021
INTERTEK - 118	INT01927	TEMPERATURE AND HUMIDITY SENSOR	5/22/2020	5/22/2021

END OF DATA

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # C20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

C20W

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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FCC INFORMATION

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

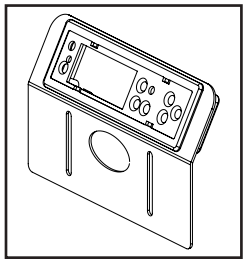
SPECIFICATIONS

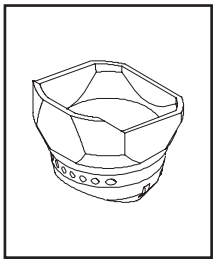
Model #	C20W
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

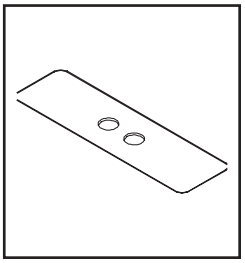
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
C20W: 23,945 to 10,796 Btu/hr

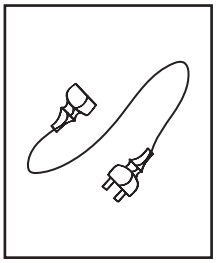
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

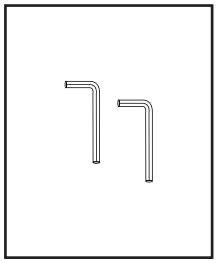
GETTING STARTED

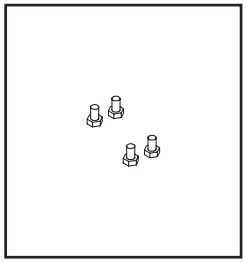

Display Panel

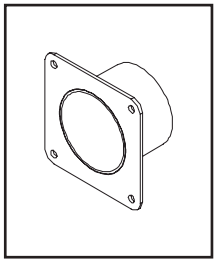

Firepot

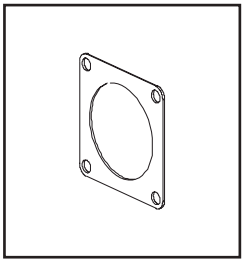

Cover

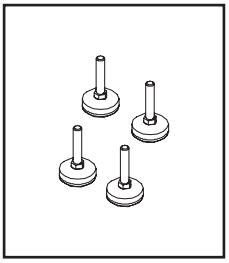

Main Power Cord


Allen Wrenches (x2)

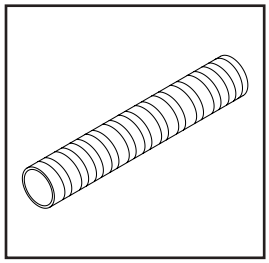

Screws (x4)

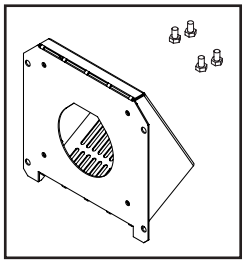

Exhaust Connector

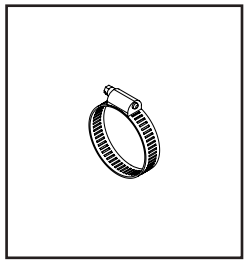

Exhaust Connector Silicon Pad

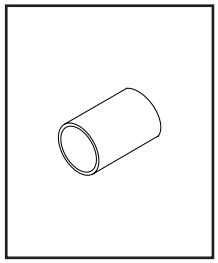

Stove Feet

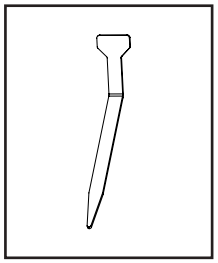
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

BATTERY INFORMATION FOR REMOTE

The remote that is shipped with your stove comes with one (1) 3V CR2025 Lithium Battery installed.

IMPORTANT:

- Non-rechargeable batteries are not to be recharged.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the remote.
- Caution for ingestion.

⚠ WARNING: DO NOT DISPOSE OF BATTERIES IN FIRE. BATTERIES MAY EXPLODE OR LEAK.

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

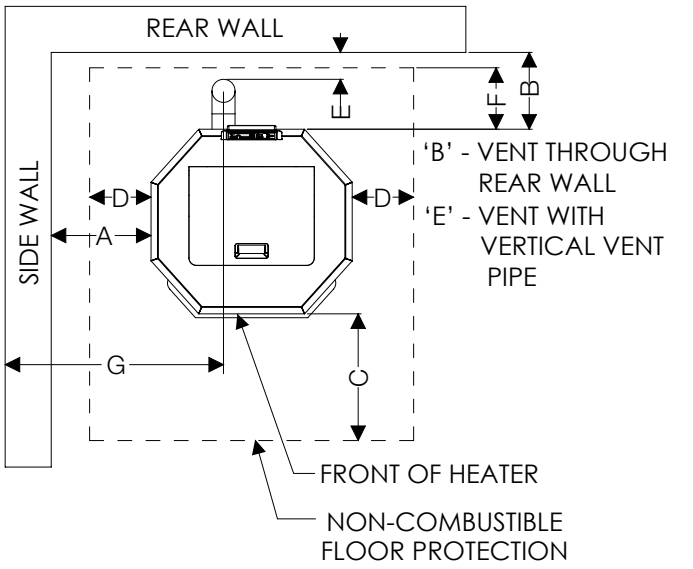


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

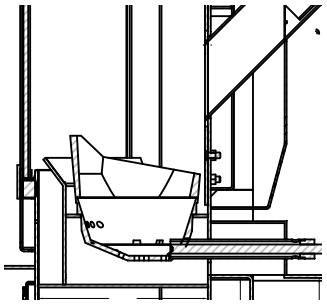


Figure 2: C20W Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: C20W Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

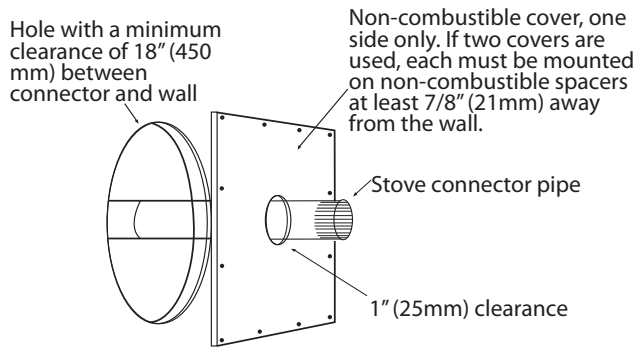


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

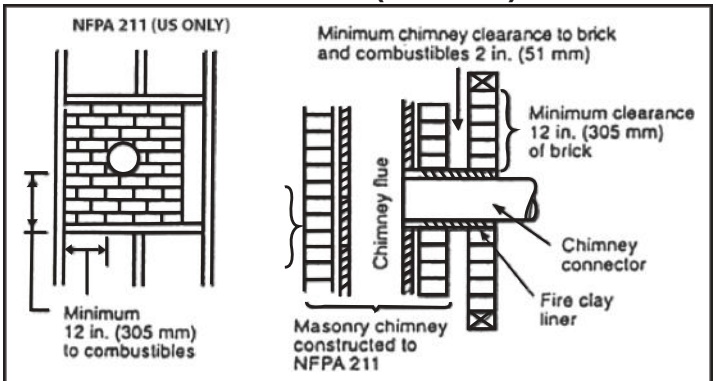


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

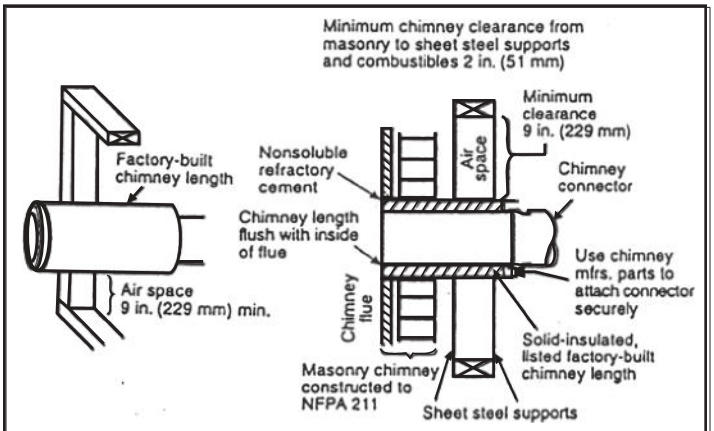


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

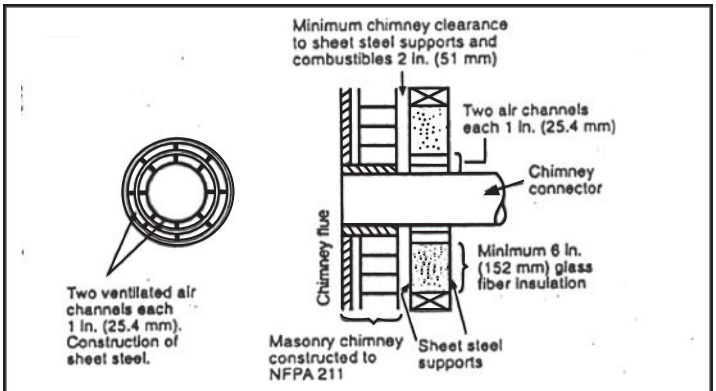


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

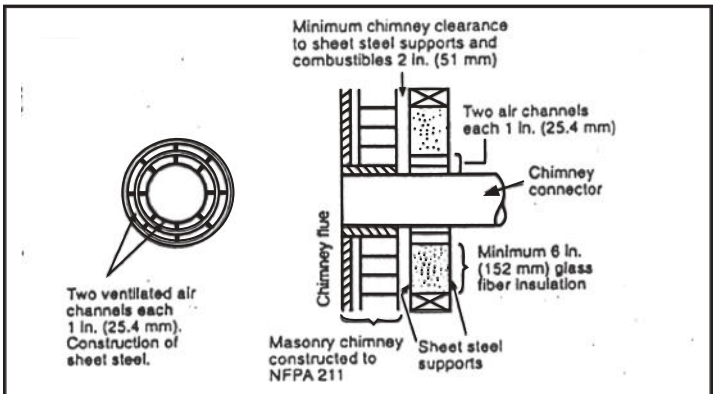


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

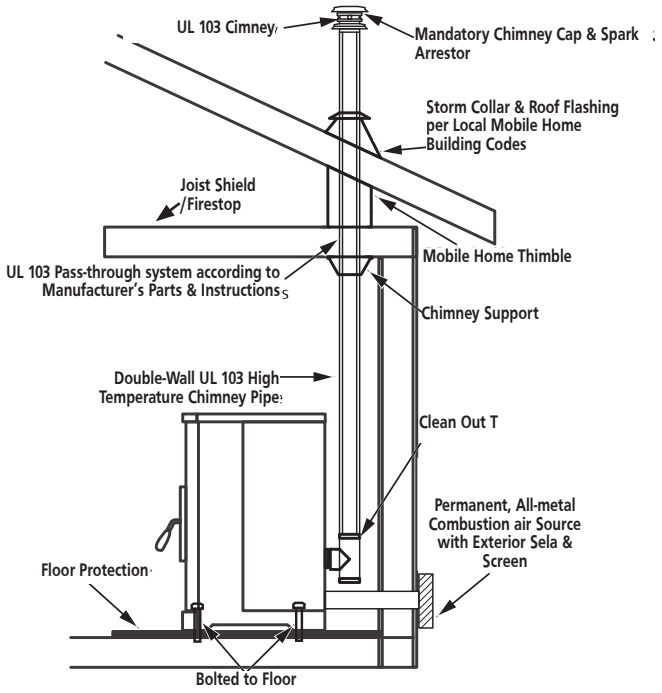


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

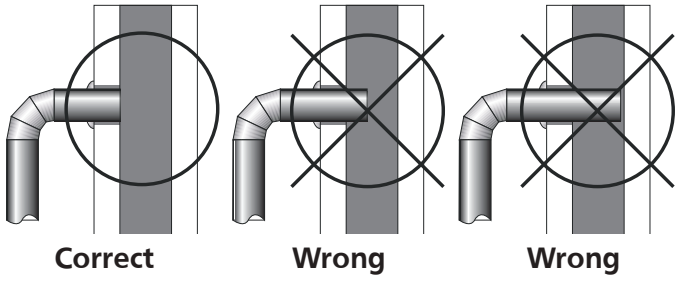


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

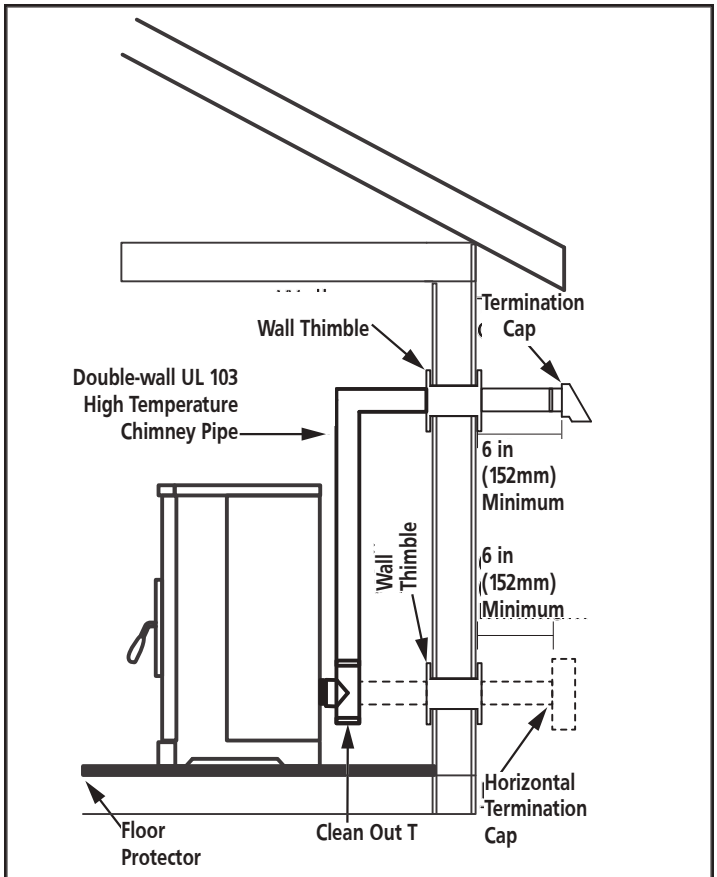


Figure 12 Manufactured Chimney through Wall

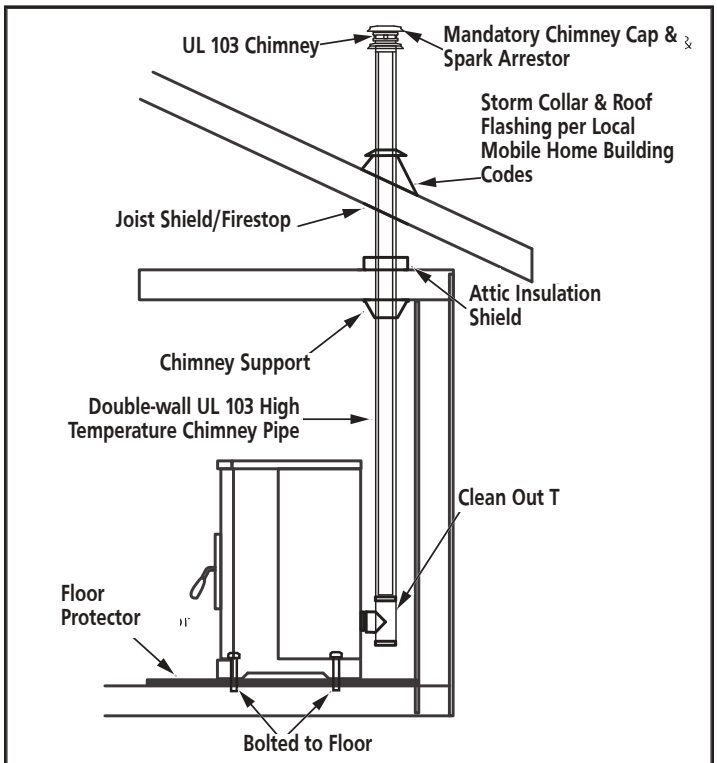


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

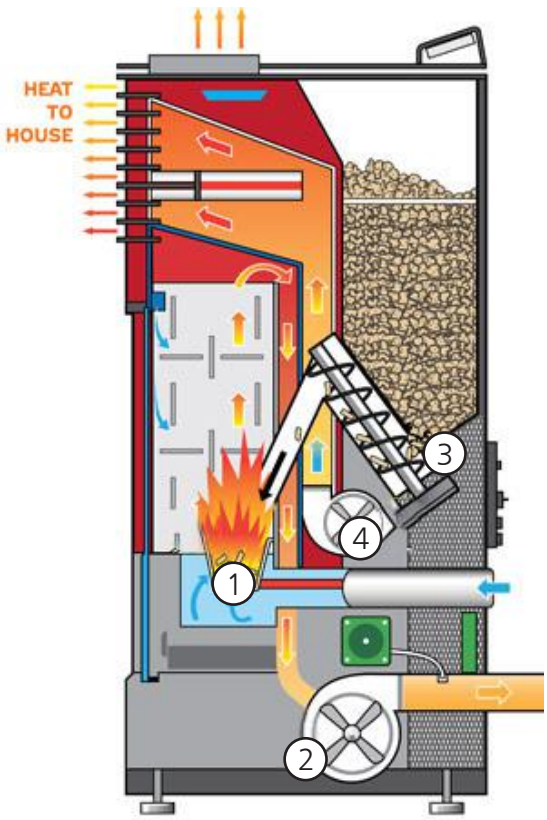


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

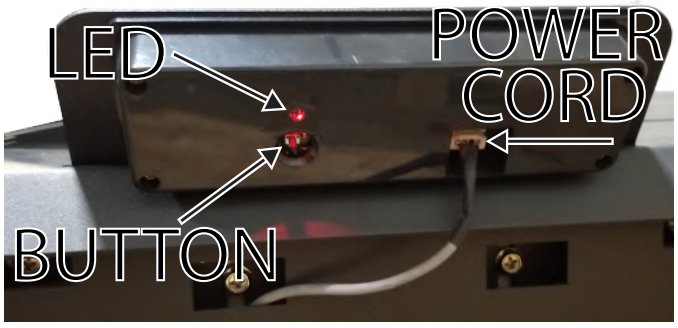


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

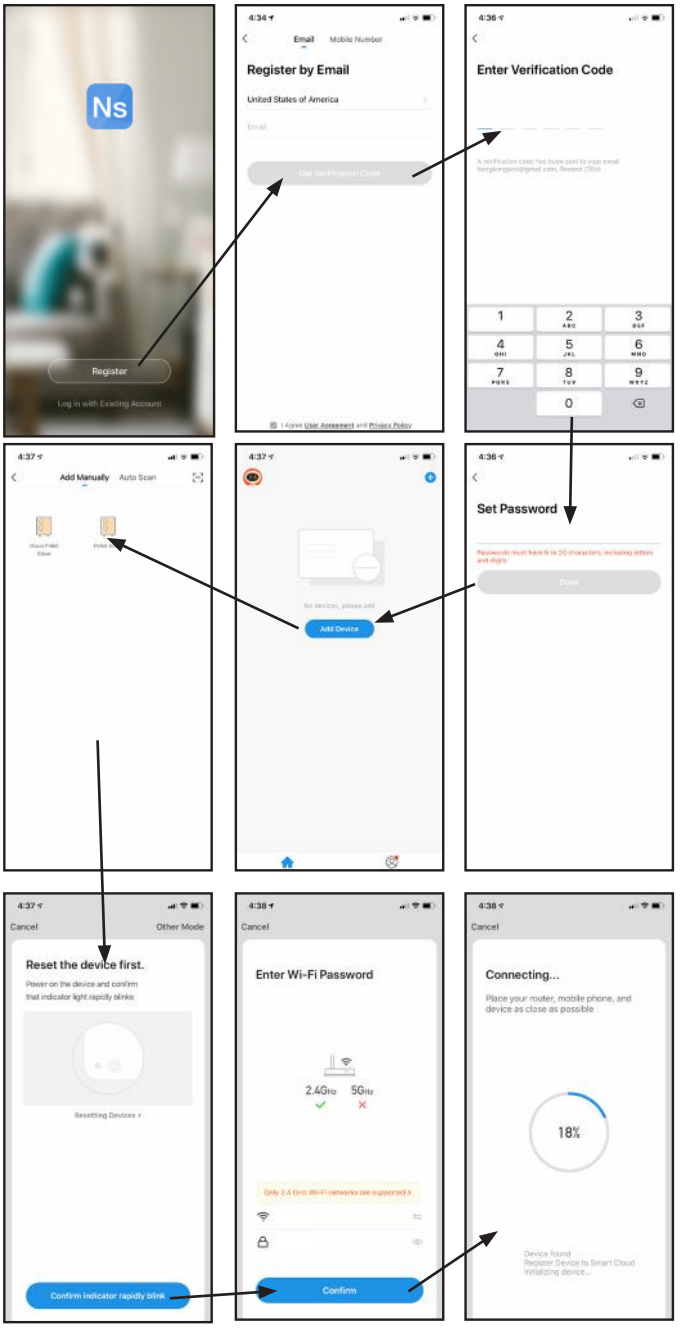
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



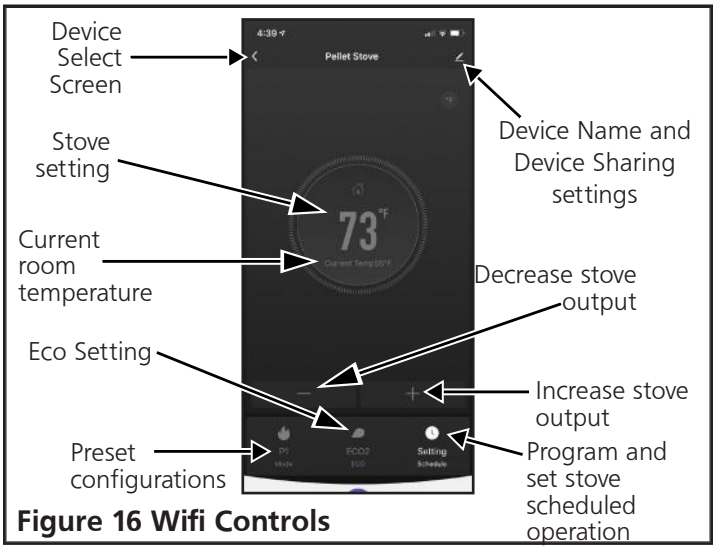


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

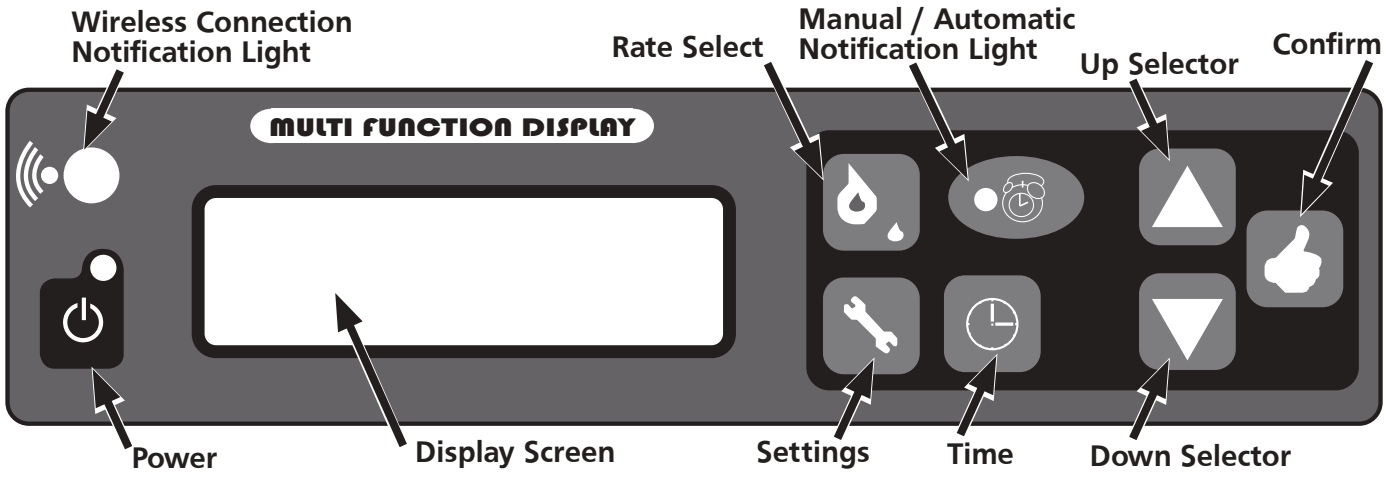


Figure 17a Mounted Multi Function Controls Panel

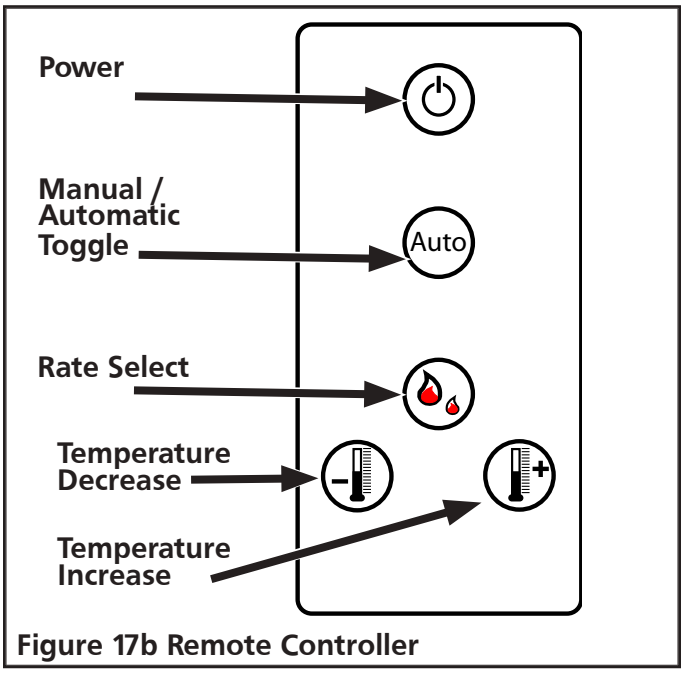


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

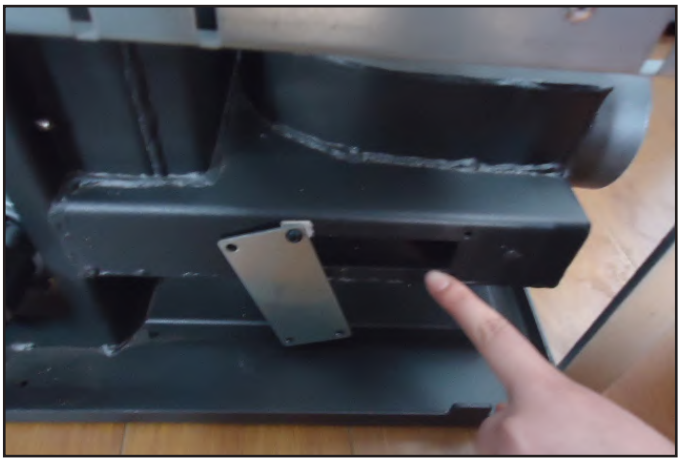


Figure 18 Inlet Duct

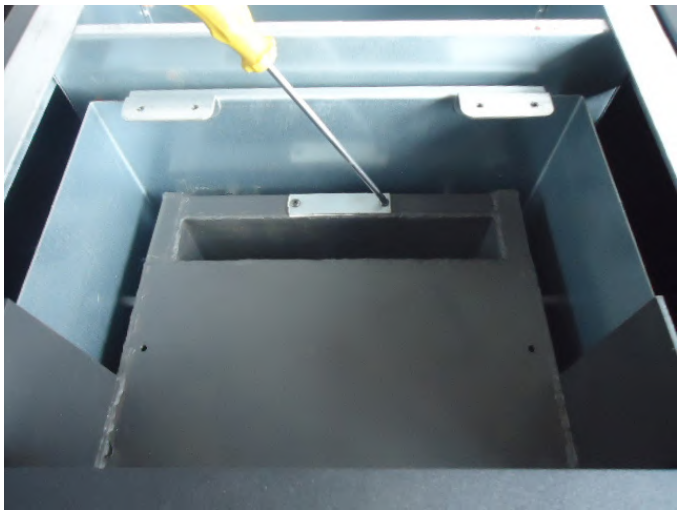


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

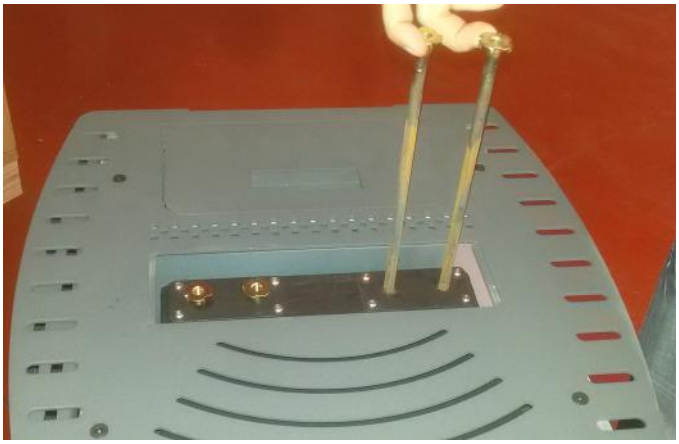


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

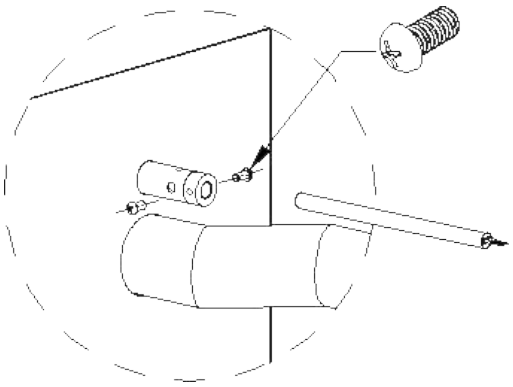


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

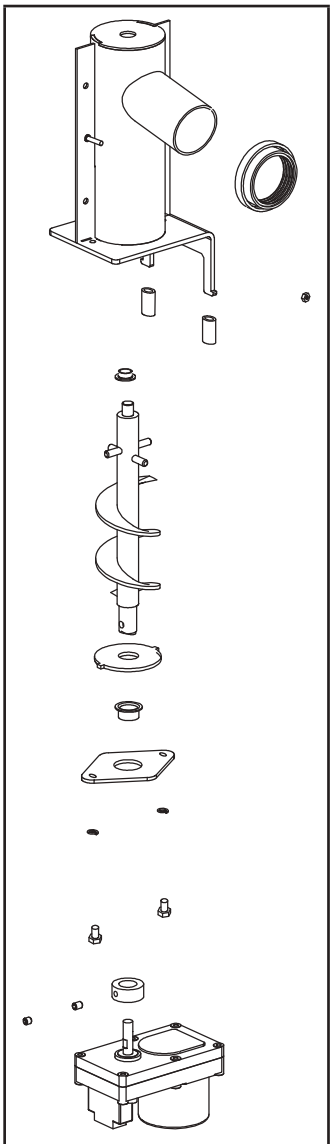


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °C Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (refer to exploded view).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

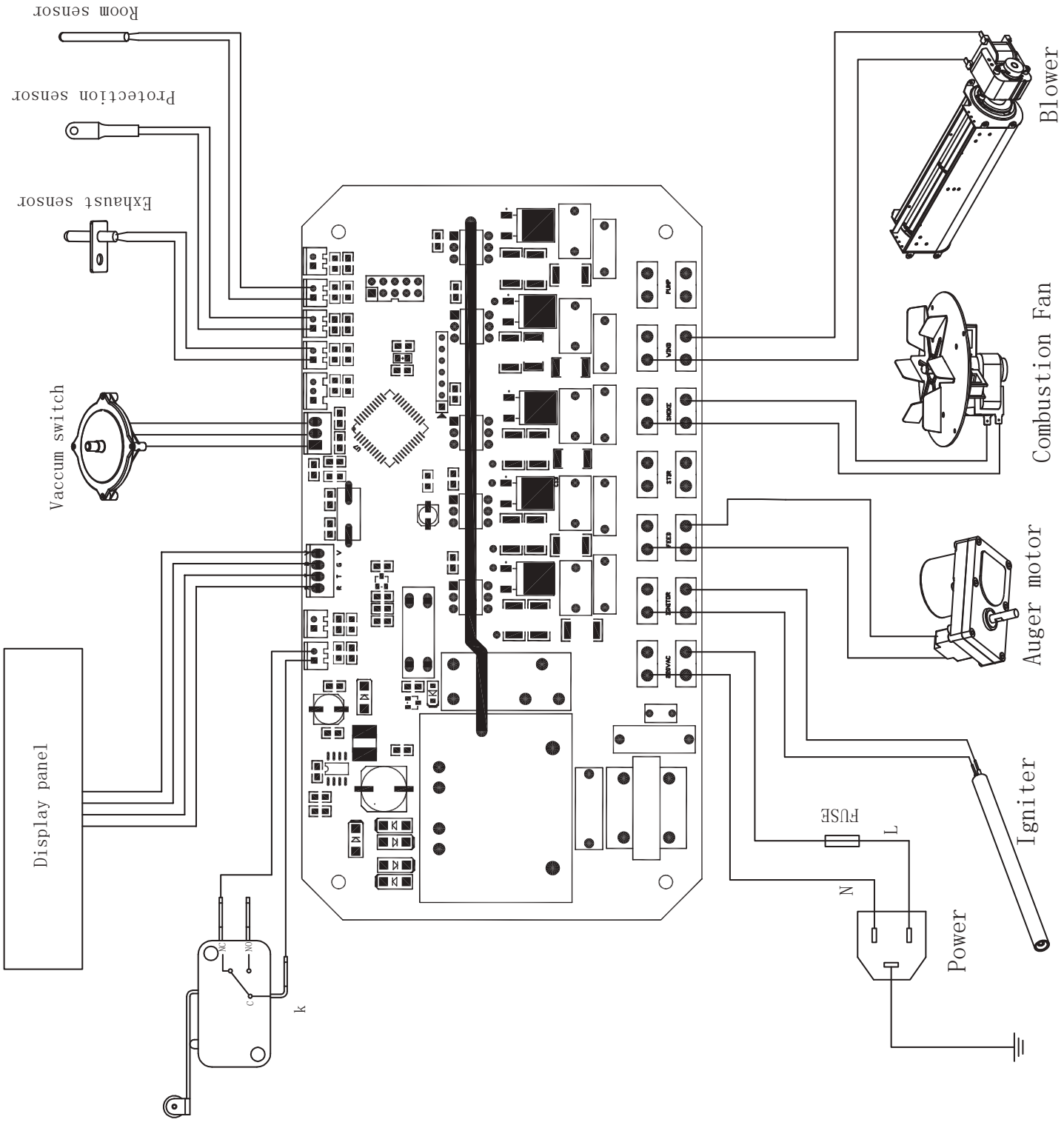
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

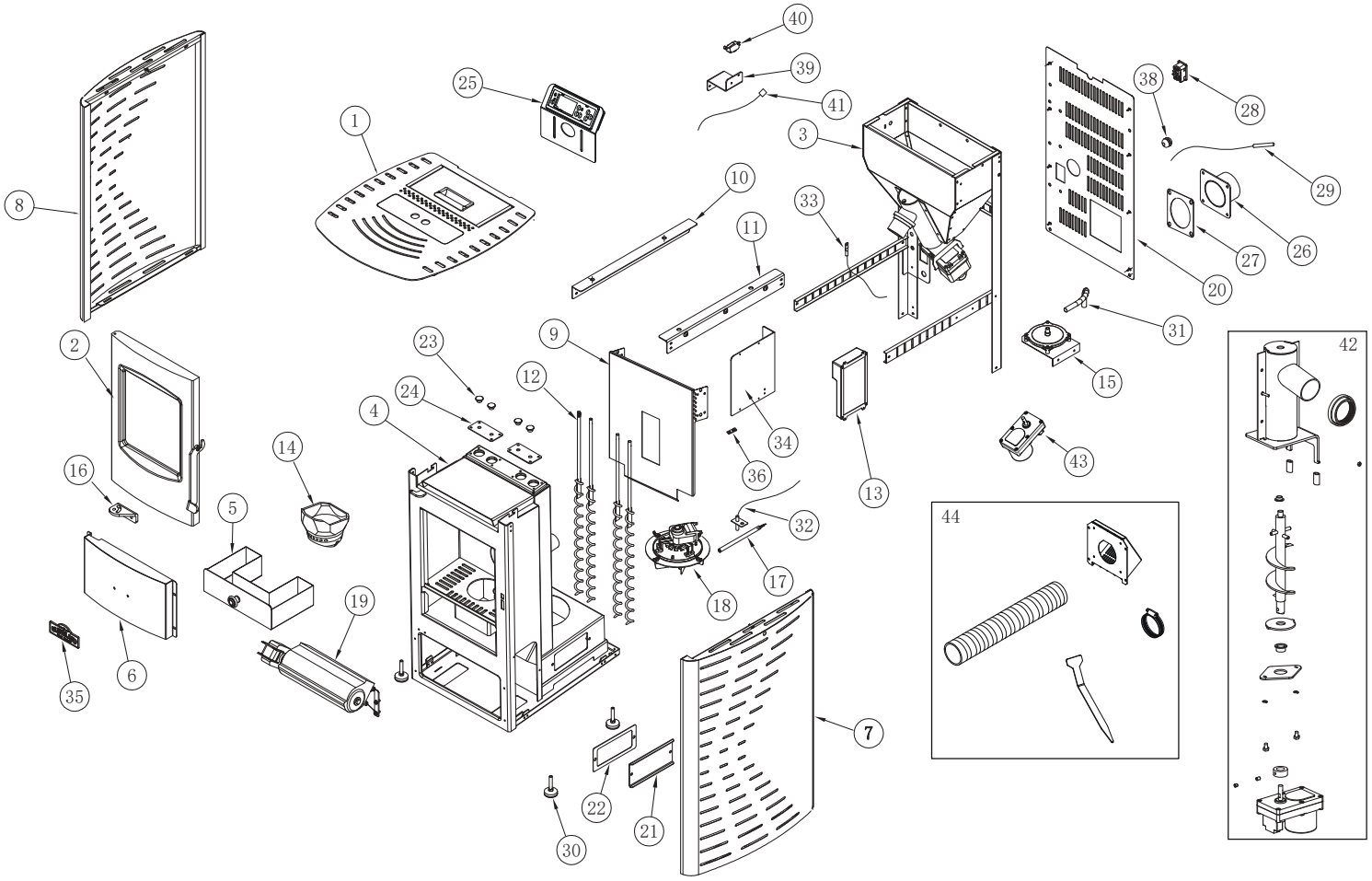
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL C20W

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Hopper Lid Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # C20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # C20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

C20WTS

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

66899 REV A

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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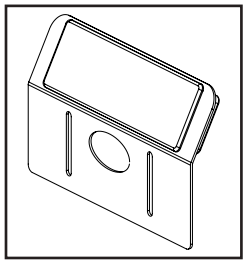
SPECIFICATIONS

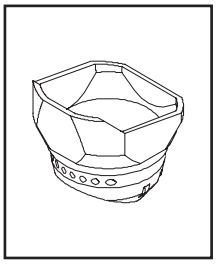
Model #	C20WTS
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	800 (74.3)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

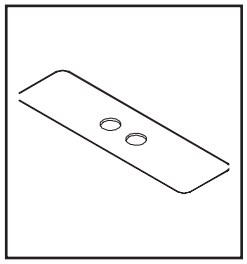
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
C20WTS: 23,945 to 10,796 Btu/hr

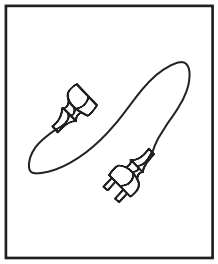
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

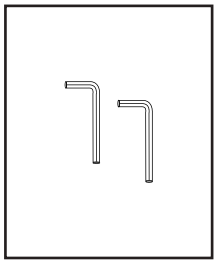
GETTING STARTED

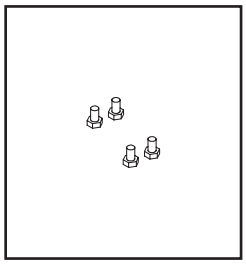

Display Panel

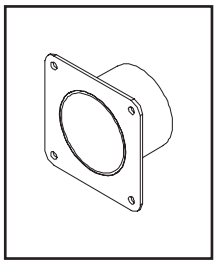

Firepot

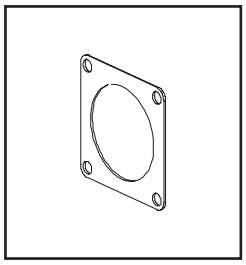

Cover

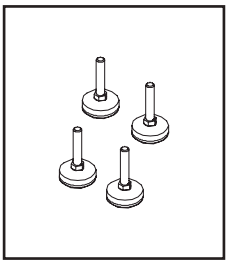

Main Power Cord


Allen Wrenches (x2)

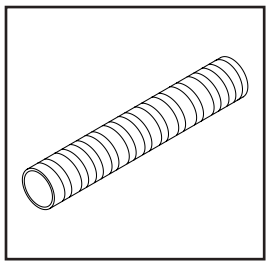

Screws (x4)

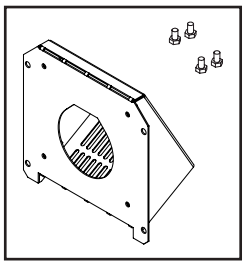

Exhaust Connector

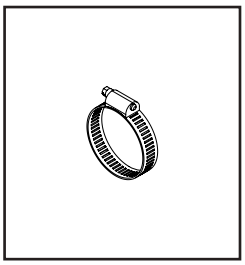

Exhaust Connector Silicon Pad

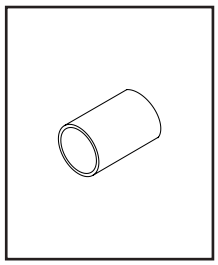

Stove Feet

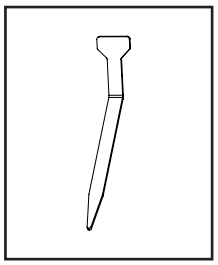
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

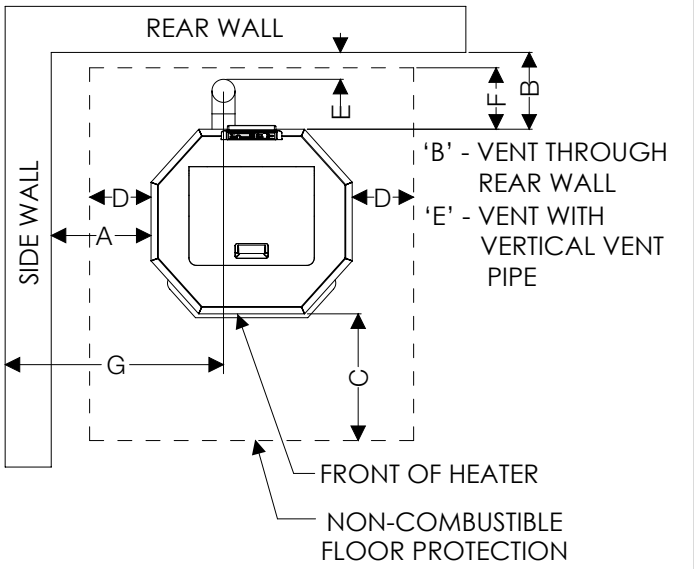


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

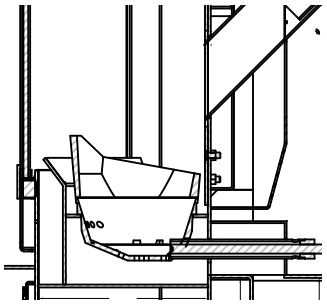


Figure 2: C20WTS Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: C20WTS Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Enerco Group, Inc. with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

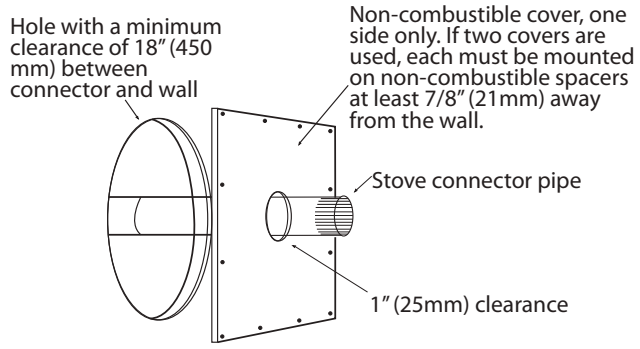


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

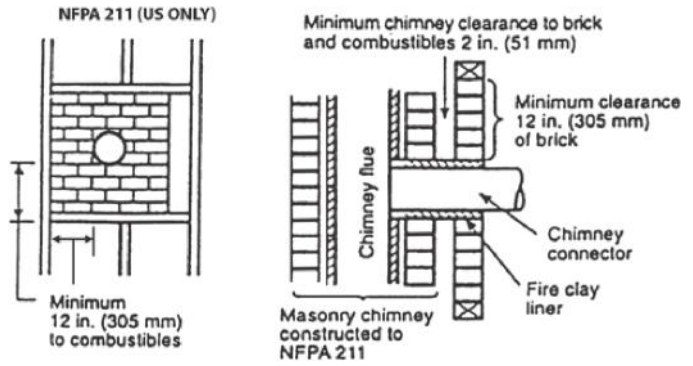


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

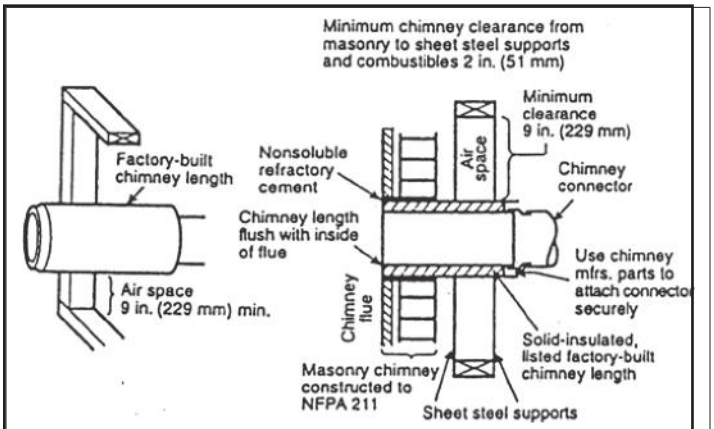


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

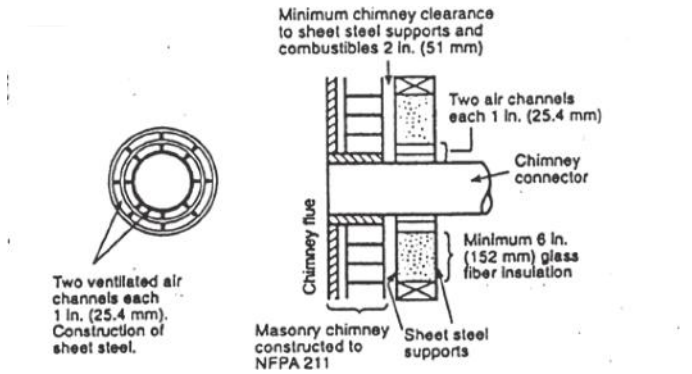


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

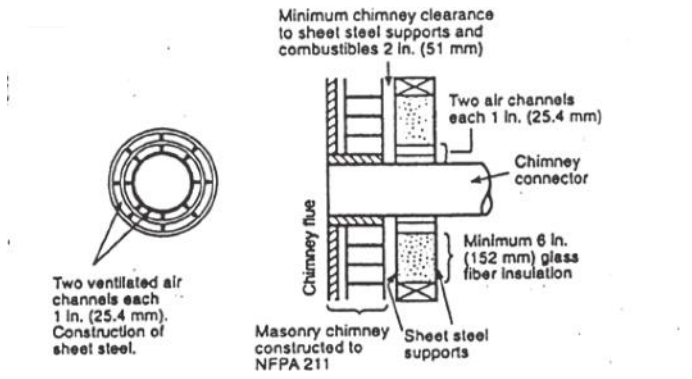


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

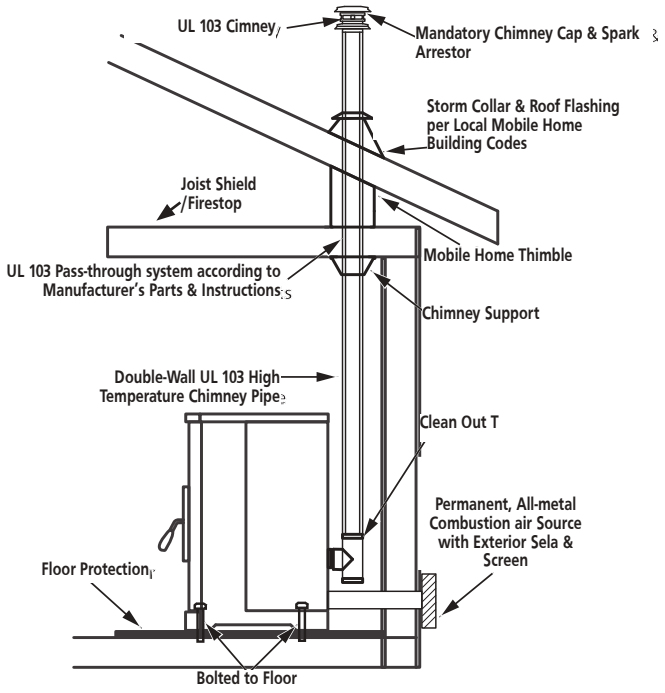


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 10 below illustrates.

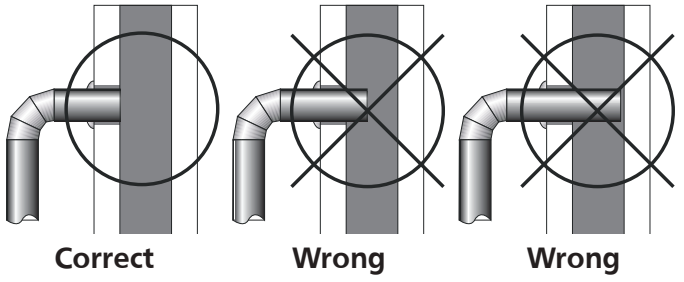


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

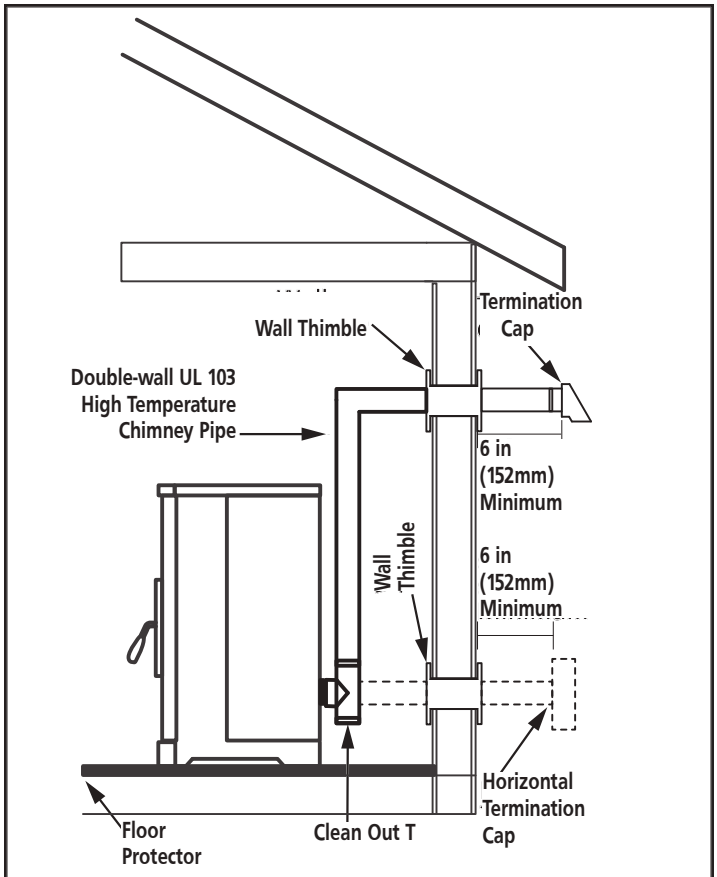


Figure 12 Manufactured Chimney through Wall

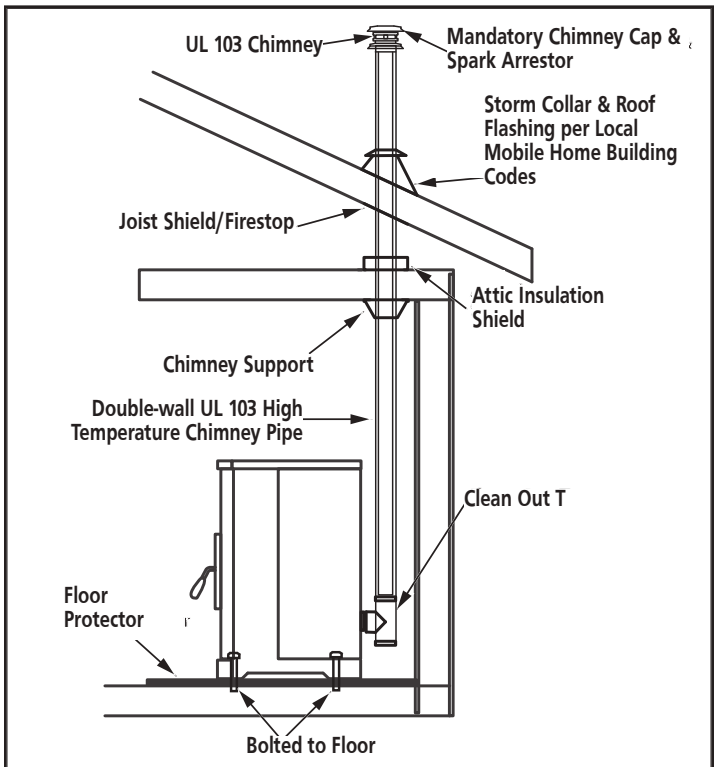


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

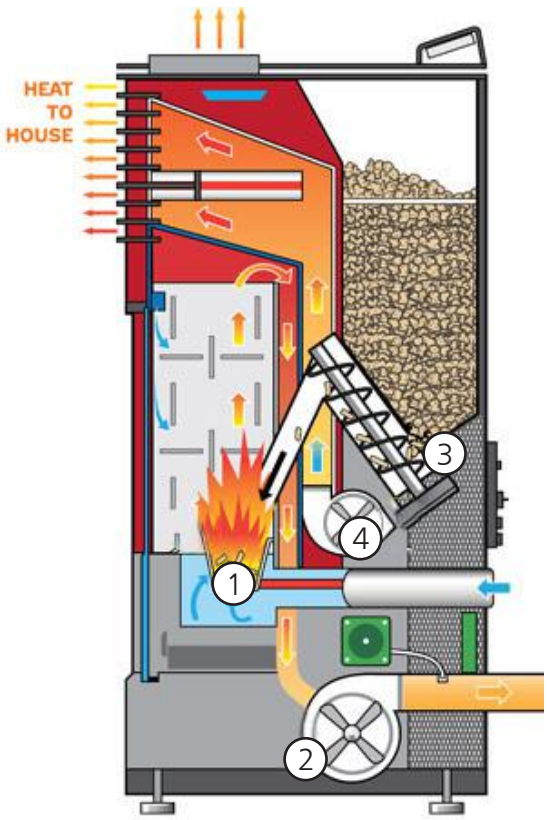


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

⚠ CAUTION: DO NOT store unused pellets in the stove for future use as they may collect moisture. Using wet or damp pellets may result in ignition difficulty, incomplete combustion, and the potential for a hopper fire.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.
3. Press the power button. The stove will begin to automatically progress through the following stages:
   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes
4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Press the power button. The stove will begin to automatically progress through the following stages:
   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.
   - Goodbye: The final message from the display screen to designate that the stove has cooled.
2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 18 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the back bottom of the stove as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

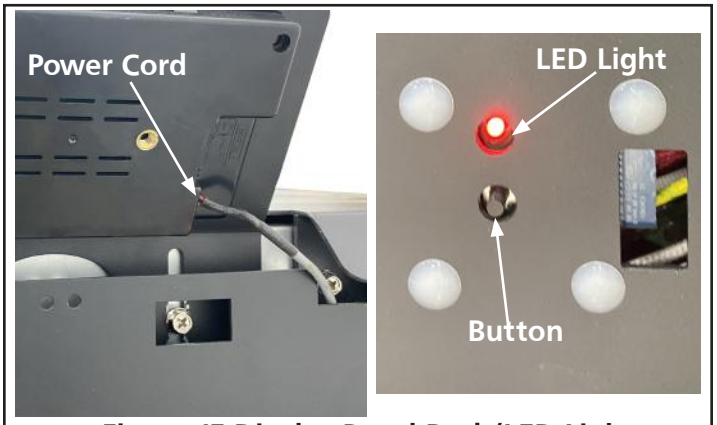


Figure 15 Display Panel Back/LED Light

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings

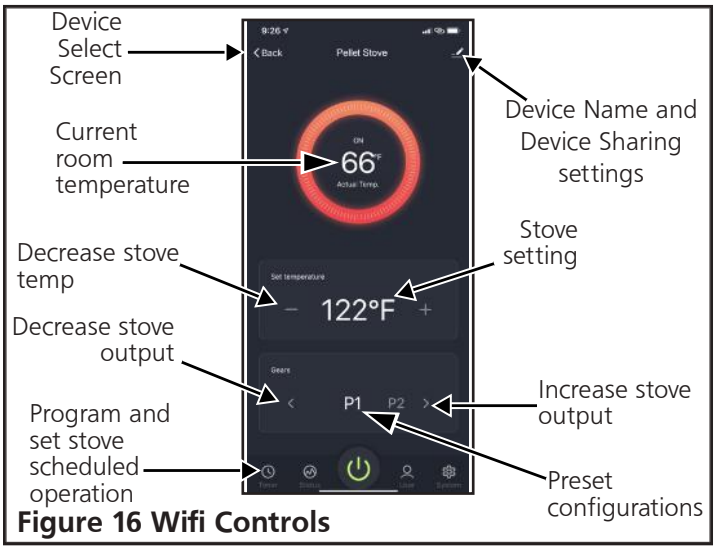


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

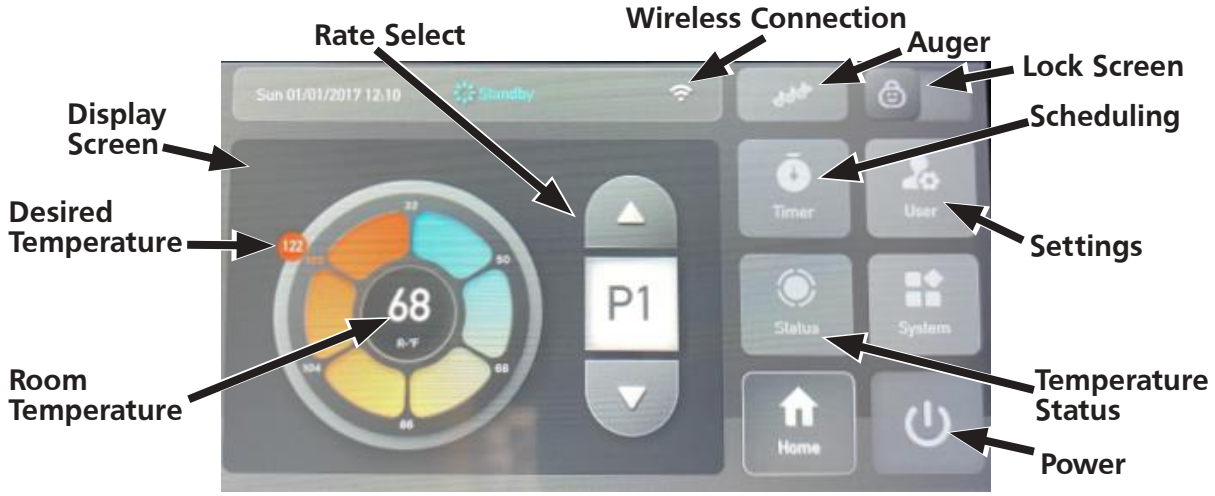


Figure 17a Mounted Multi Function Display Panel

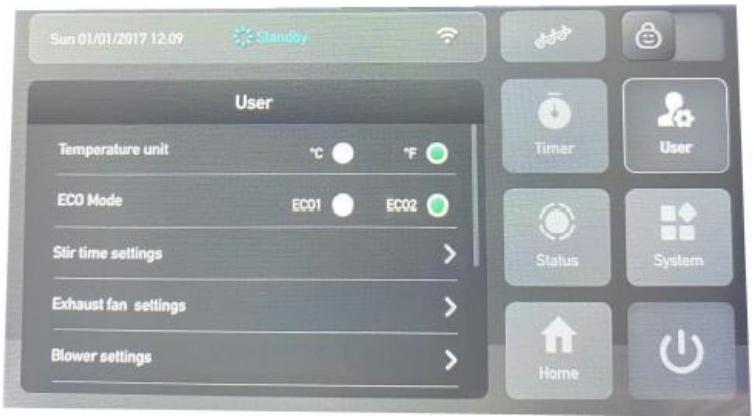


Figure 17b User Menu

Mounted Button Functionality: Normal Operation

Power
- Press to begin stove heating if the stove was off.
- Press to begin stove shut off if the stove was on.

Temperature Status
- Press to see temperature readings of the stove.
- Displays the exhaust pipe temp, the hopper protection temp and number of run hours etc.

Settings
- Press to enter User Settings Menu (Figure 17b).
- On this menu, you may select ˚F or ˚C, ECO Mode (see Wi-Fi controls for explanation), Stir Time/Exhaust Fan/Blower settings, etc.

Scheduling
- Press to enter desired run times.

Lock Screen
- Lock screen will illuminate when screen is locked in a Programmed Mode.

Auger
- Allows user to use/engage the auger directly, prep/pre-feed the firepot, or get pellets into the auger/unit prior to lighting.

Rate Select
- Pressing the rate select arrows will toggle between four configurable heating presets (see Wi-Fi controls for explanation of P#'s). The currently set preset is displayed between the Up and Down arrows.

Desired Temperature
- Using your finger, press down and rotate around the wheel to desired temperature (only applicable when using Thermostat and ECO modes).

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

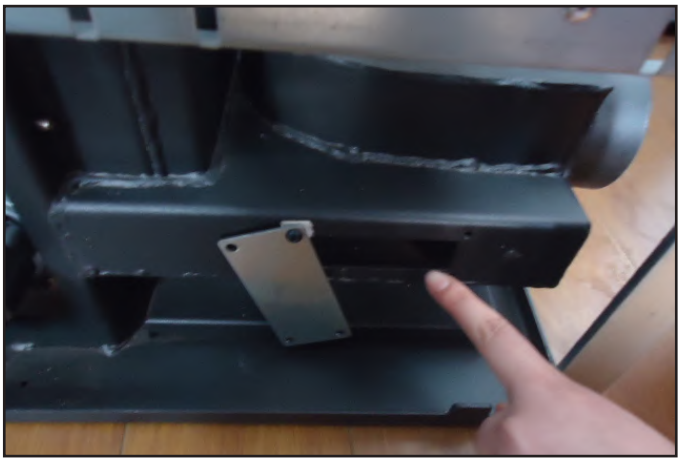


Figure 18 Inlet Duct

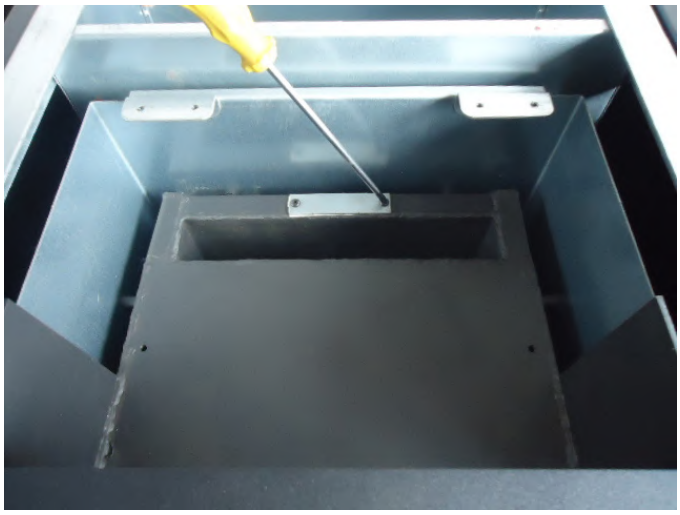


Figure 19 Dutlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 20. This task is to be performed every day, while the stove is cooled down and unplugged.

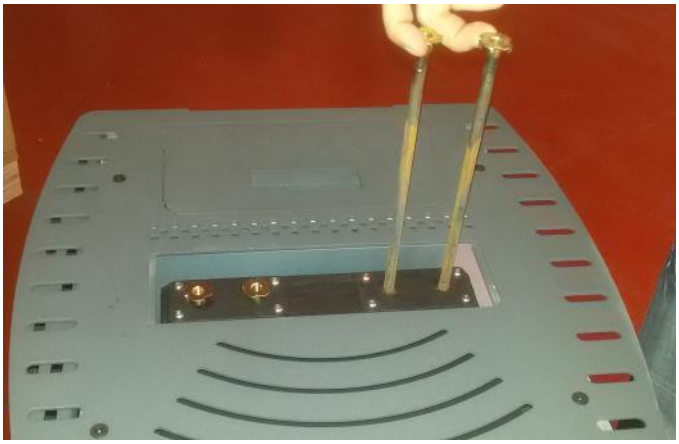


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

> ⚠ **WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.**

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

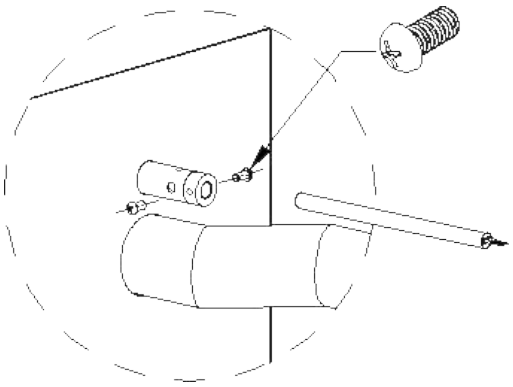


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

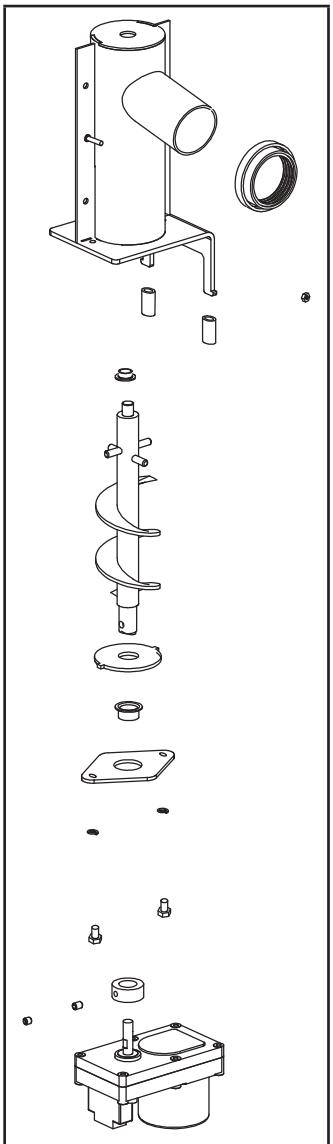


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
E9	Hopper sensor. Hopper low on pellets.	1. Replenish pellets in hopper.
ESC1	Short circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESC2	Short circuit at temperature sensor #2.	1. Check wires and connection points. 2. Replace Motherboard.
ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.

TROUBLESHOOTING CONTINUED

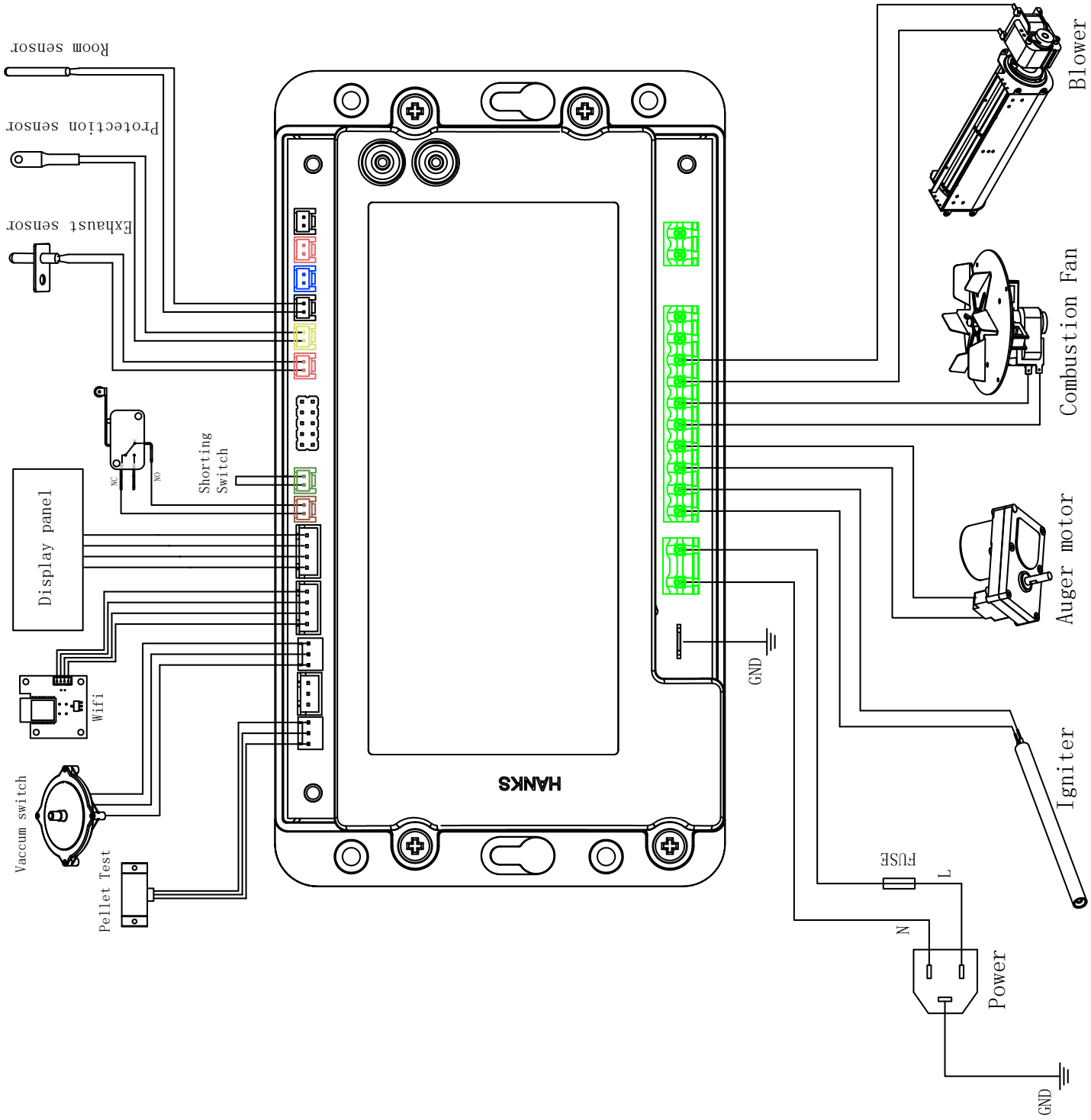
SYMPTOM	CAUSE	SOLUTION
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

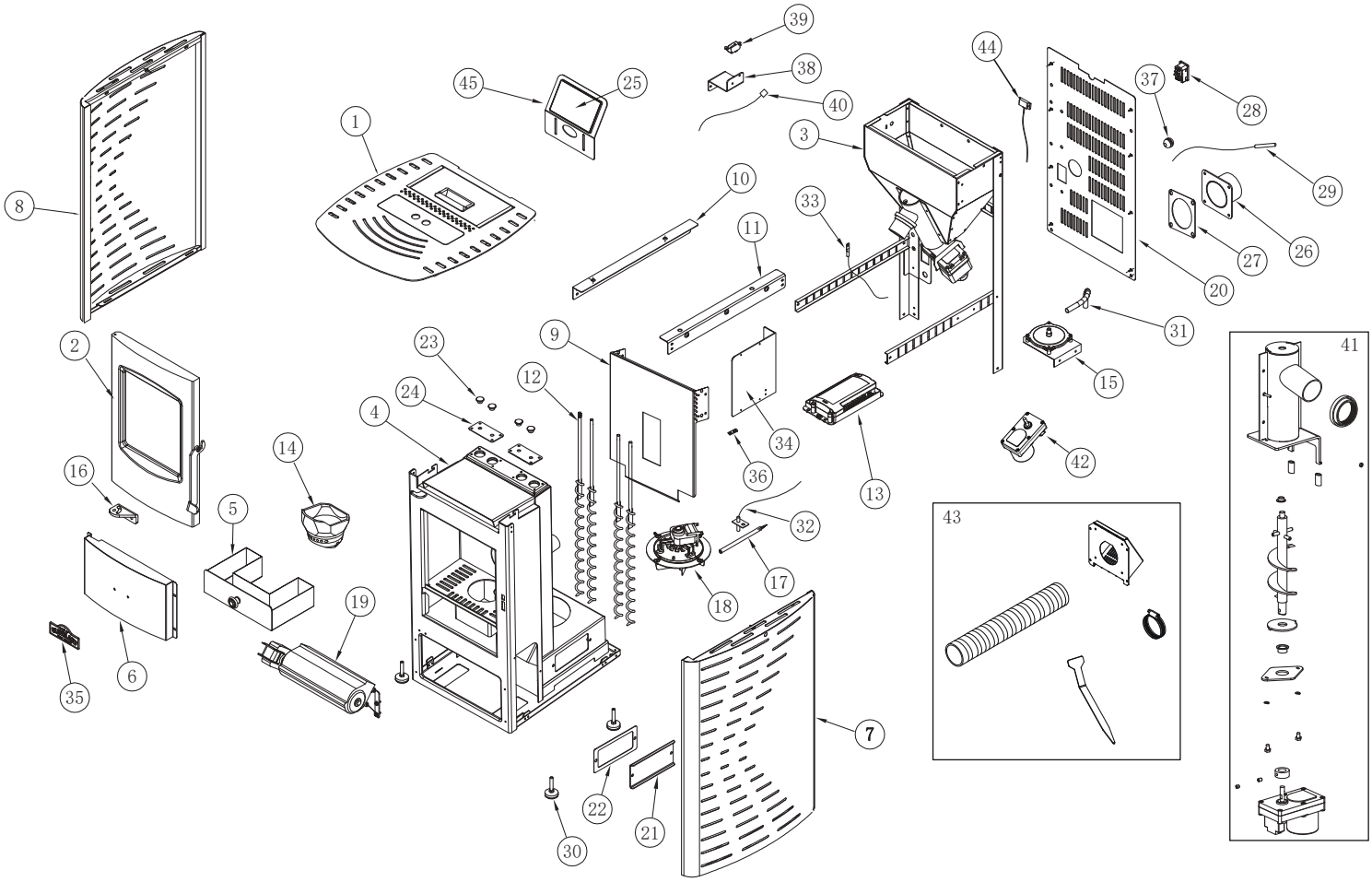
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL C20WTS

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66664	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge
17	66608	Igniter

NO.	PART NUM.	DESCRIPTION
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66702	Touch Screen
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor

NO.	PART NUM.	DESCRIPTION
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	n/a	Wire Grommit
38	n/a	Switch fixing board
39	66617	Hopper Lid Switch
40	66694	Switch Wire
41	66695	Auger Assembly
42	66696	Auger Motor
43	66659	Accessory Kit
44	66701	Hopper Sensor
45	66837	Touch Screen Bracket
N/S	66854	Power Cord
N/S	66856	Data Cable
N/S	66858	Door Pin

N/S - Not Shown

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # C20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

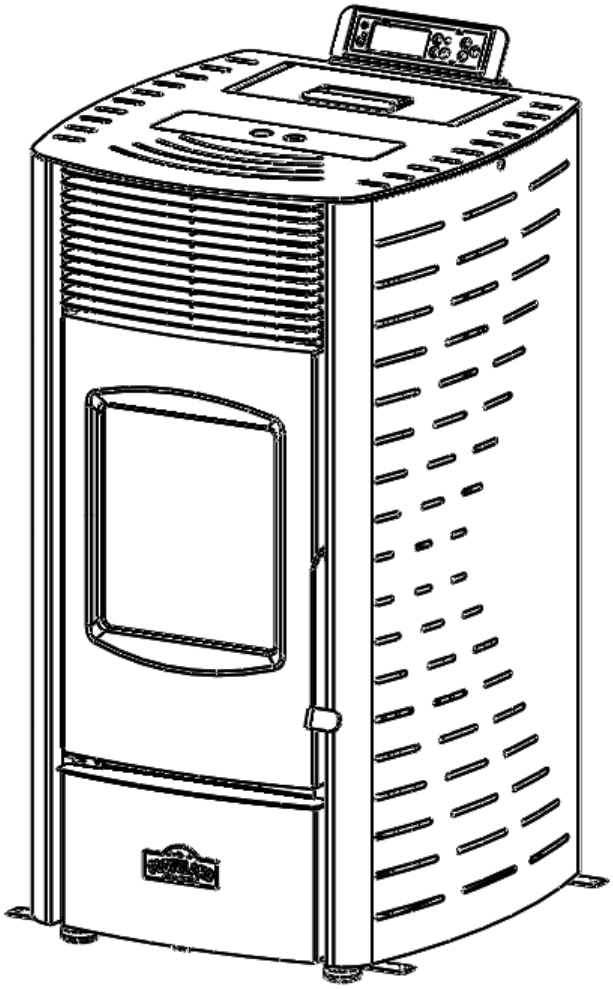
INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # C30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE



C30XL

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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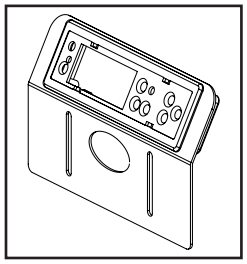
SPECIFICATIONS

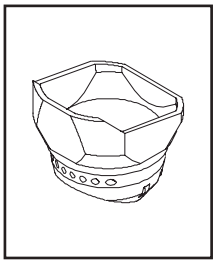
Model #	C30XL
DIMENSIONS	
Stove Weight [LBS (kg)]	147 (67)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 32.75" (46.36 x 50.8 x 83.2)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	30 (13.6)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

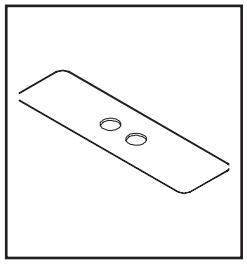
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
C30XL: 23,945 to 10,796 Btu/hr

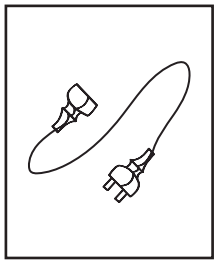
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

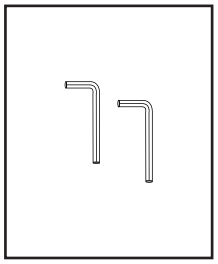
GETTING STARTED

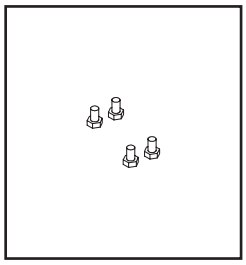

Display Panel

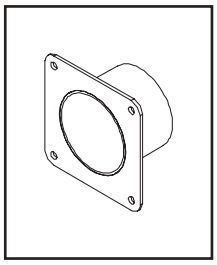

Firepot

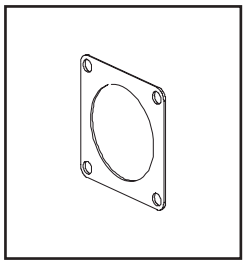

Cover

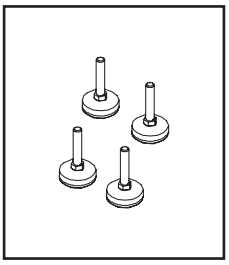

Main Power Cord


Allen Wrenches (x2)

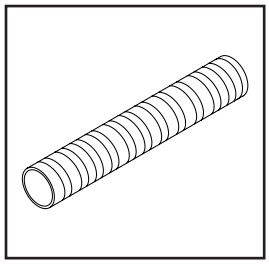

Screws (x4)

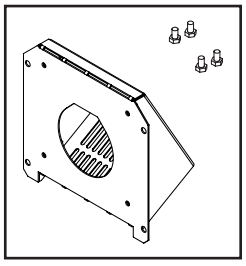

Exhaust Connector

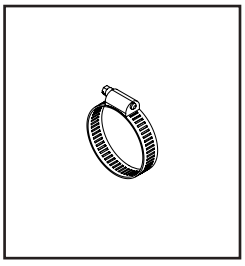

Exhaust Connector Silicon Pad

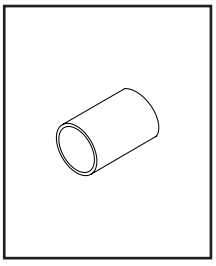

Stove Feet

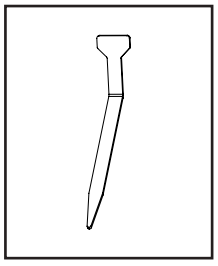
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

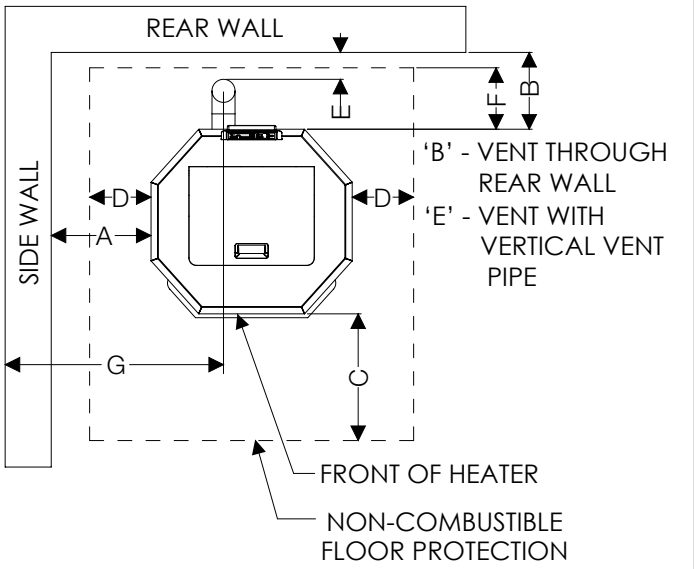


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

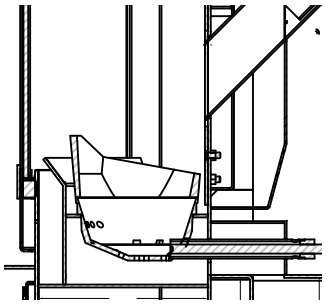


Figure 2: Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

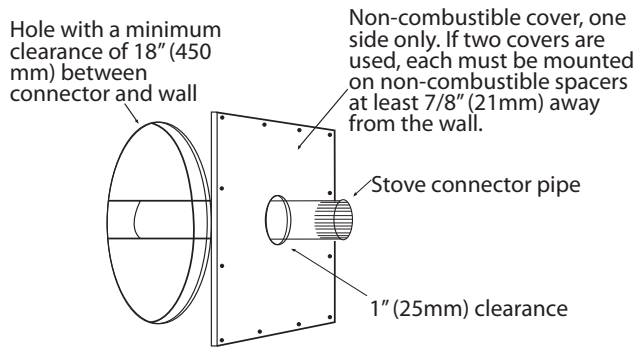


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

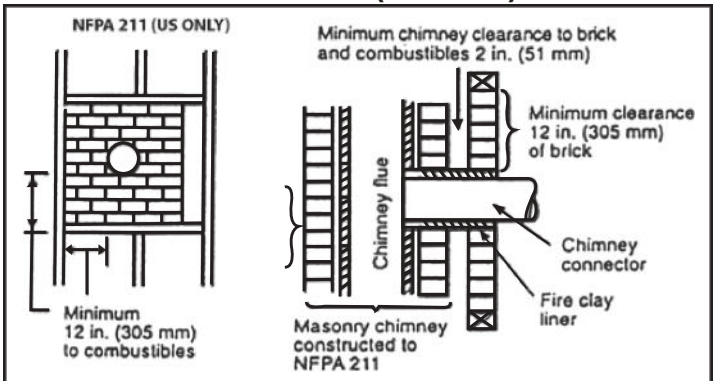


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

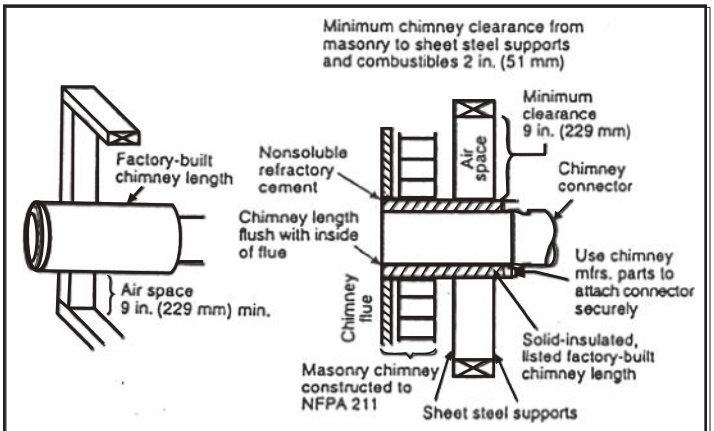


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

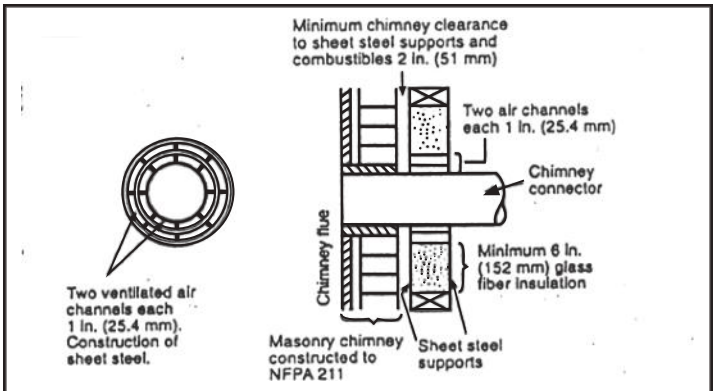


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

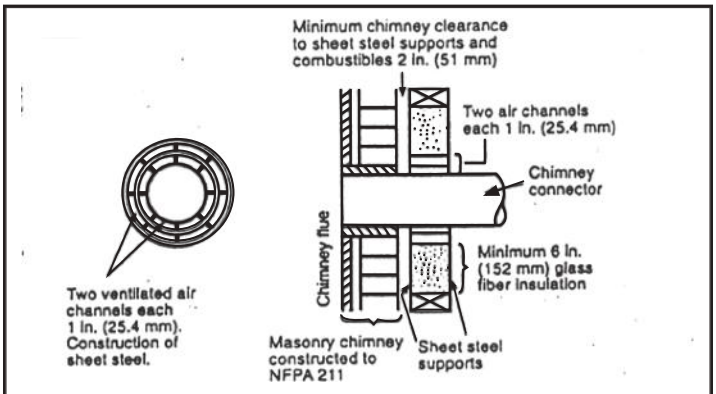


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

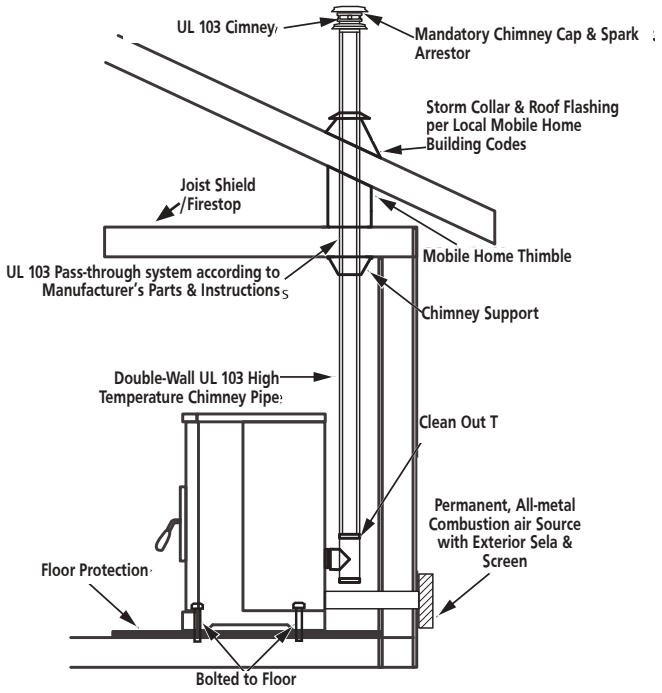


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

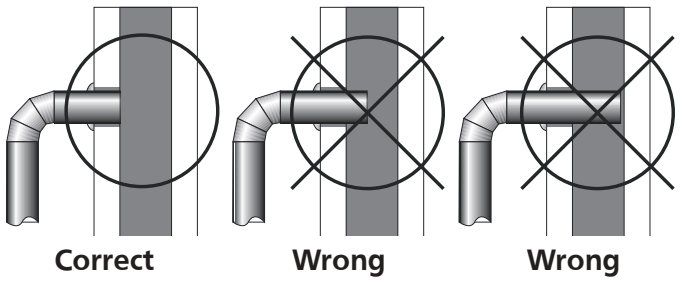


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

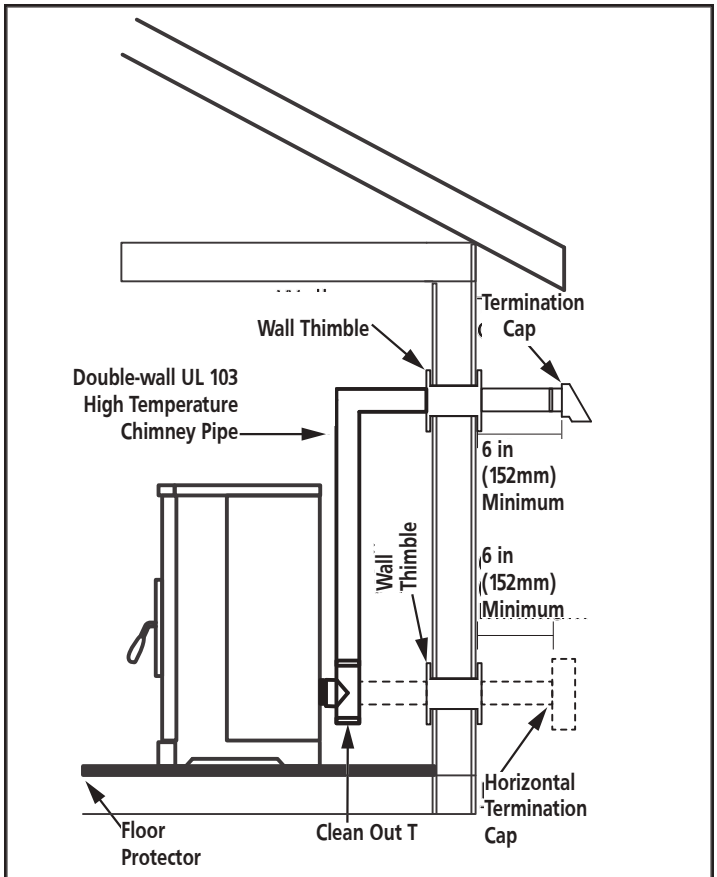


Figure 12 Manufactured Chimney through Wall

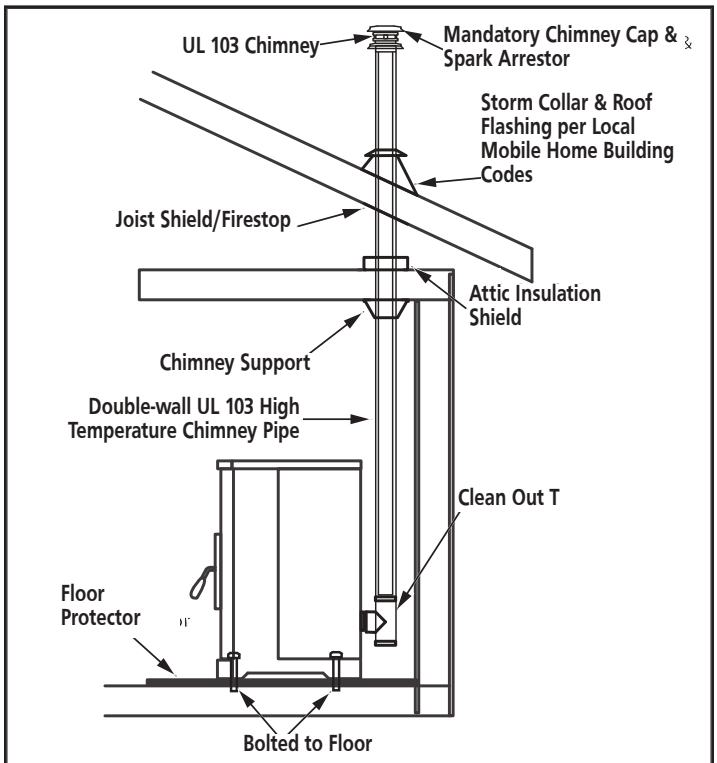


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

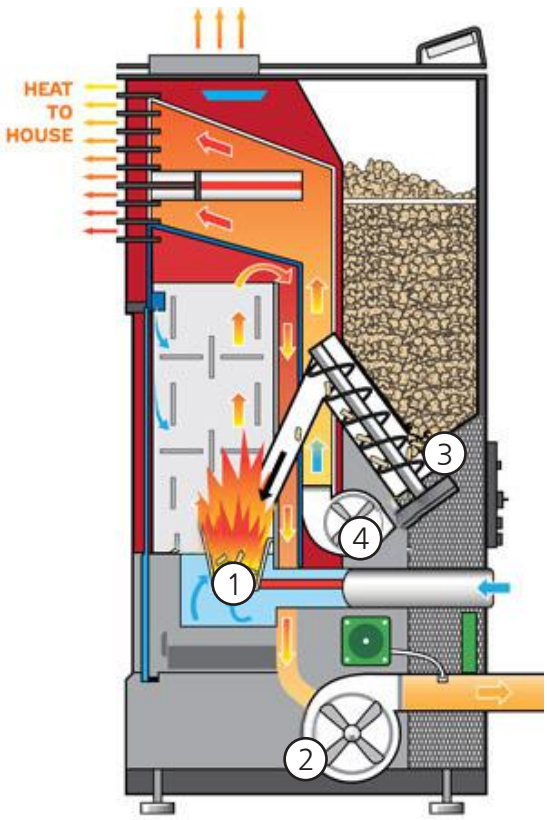


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or fly ash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

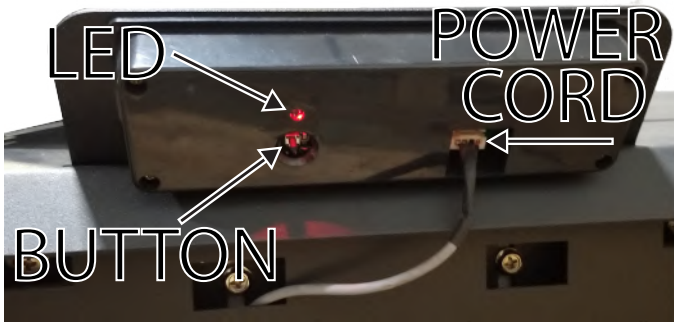


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

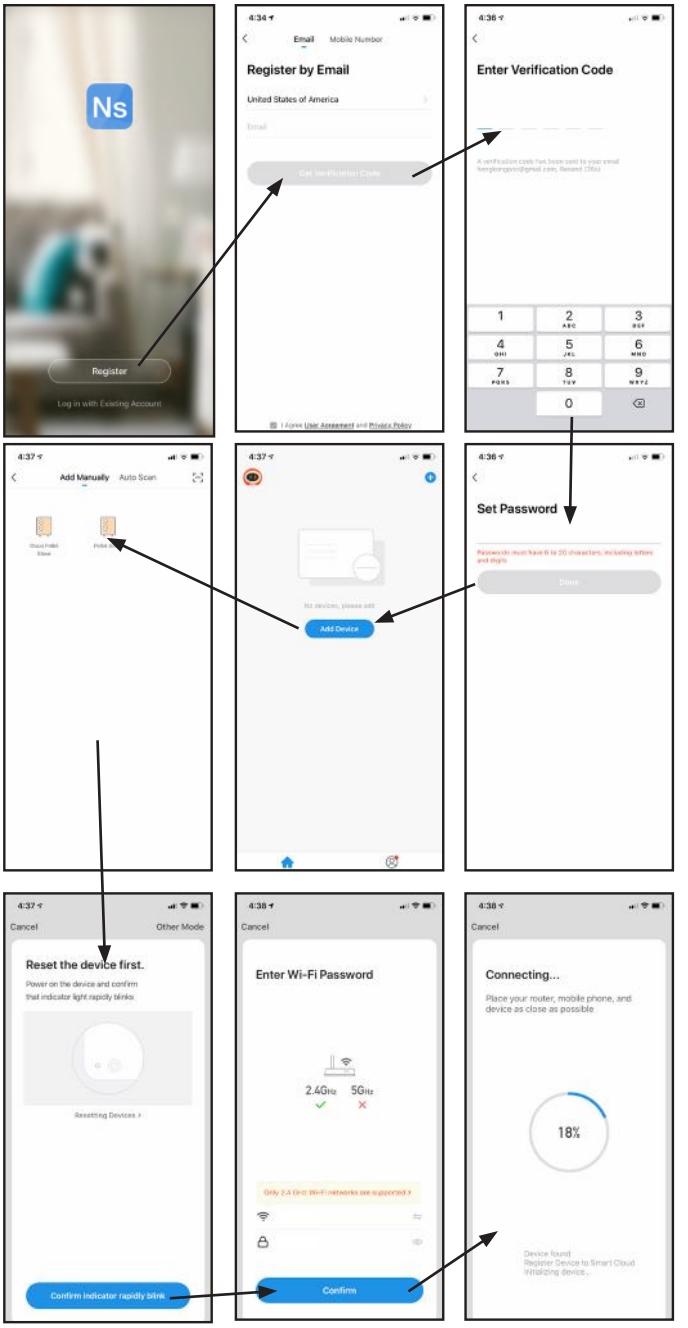
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



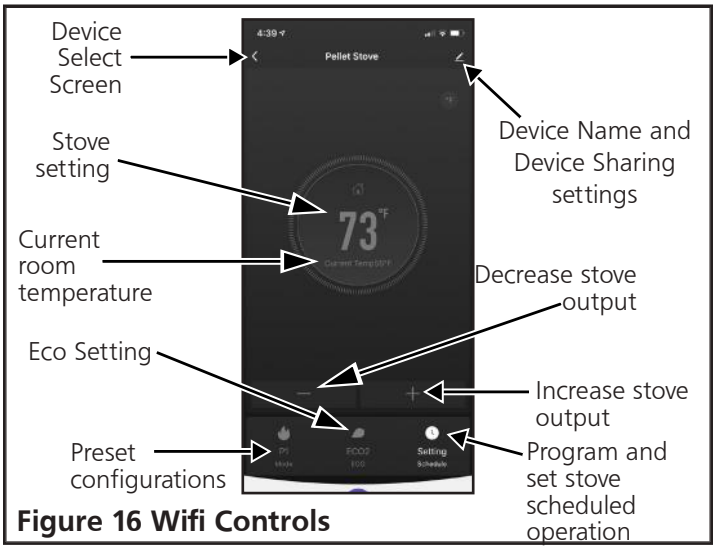


Figure 16 Wifi Controls

C30XL MULTI FUNCTION CONTROLS

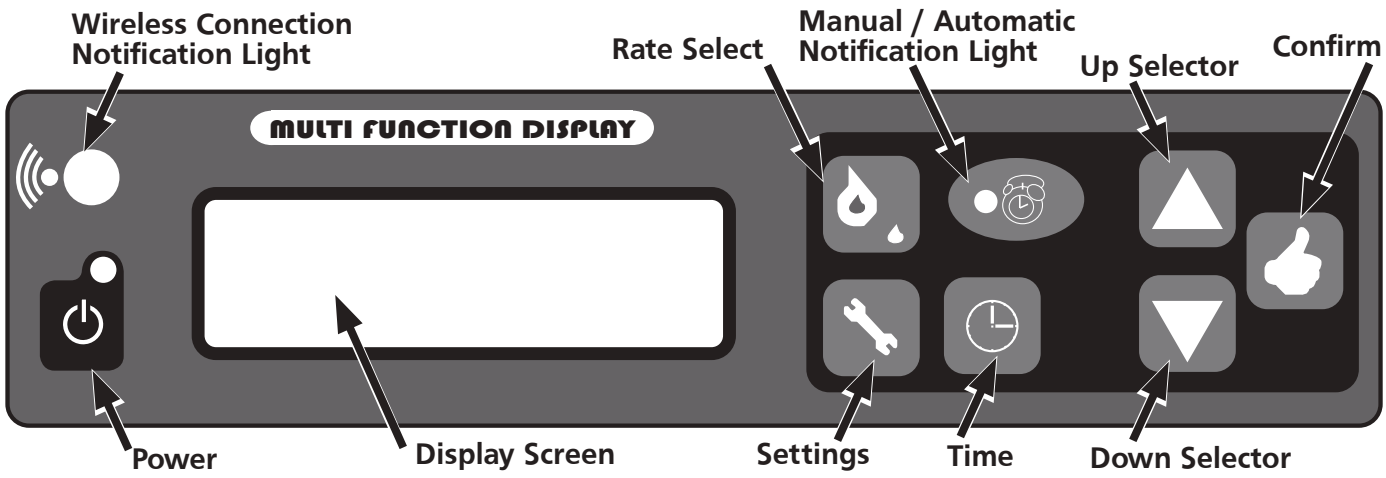


Figure 17a Mounted Multi Function Controls Panel

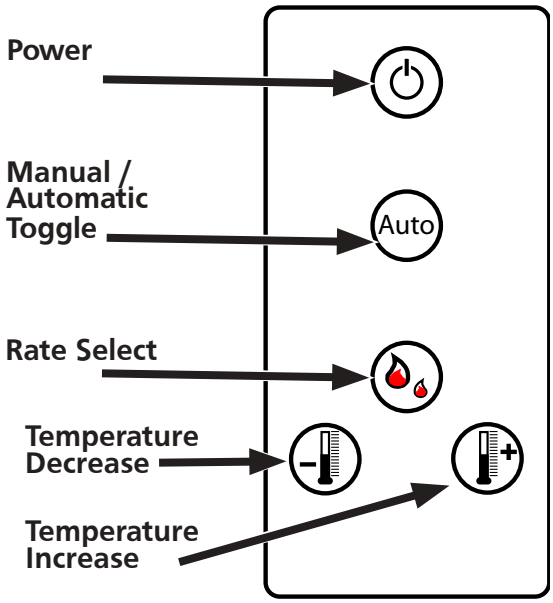


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

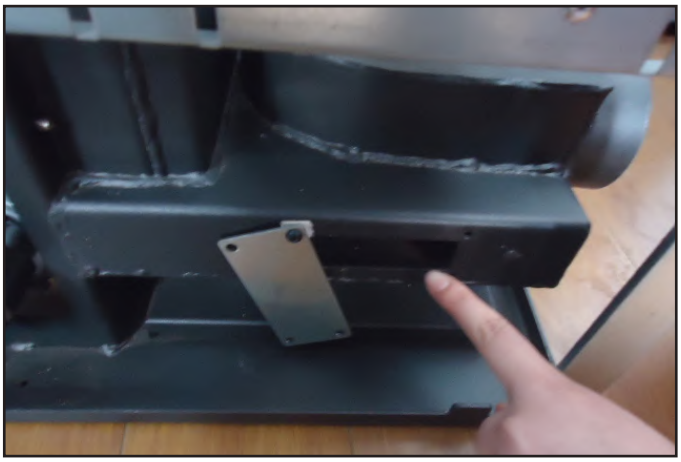


Figure 18 Inlet Duct

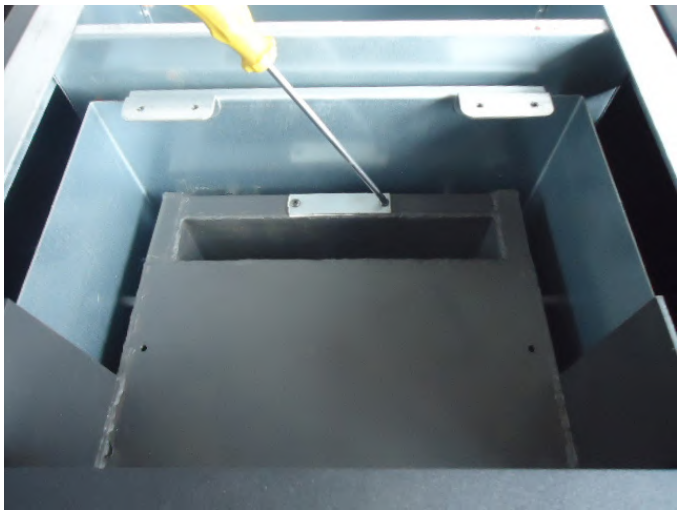


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

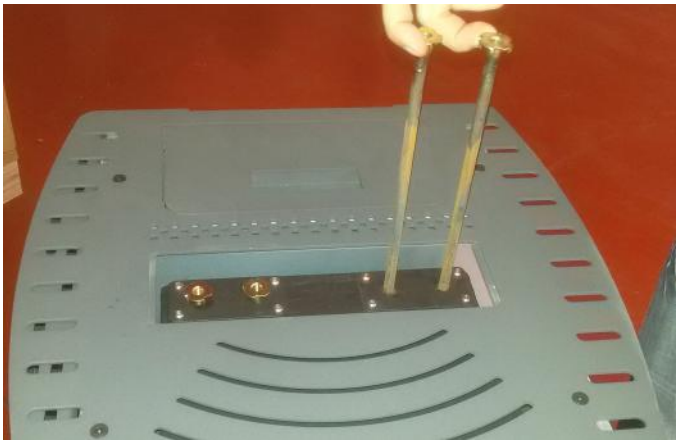


Figure 20 Pipe Cleaners

FLY ASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of fly ash. The fly ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

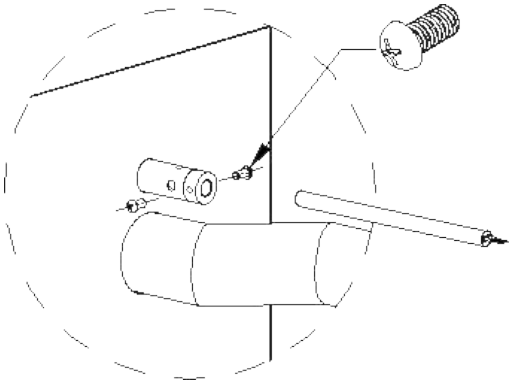


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

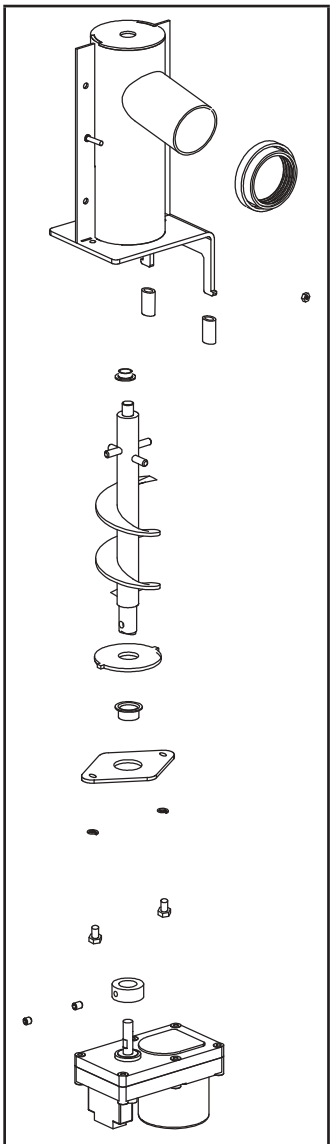


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

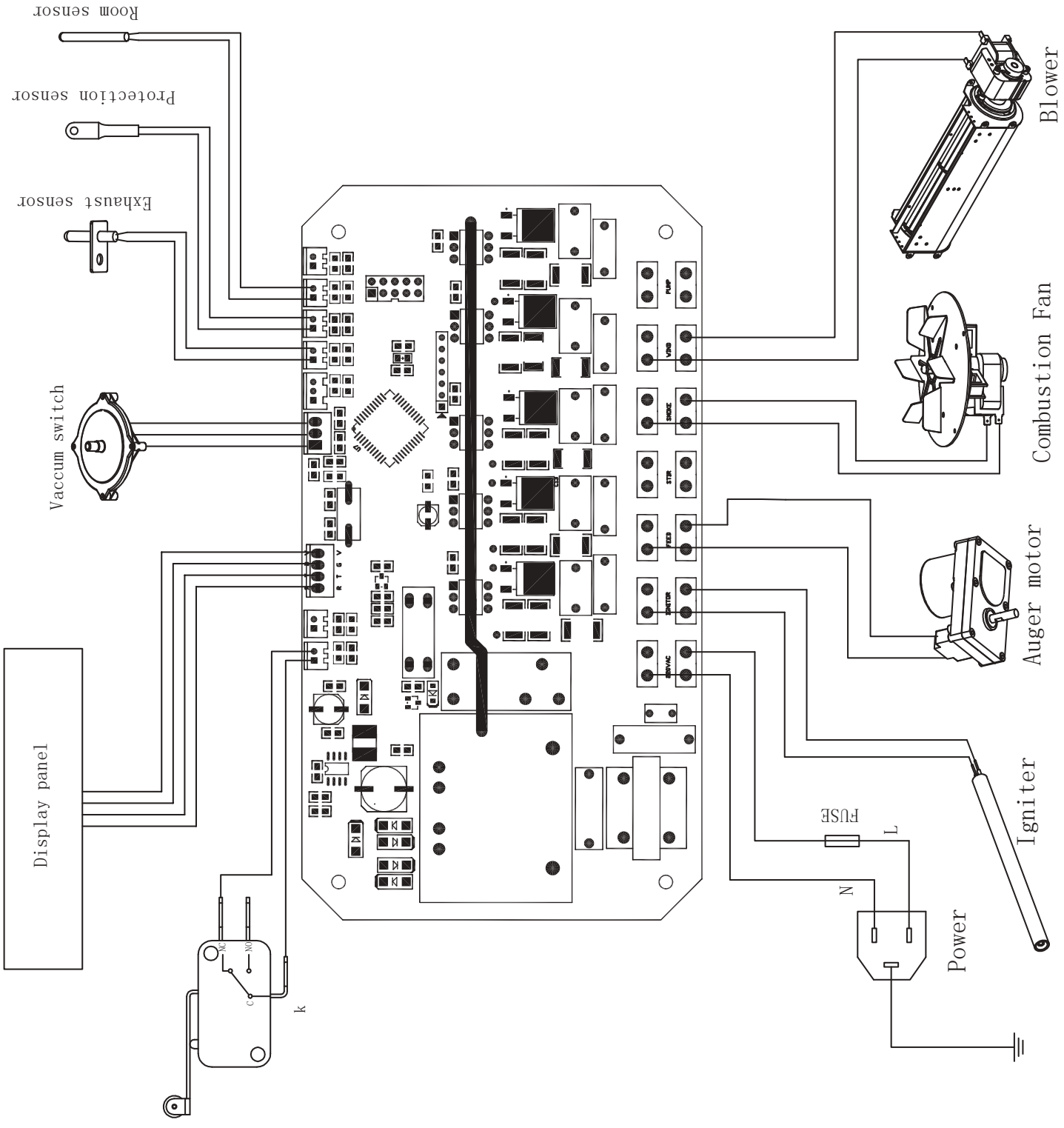
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

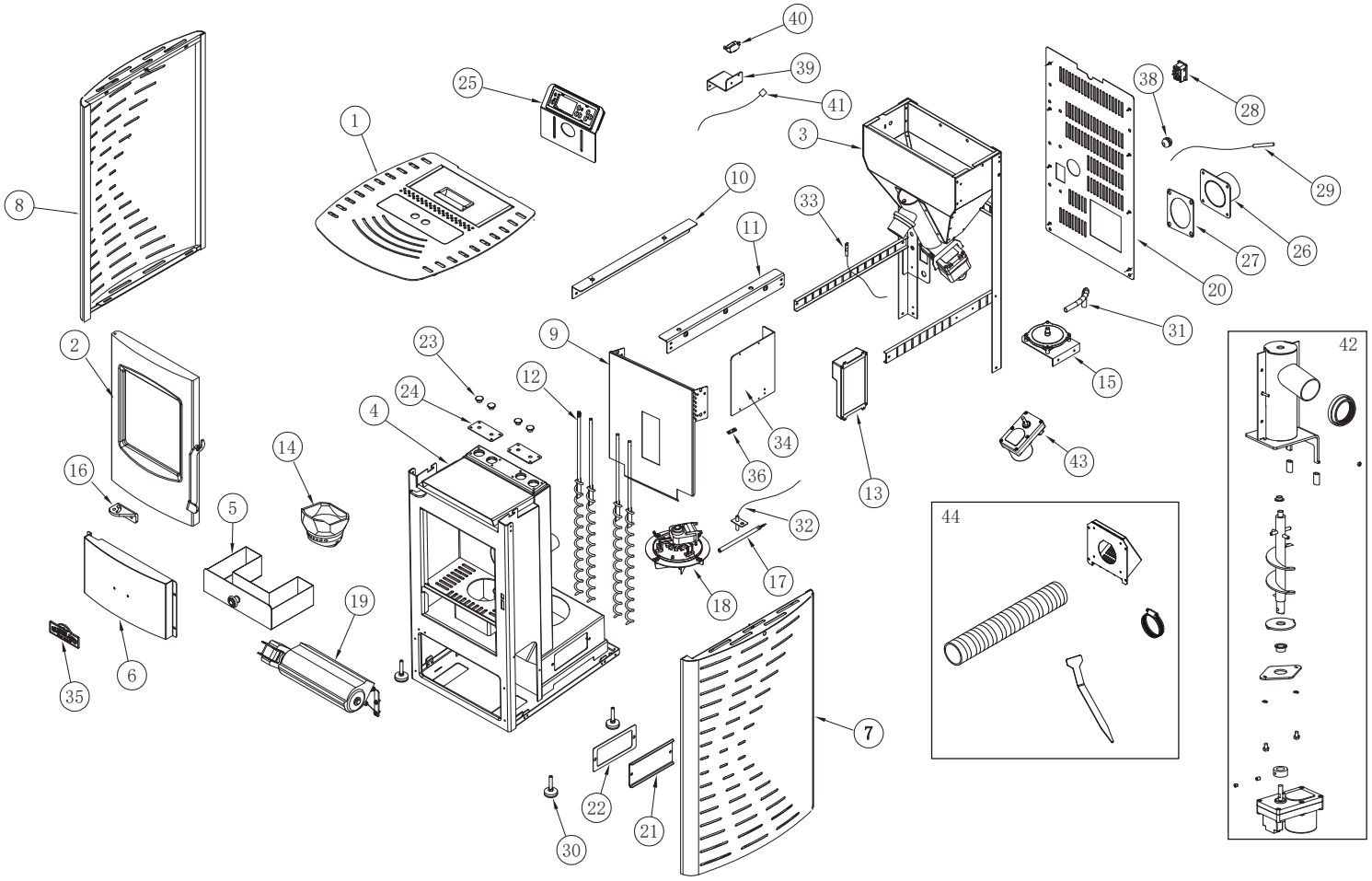
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL C30XL

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Drawer Cover
7	66733	Right Side Panel
8	66734	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66735	Rear Cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Temperature Sensor
33	66613	Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Door Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # C30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

ENERCO GROUP, INC., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

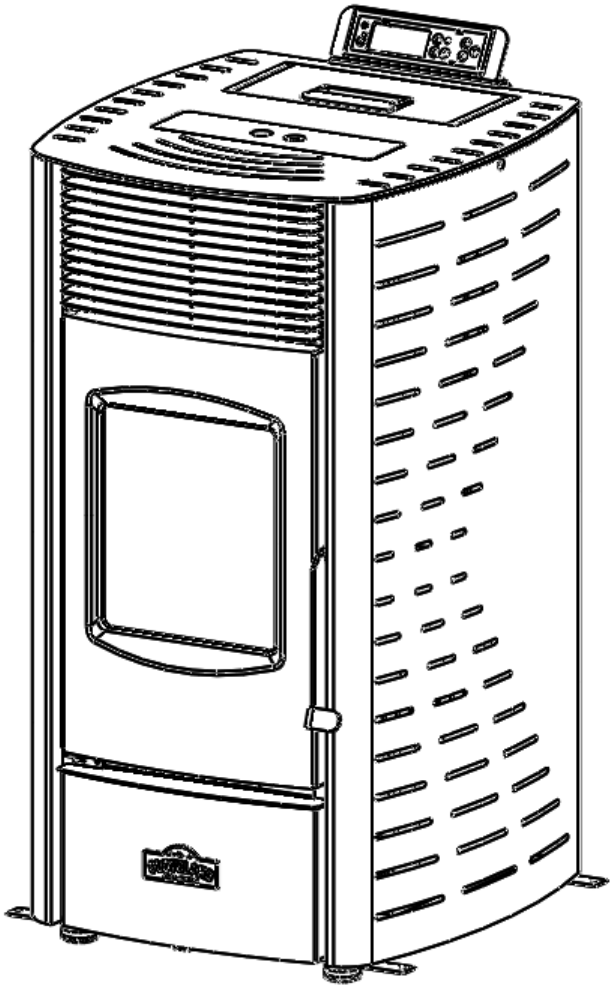
MASTER FORGE

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # H30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE



H30XL

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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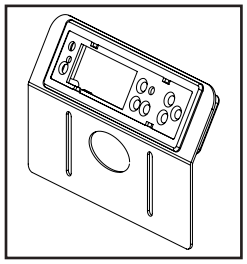
SPECIFICATIONS

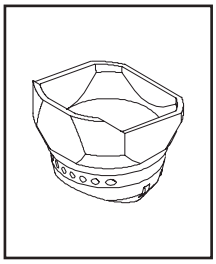
Model #	H30XL
DIMENSIONS	
Stove Weight [LBS (kg)]	147 (67)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 32.75" (46.36 x 50.8 x 83.2)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	30 (13.6)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

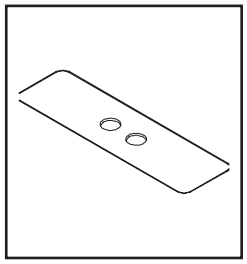
This manual describes the installation and operation of the brand "Master Forge" wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from: H30XL: 23,945 to 10,796 Btu/hr

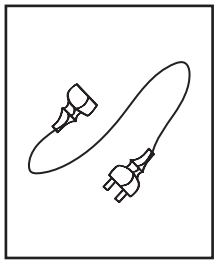
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

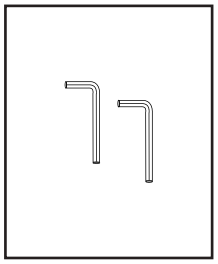
GETTING STARTED

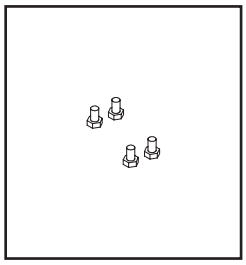

Display Panel

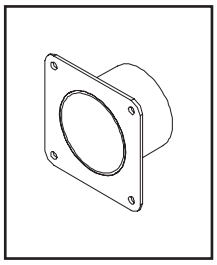

Firepot

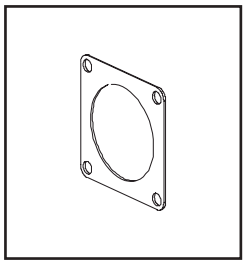

Cover

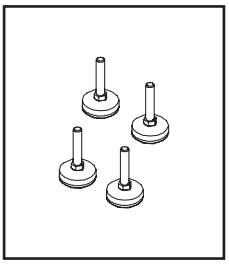

Main Power Cord


Allen Wrenches (x2)

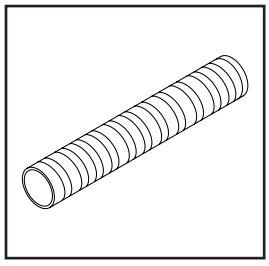

Screws (x4)

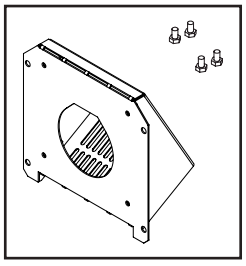

Exhaust Connector

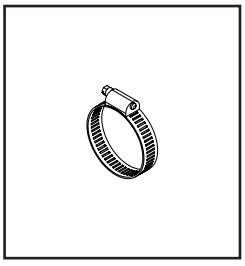

Exhaust Connector Silicon Pad

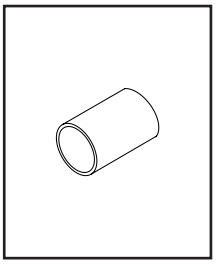

Stove Feet

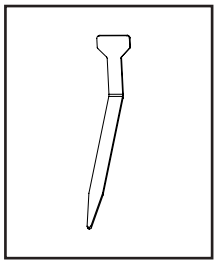
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

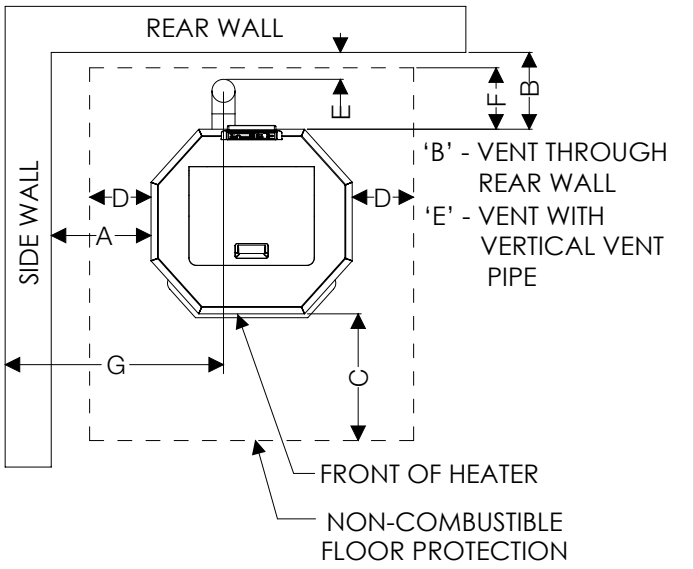


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

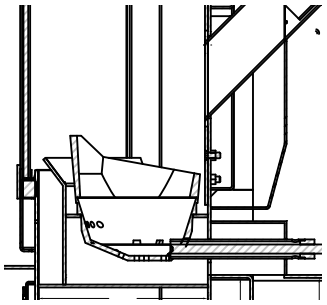


Figure 2: Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Master Forge with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

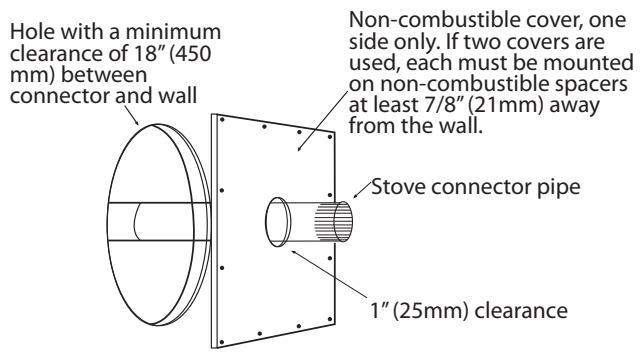


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

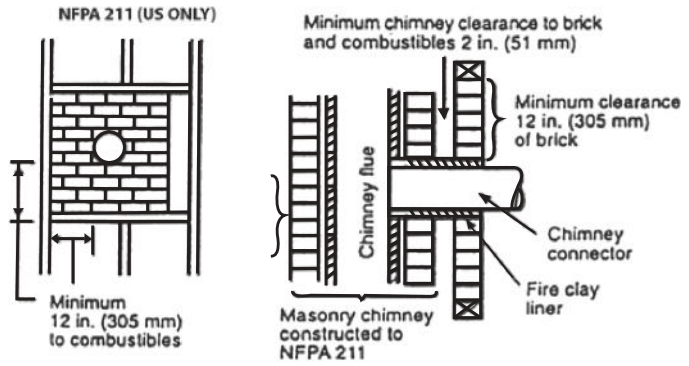


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

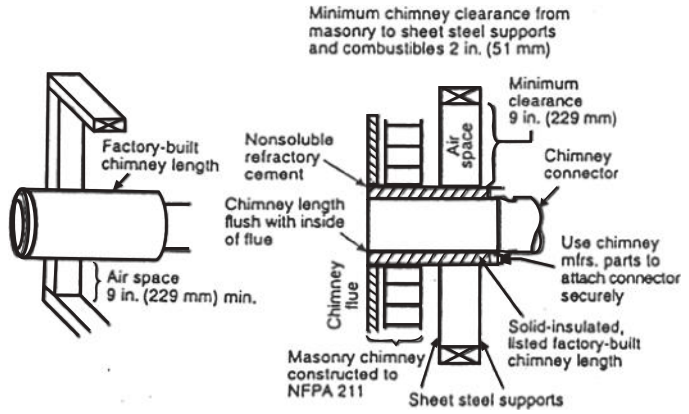


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

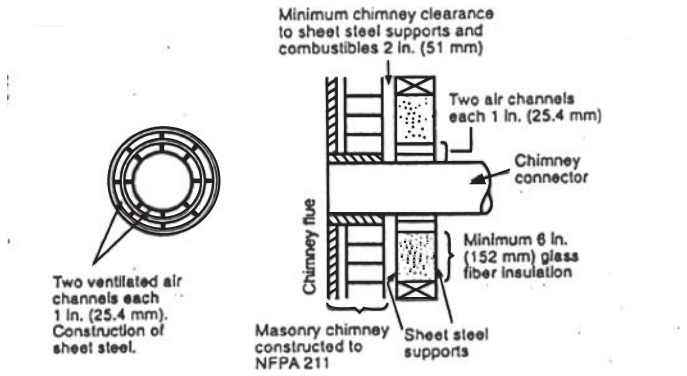


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

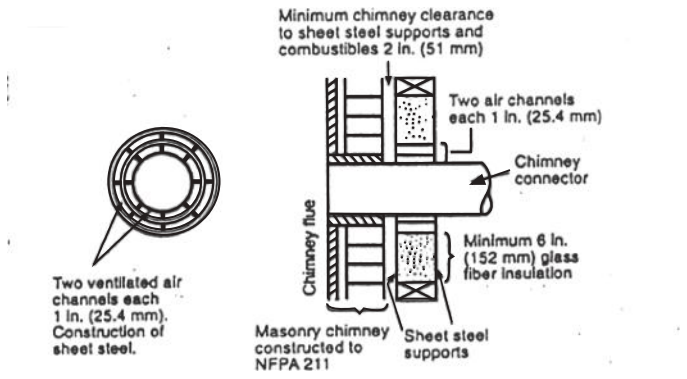


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

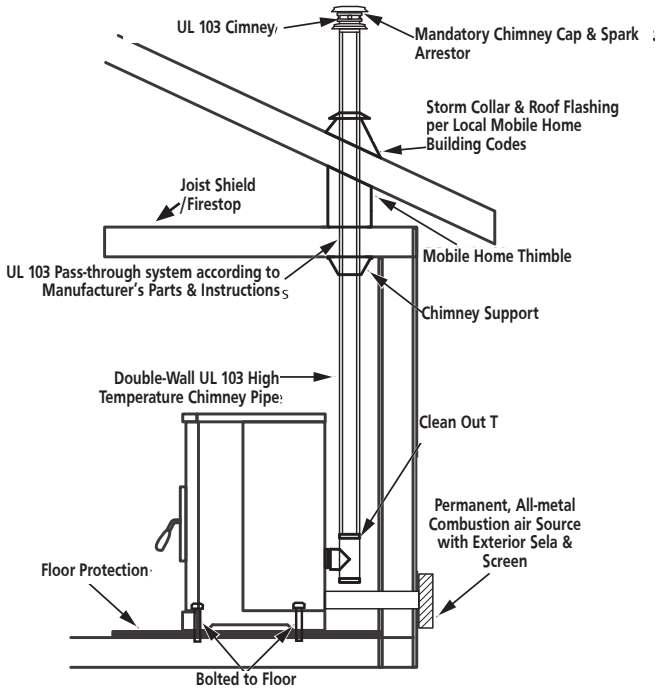


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

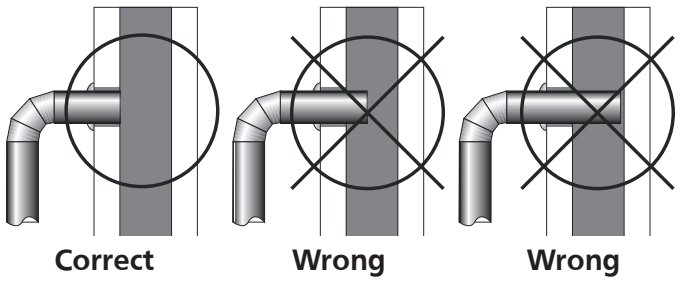


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

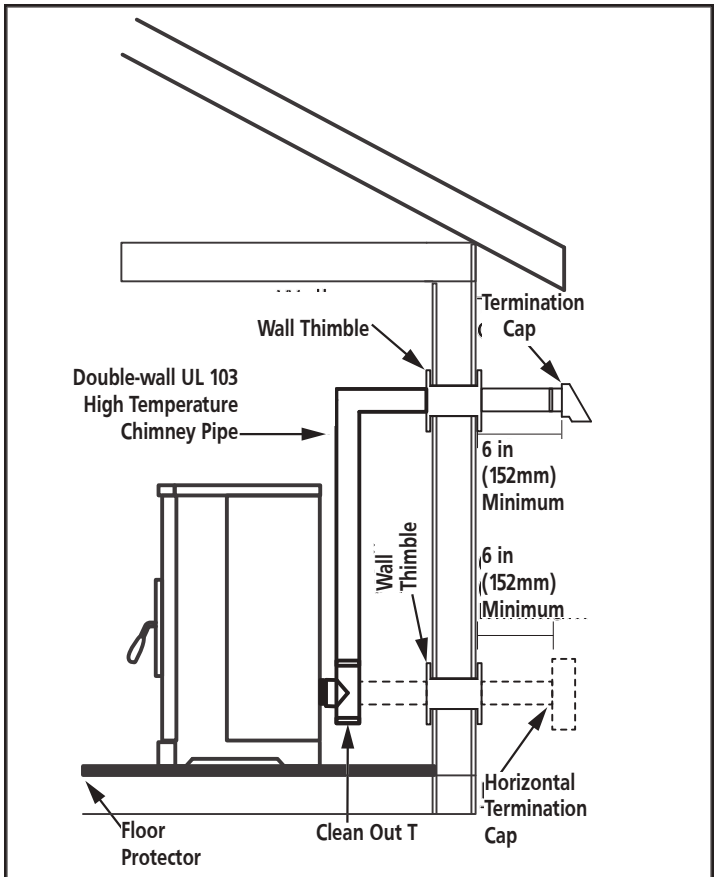


Figure 12 Manufactured Chimney through Wall

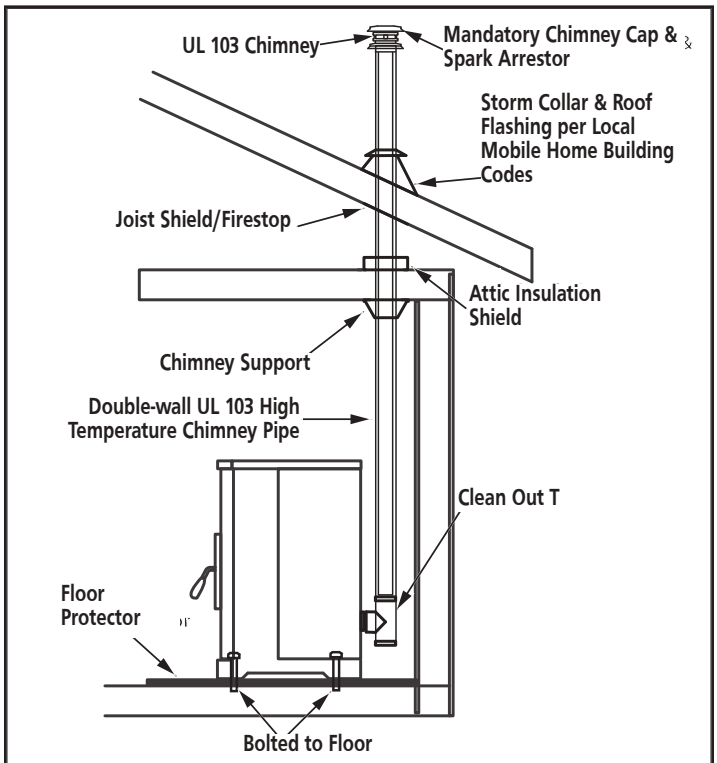


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

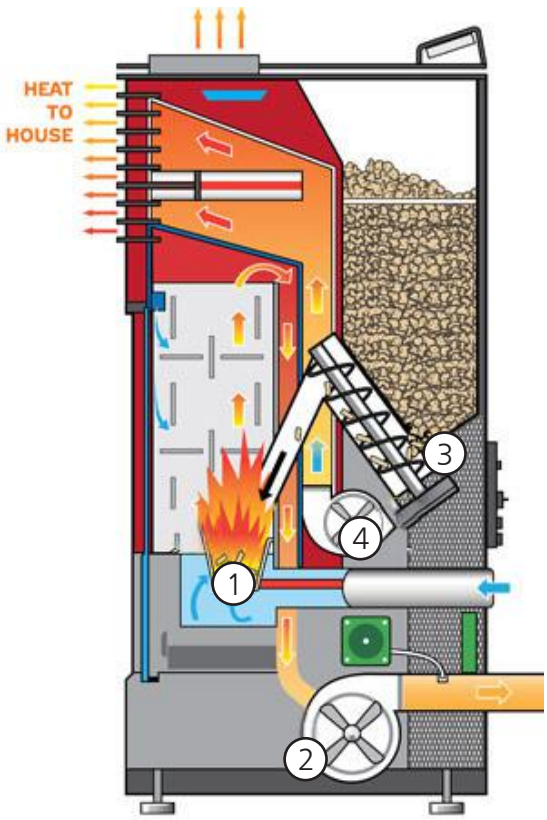


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or fly ash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

- Cleaning Cycle: The firepot draws dust, ash, & remenants out.
- Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
- Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
- Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

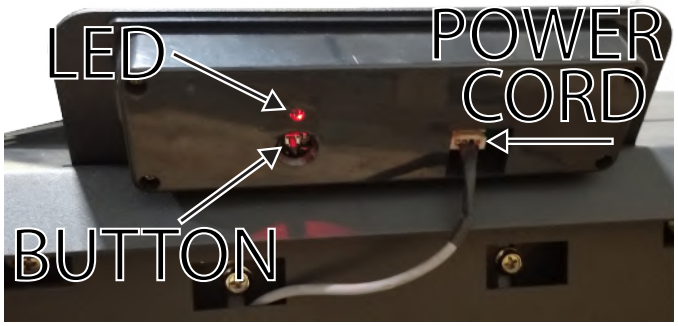


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

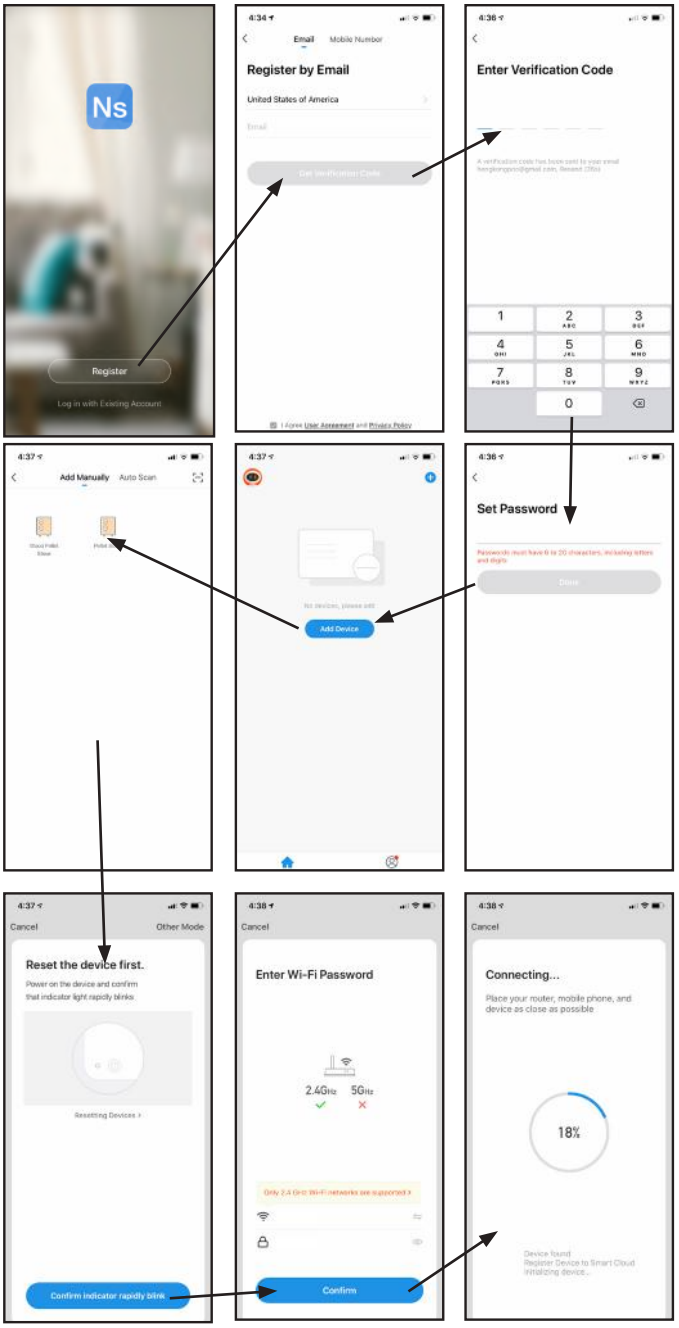
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



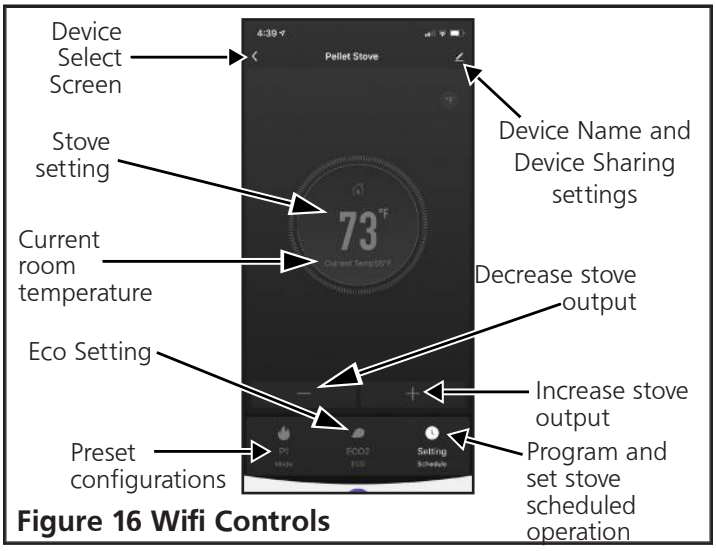


Figure 16 Wifi Controls

H30XL MULTI FUNCTION CONTROLS

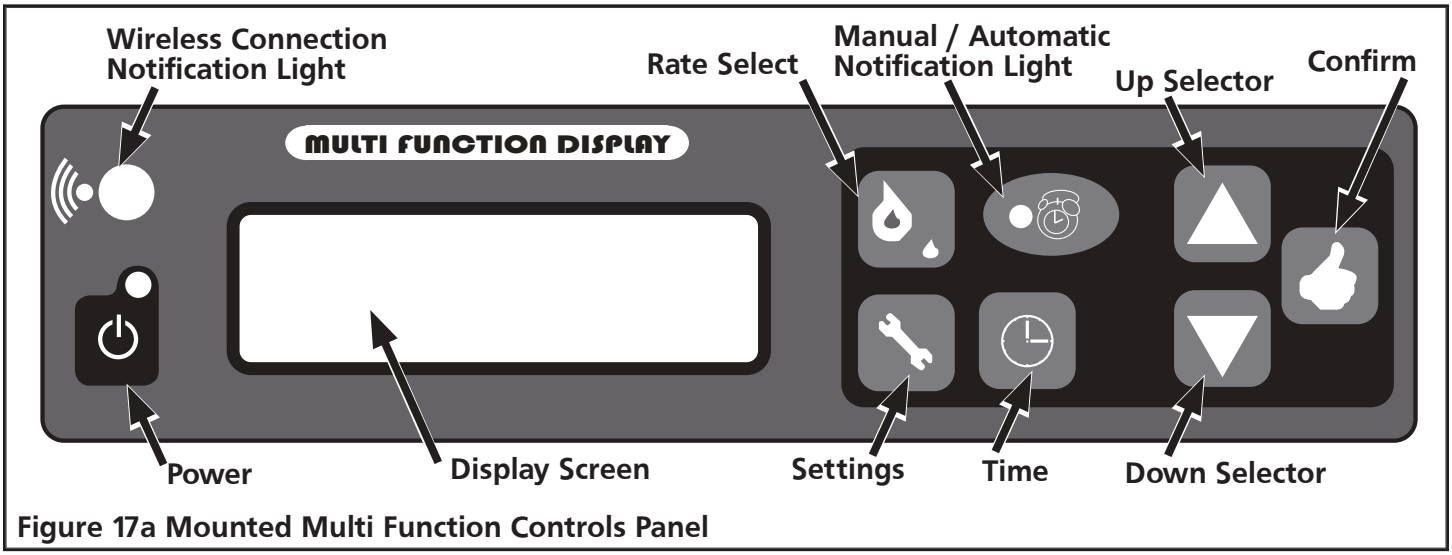


Figure 17a Mounted Multi Function Controls Panel

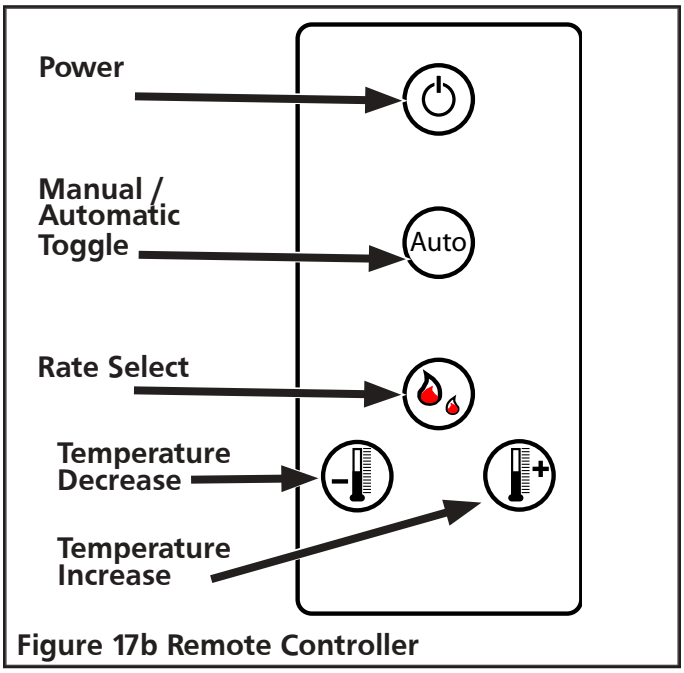


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

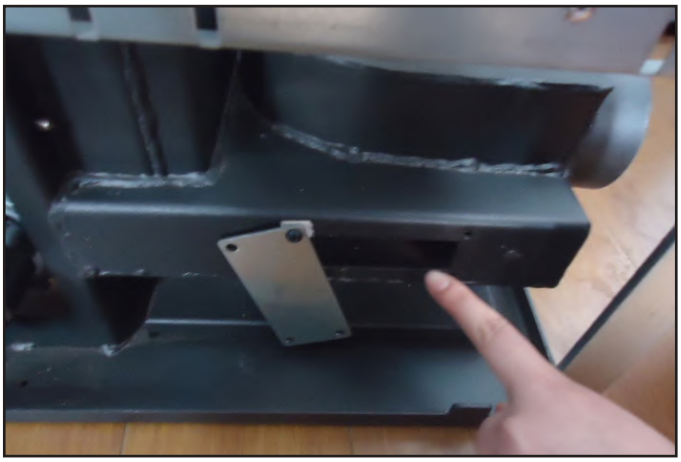


Figure 18 Inlet Duct

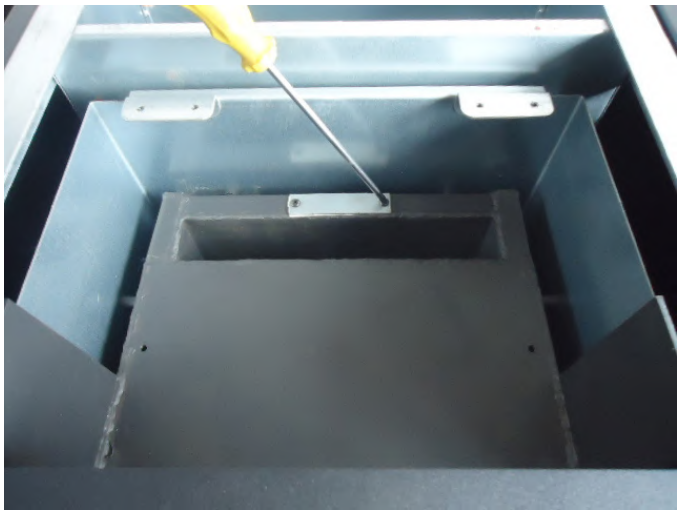


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

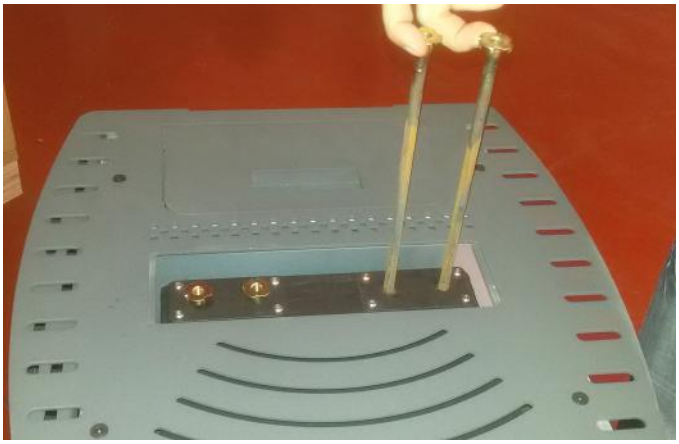


Figure 20 Pipe Cleaners

FLY ASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of fly ash. The fly ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

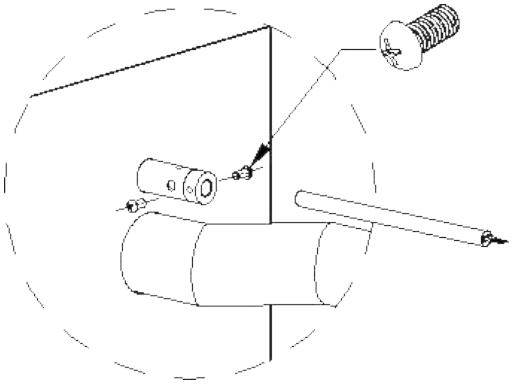


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

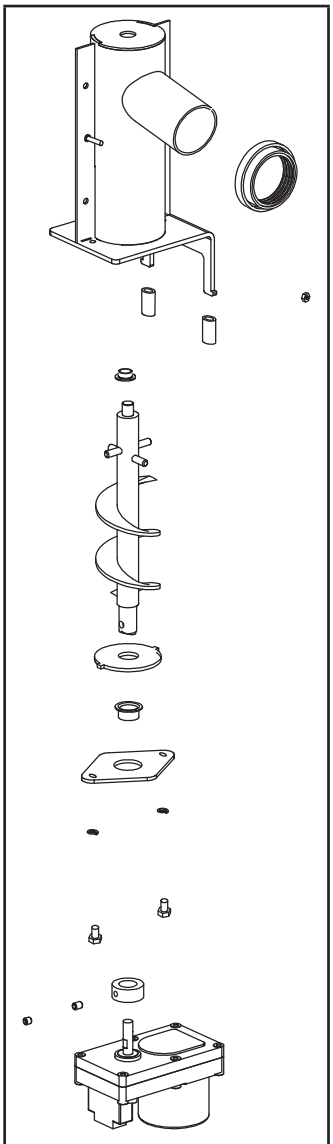


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

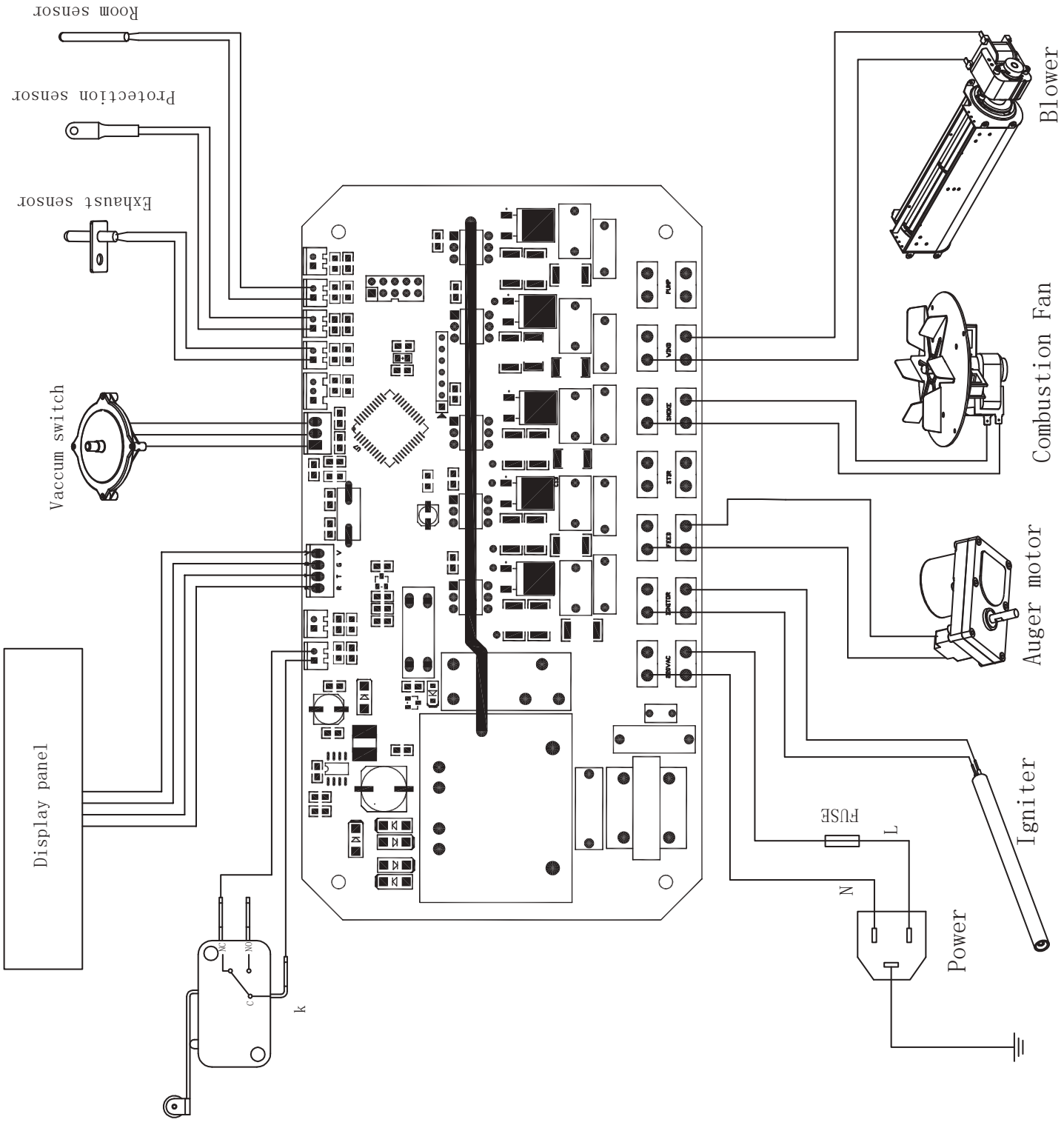
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

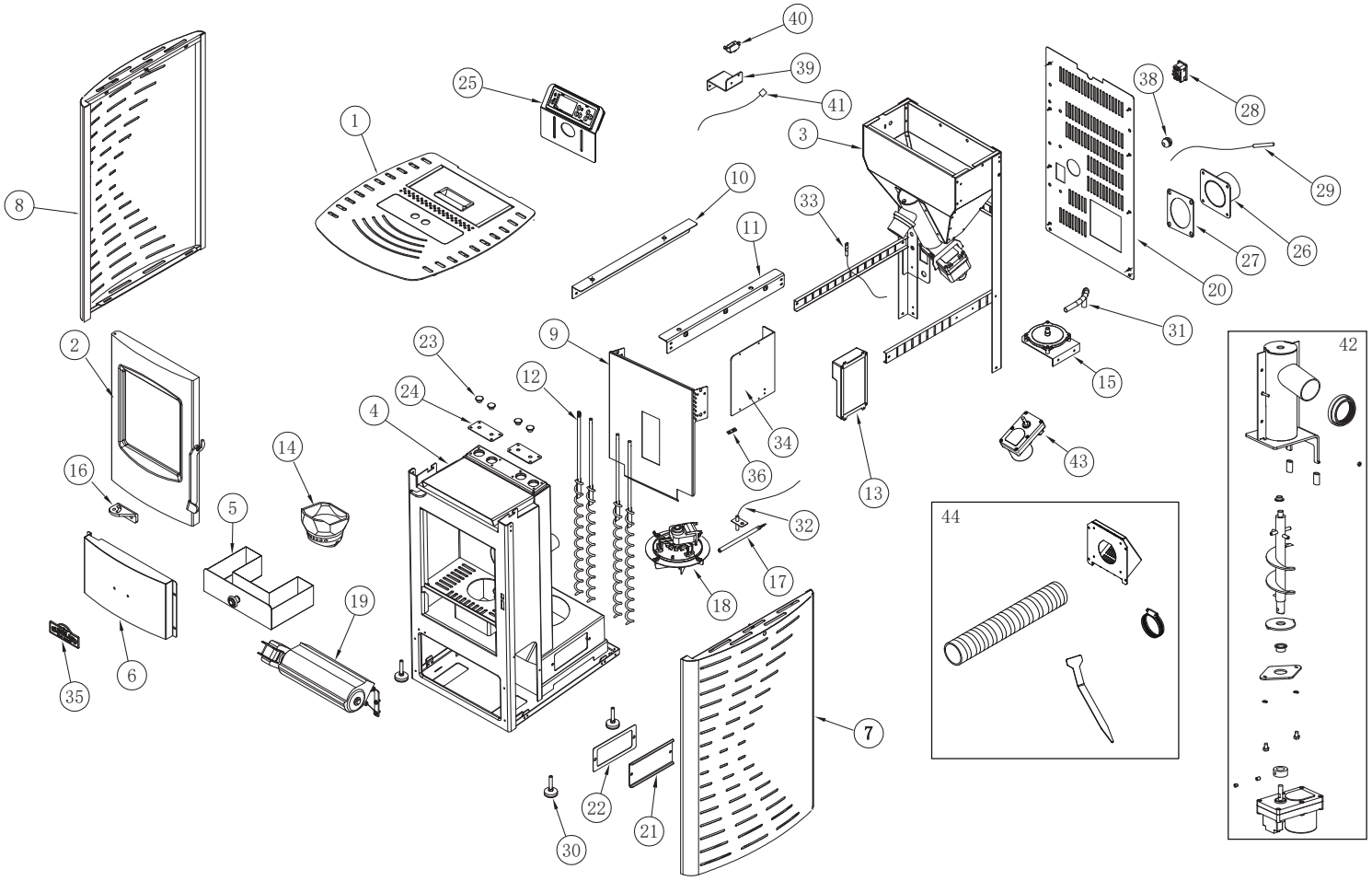
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL H30XL

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Drawer Cover
7	66733	Right Side Panel
8	66734	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66735	Rear Cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Temperature Sensor
33	66613	Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Door Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # H30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY MASTER FORGE LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Master Forge Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

ENERCO GROUP, INC., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

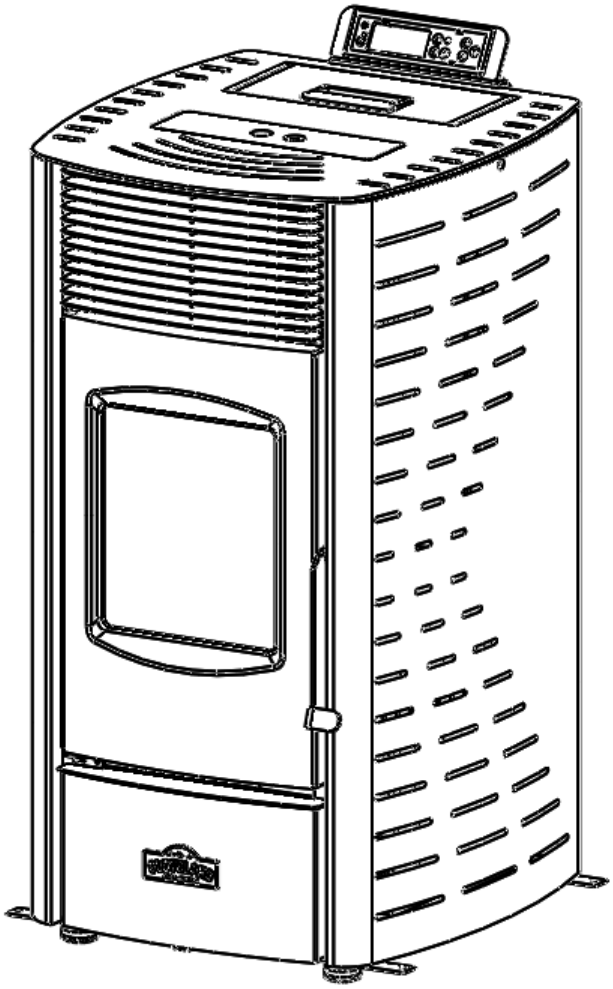
INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # J30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE



J30XL

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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WIFI CONTROLS 16
MULTI FUNCTION CONTROLS 17
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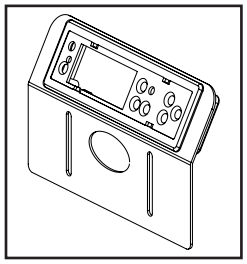
SPECIFICATIONS

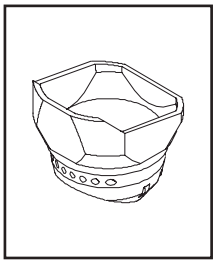
Model #	J30XL
DIMENSIONS	
Stove Weight [LBS (kg)]	147 (67)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 32.75" (46.36 x 50.8 x 83.2)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	30 (13.6)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

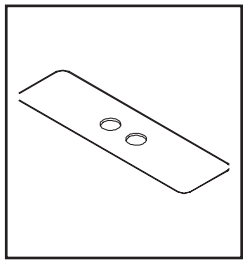
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
J30XL: 23,945 to 10,796 Btu/hr

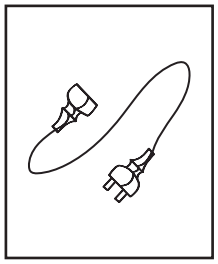
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

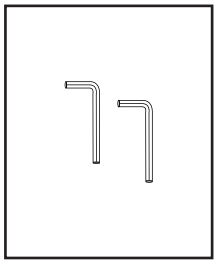
GETTING STARTED

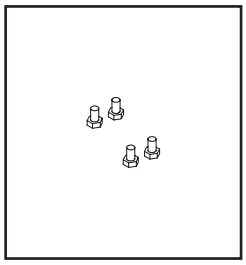

Display Panel

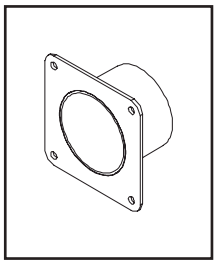

Firepot

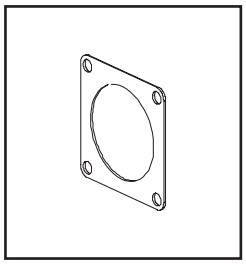

Cover

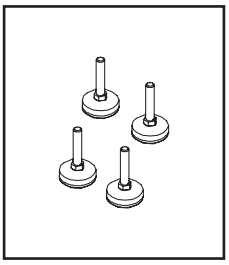

Main Power Cord


Allen Wrenches (x2)

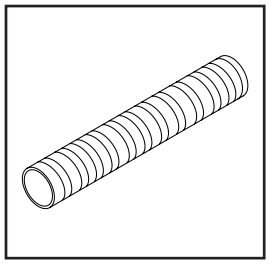

Screws (x4)

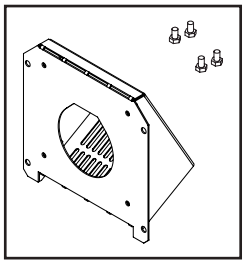

Exhaust Connector

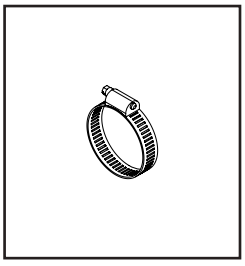

Exhaust Connector Silicon Pad

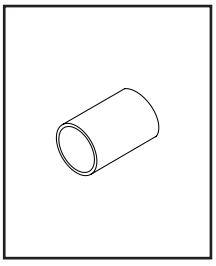

Stove Feet

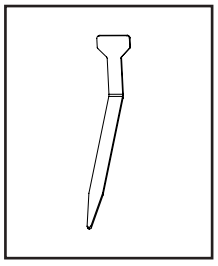
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

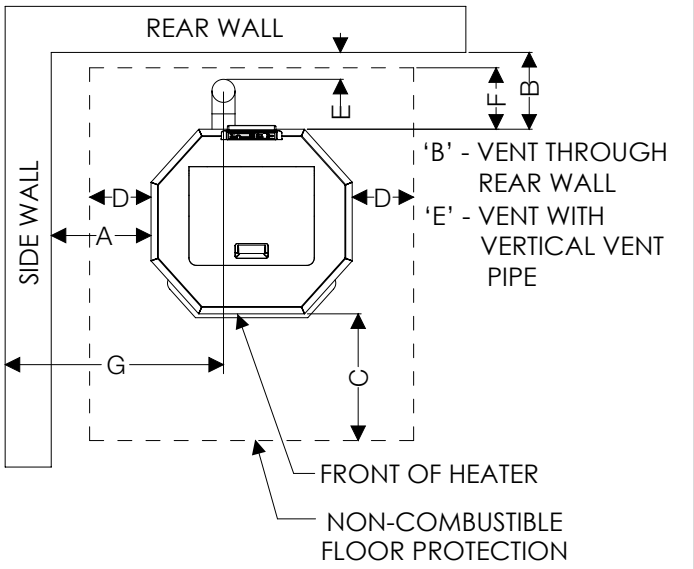


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

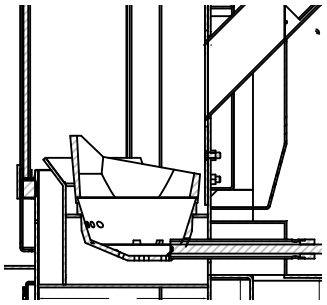


Figure 2: Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

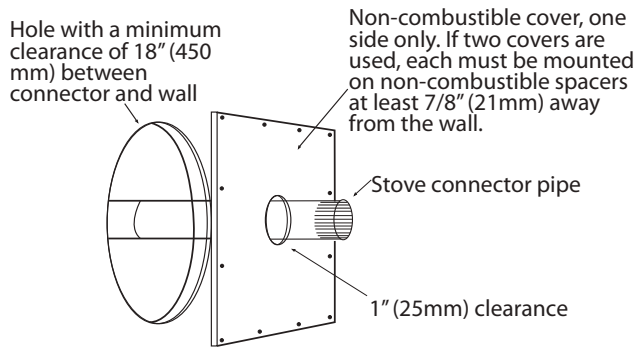


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

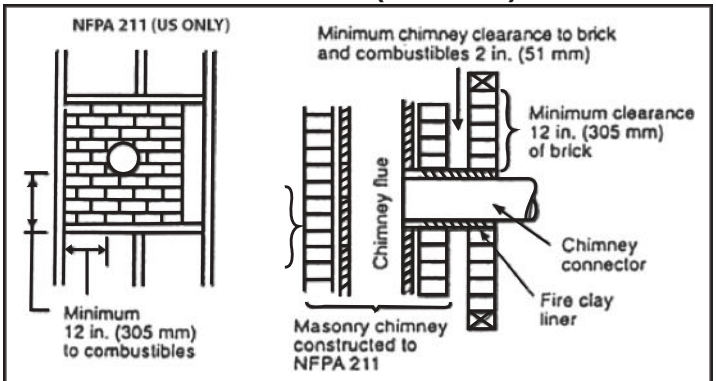


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

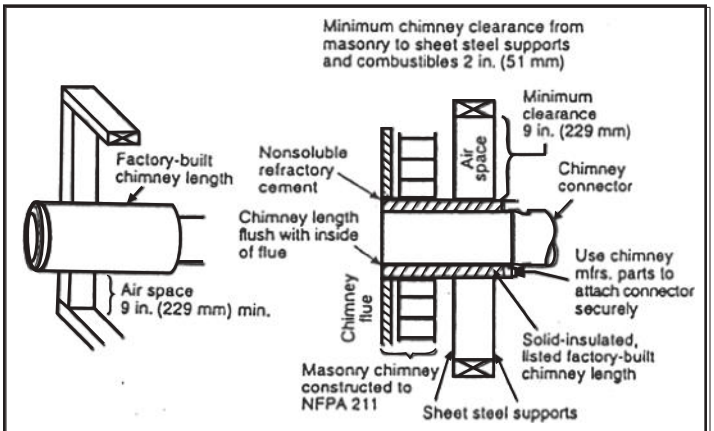


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

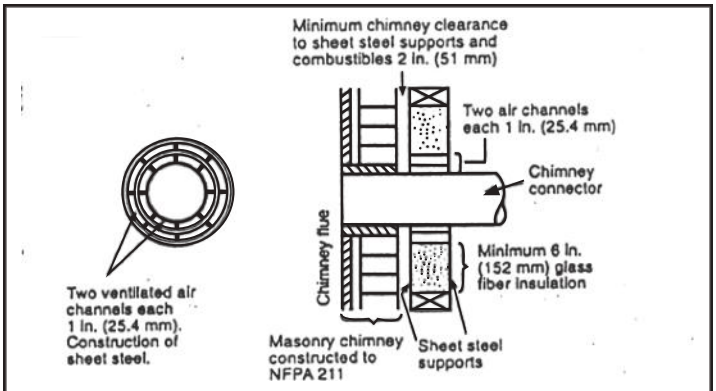


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

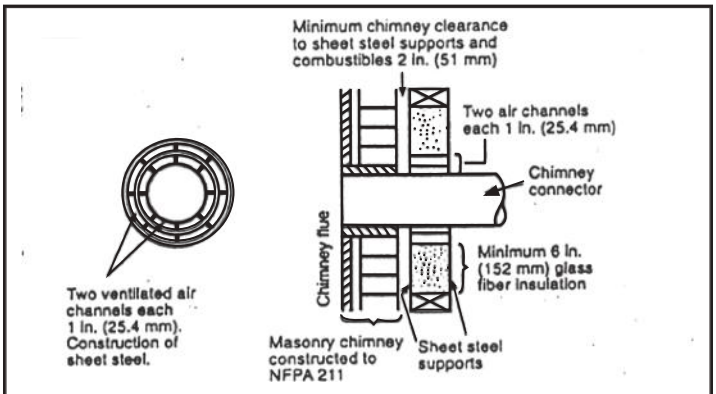


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

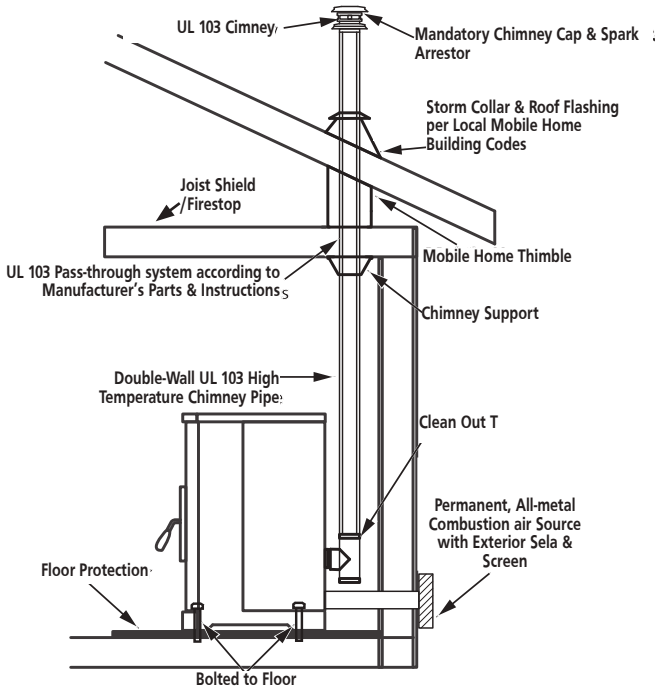


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

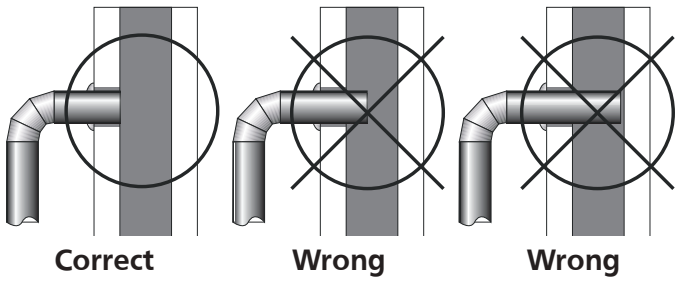


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

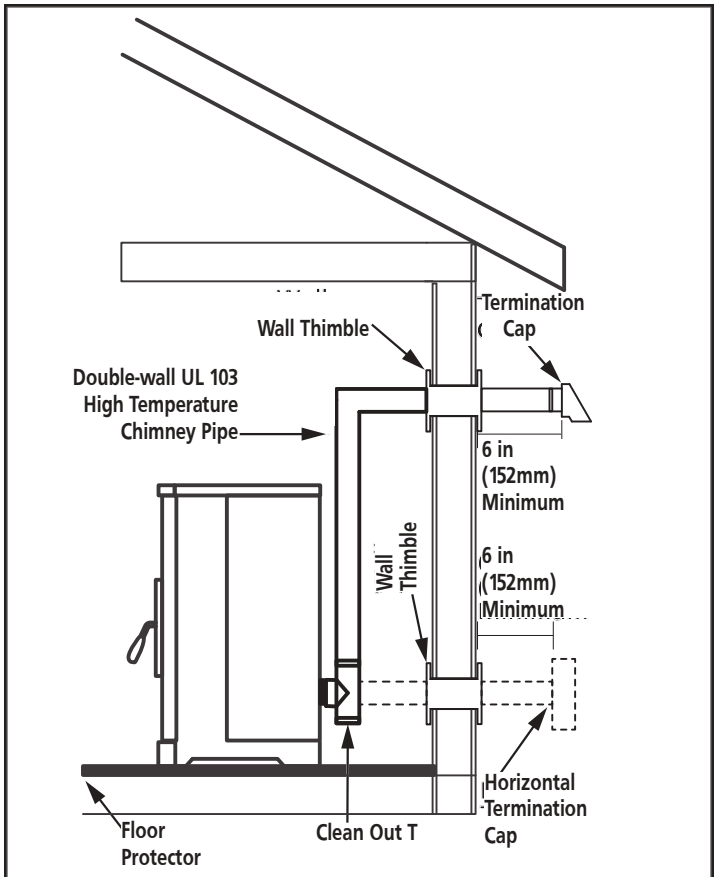


Figure 12 Manufactured Chimney through Wall

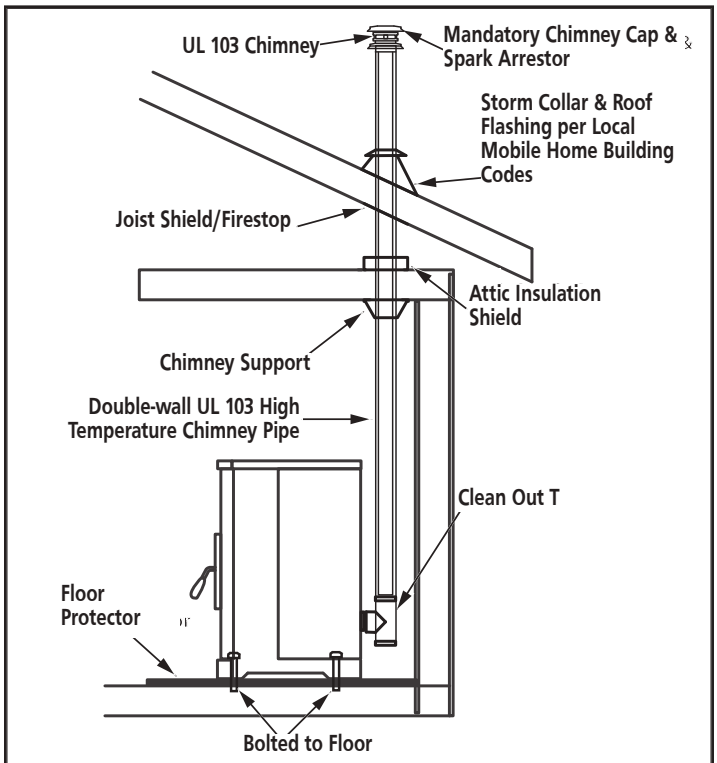


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

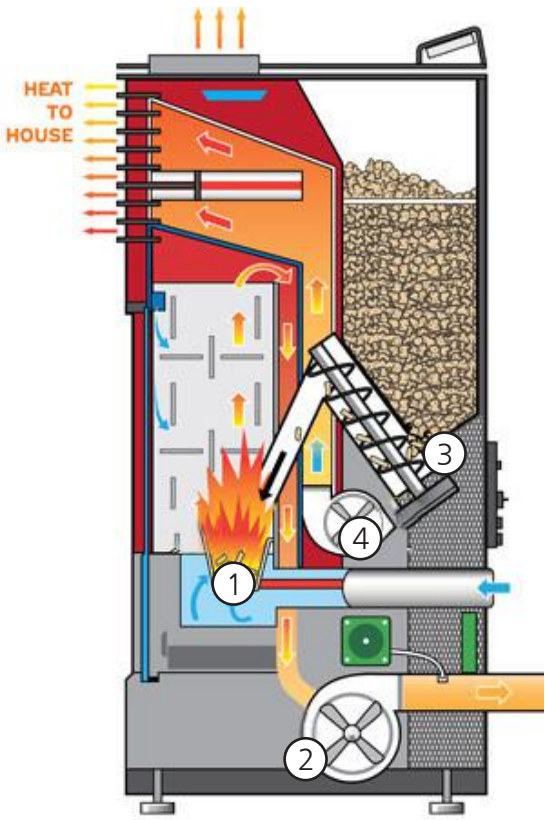


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or fly ash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

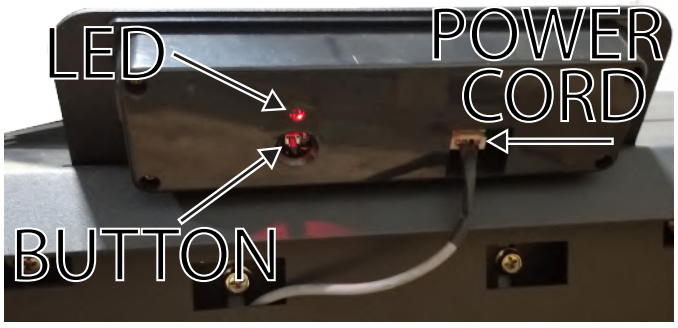


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

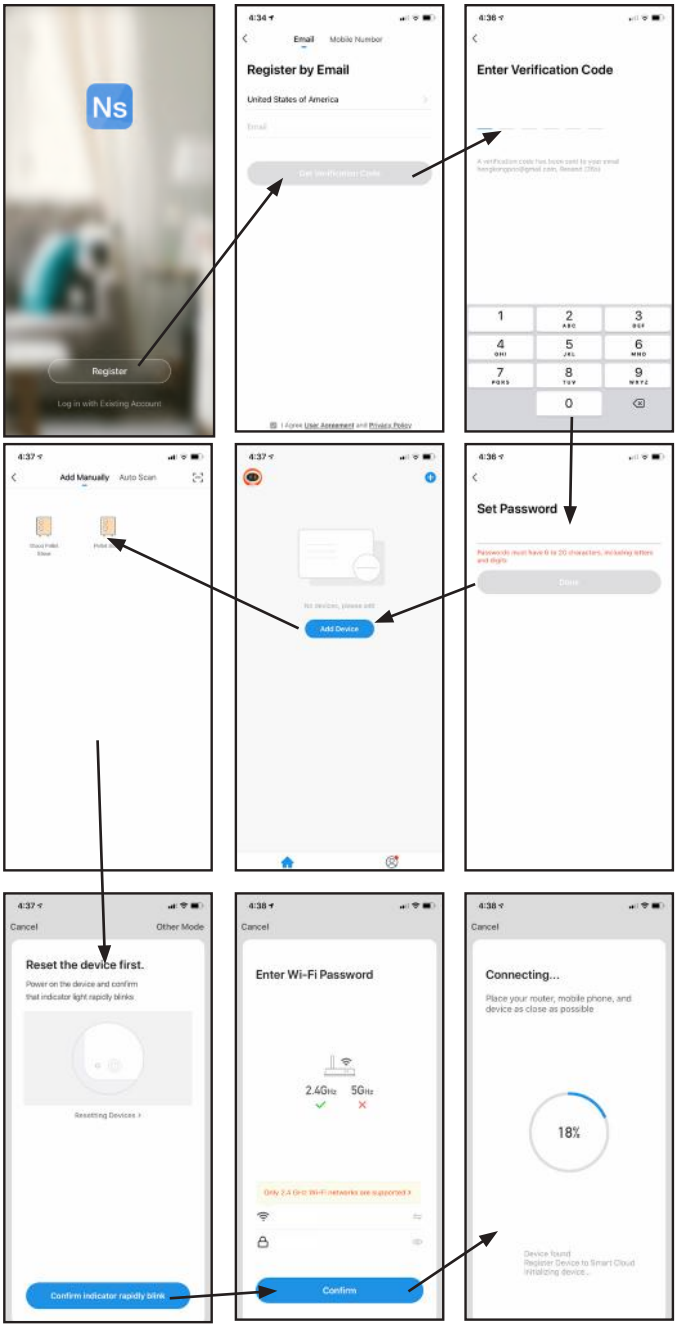
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



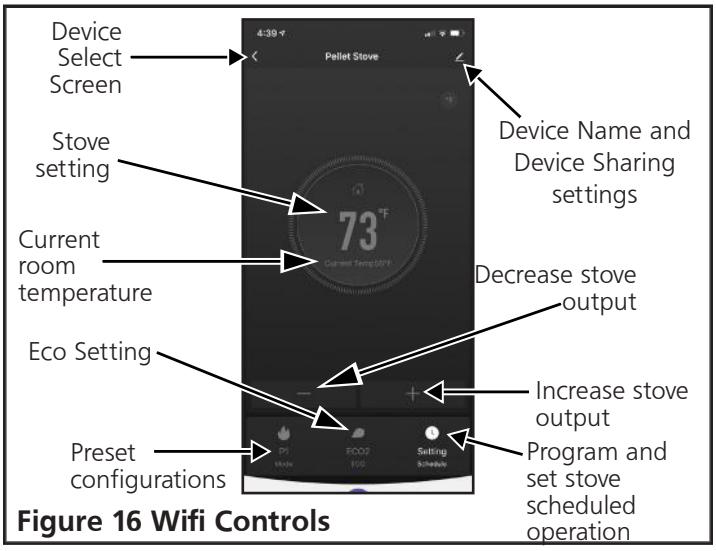


Figure 16 Wifi Controls

J30XL MULTI FUNCTION CONTROLS

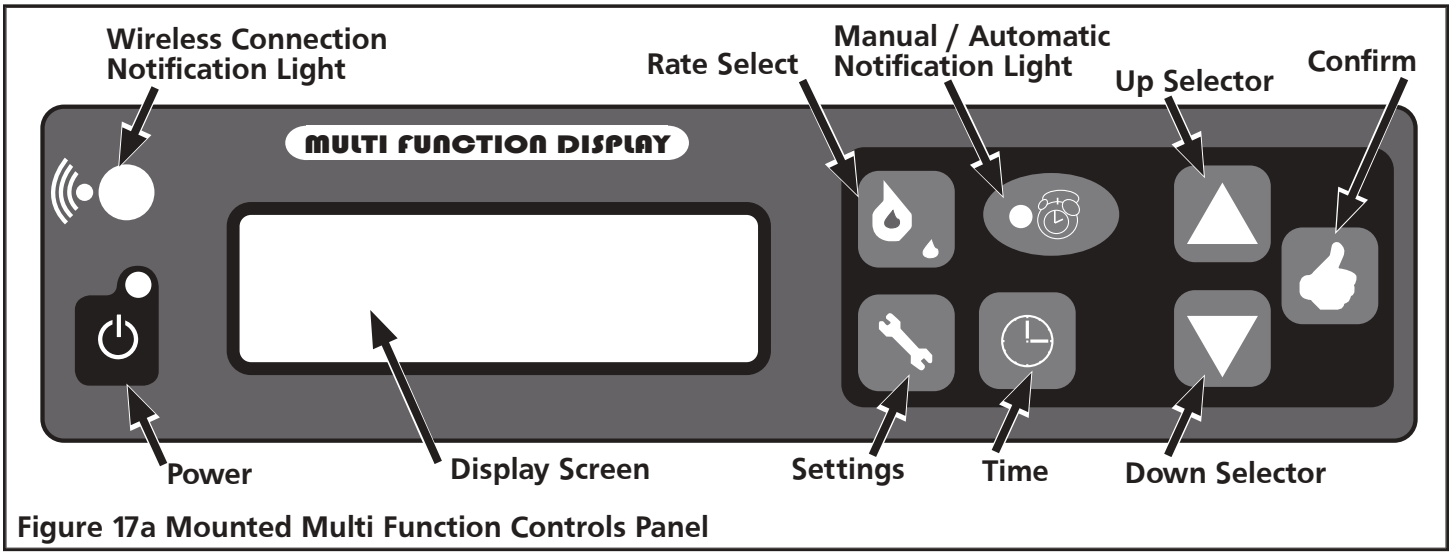


Figure 17a Mounted Multi Function Controls Panel

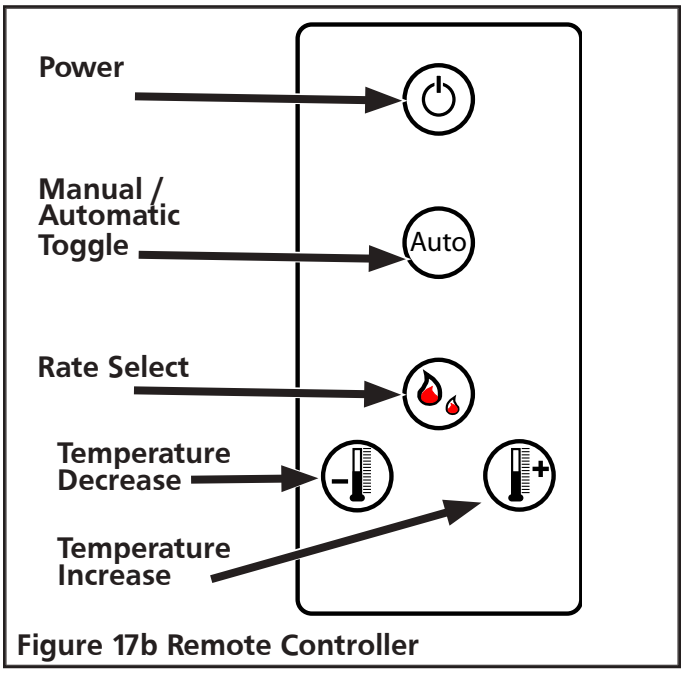


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

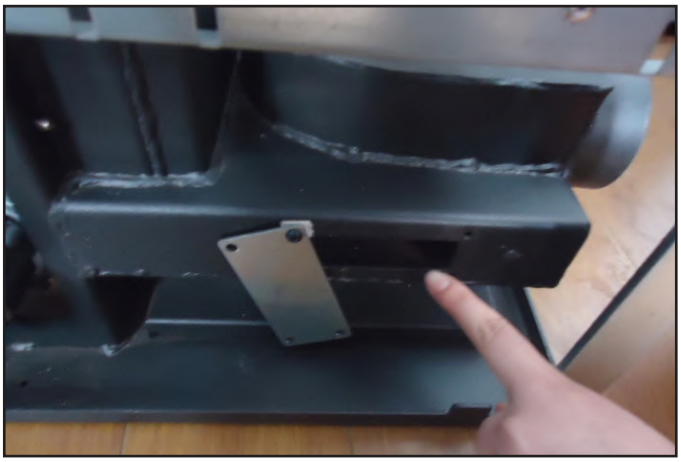


Figure 18 Inlet Duct

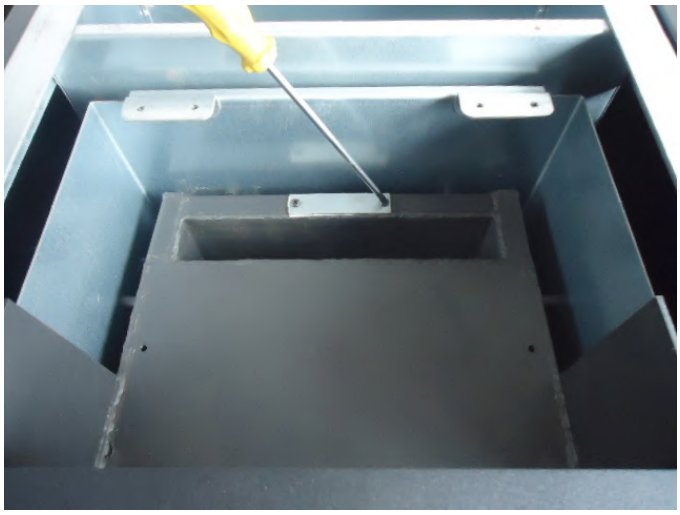


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

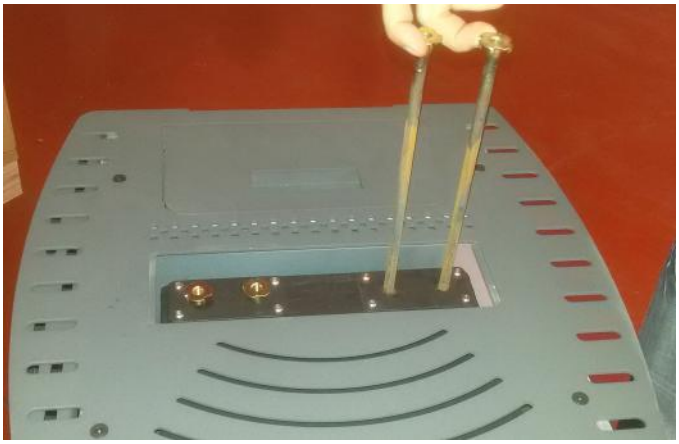


Figure 20 Pipe Cleaners

FLY ASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of fly ash. The fly ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

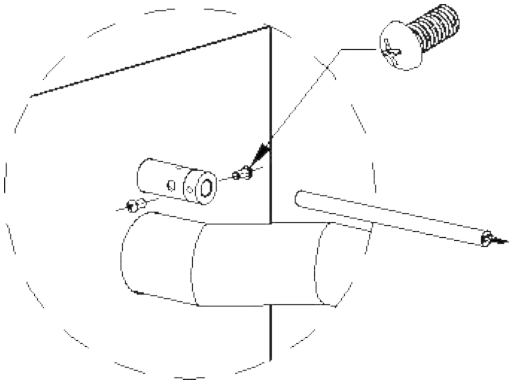


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

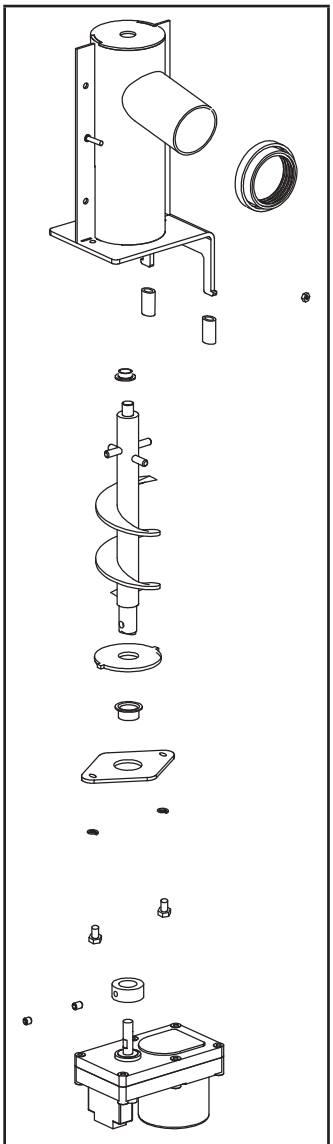


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

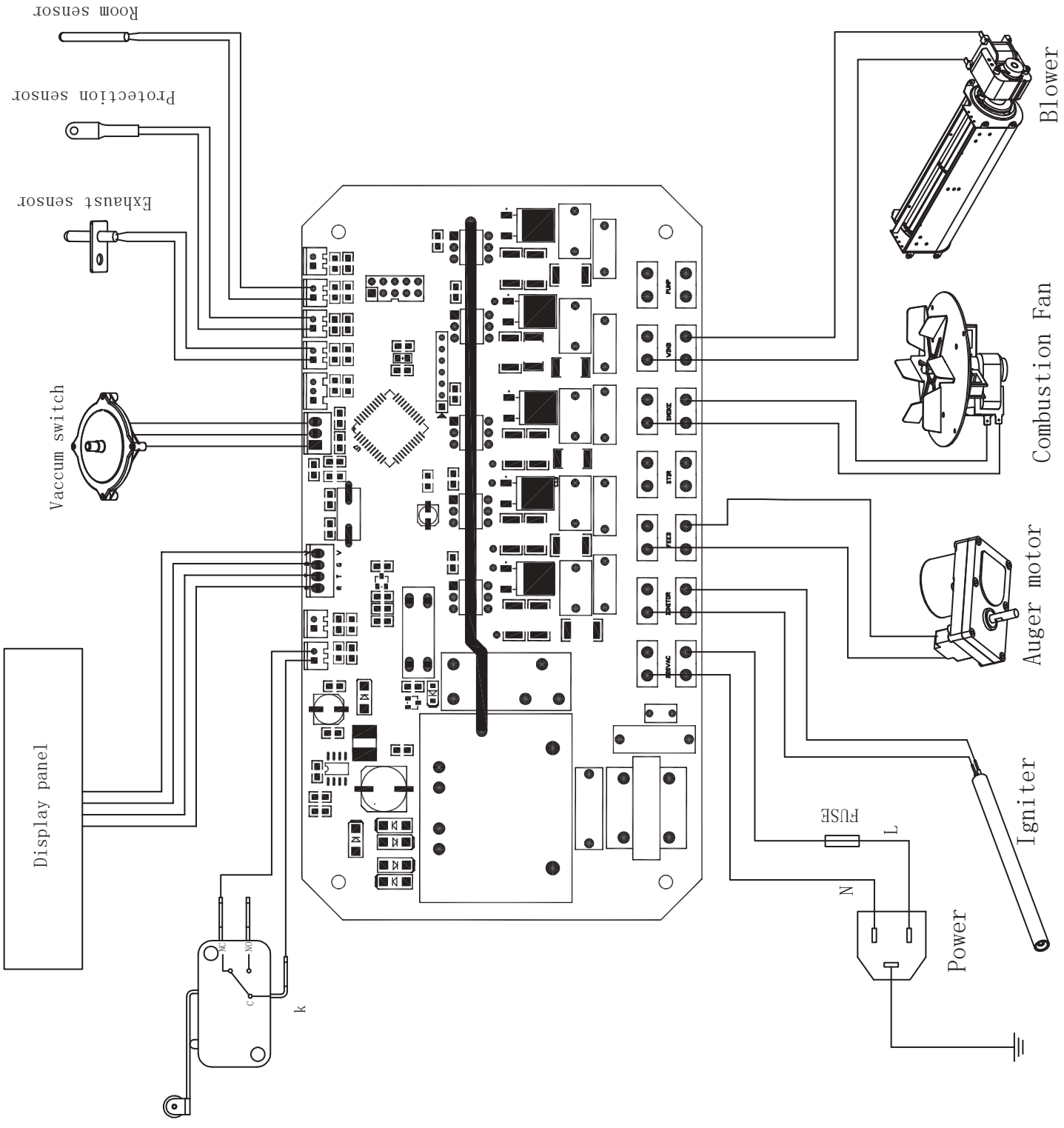
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

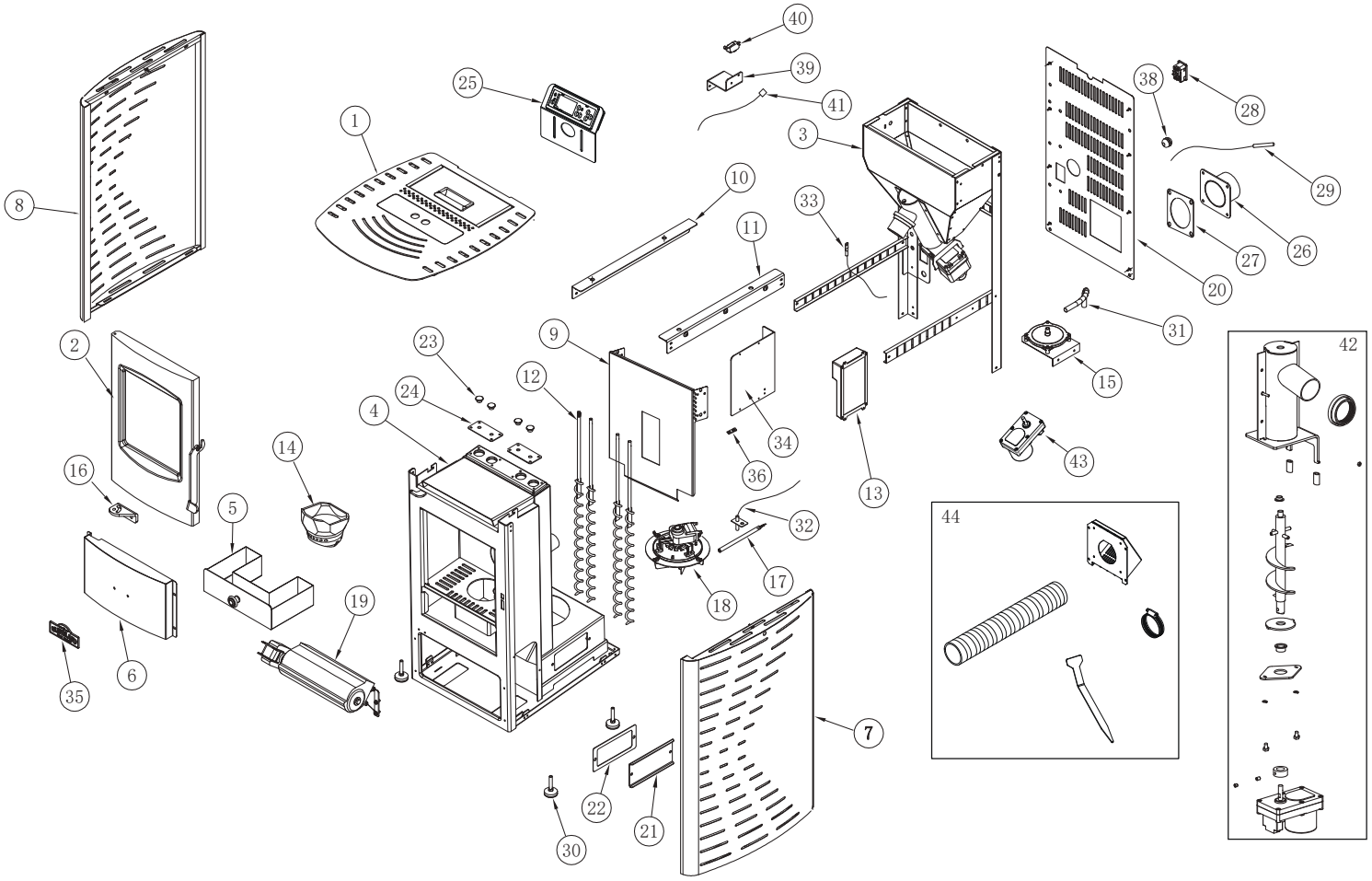
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL J30XL

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Drawer Cover
7	66733	Right Side Panel
8	66734	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66735	Rear Cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Temperature Sensor
33	66613	Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Door Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model #
J30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

ENERCO GROUP, INC., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

US Patent Pending

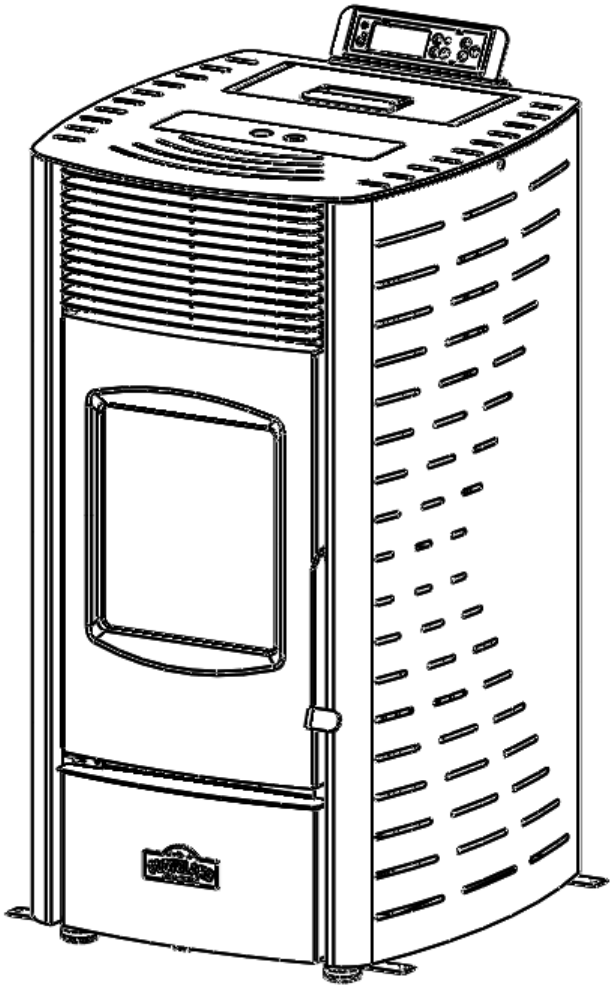
INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # N30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE



N30XL

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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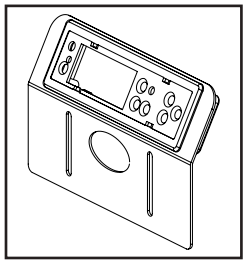
SPECIFICATIONS

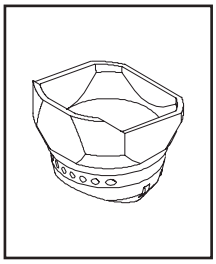
Model #	N30XL
DIMENSIONS	
Stove Weight [LBS (kg)]	147 (67)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 32.75" (46.36 x 50.8 x 83.2)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	30 (13.6)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

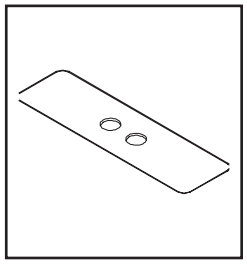
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
N30XL: 23,945 to 10,796 Btu/hr

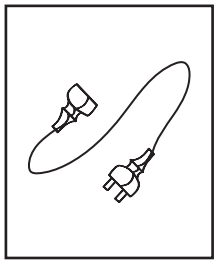
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

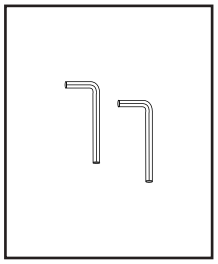
GETTING STARTED

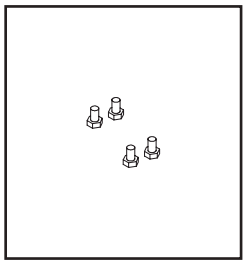

Display Panel

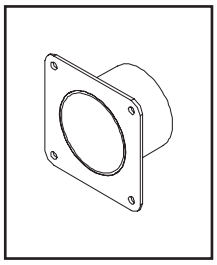

Firepot

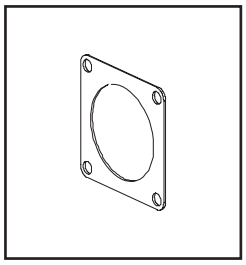

Cover

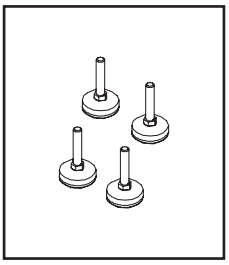

Main Power Cord


Allen Wrenches (x2)

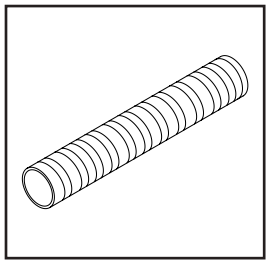

Screws (x4)

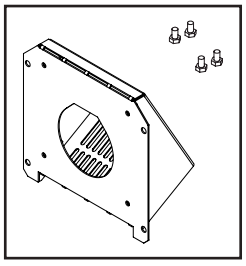

Exhaust Connector

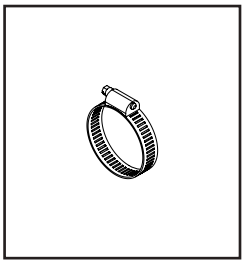

Exhaust Connector Silicon Pad

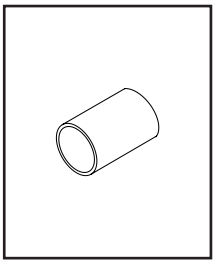

Stove Feet

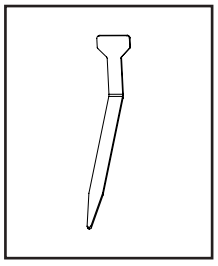
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

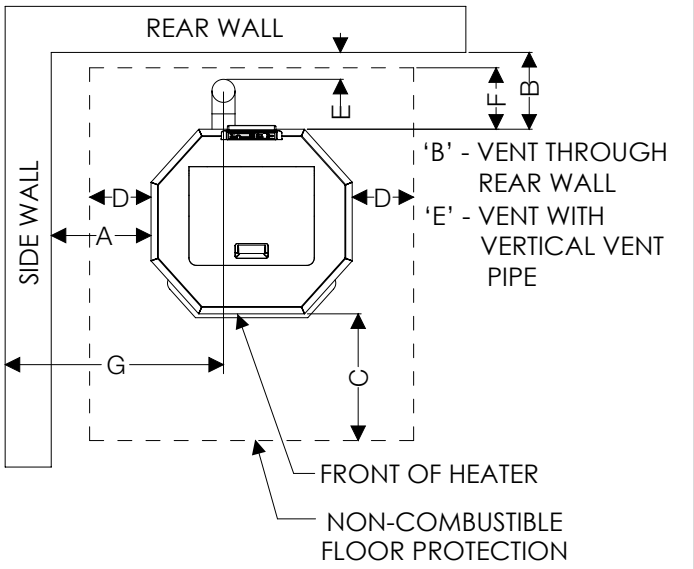


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

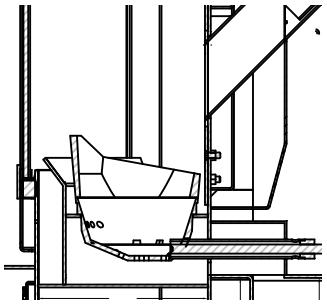


Figure 2: Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

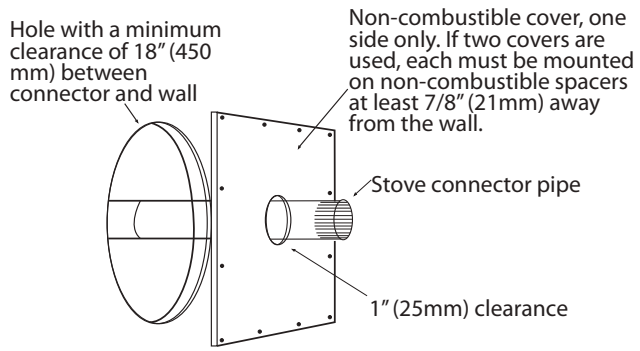


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

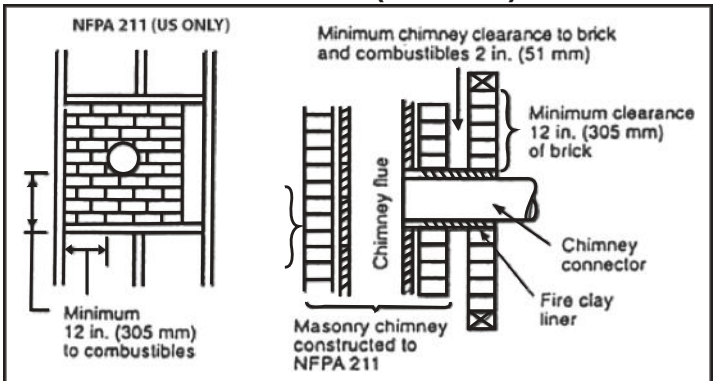


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

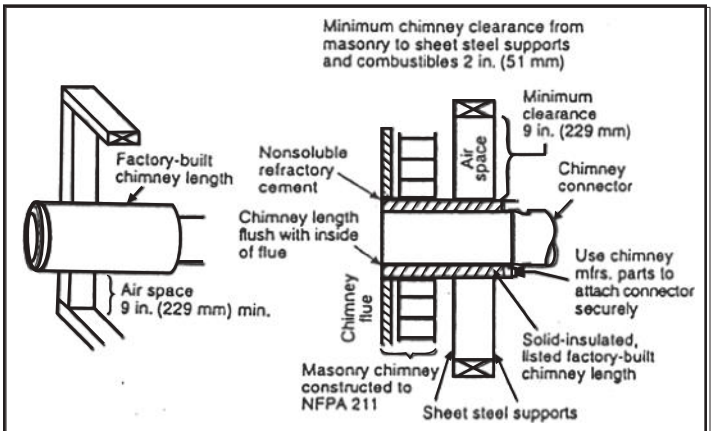


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

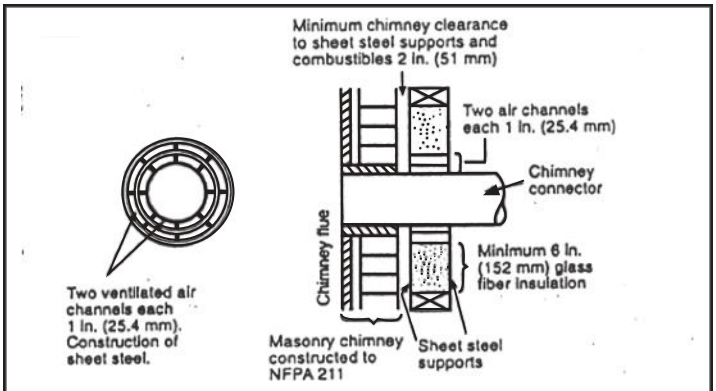


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

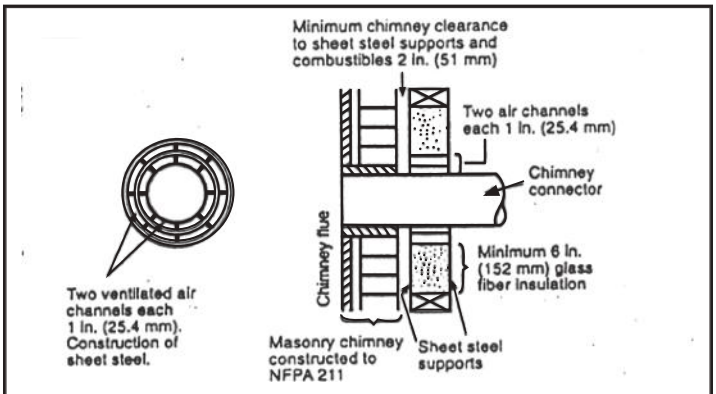


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

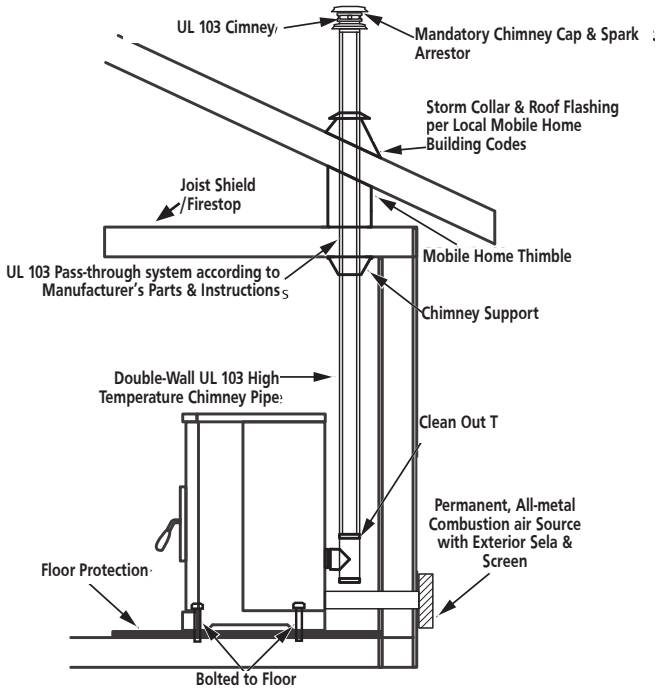


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

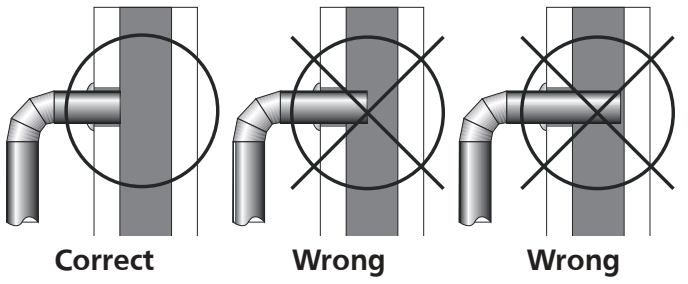


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

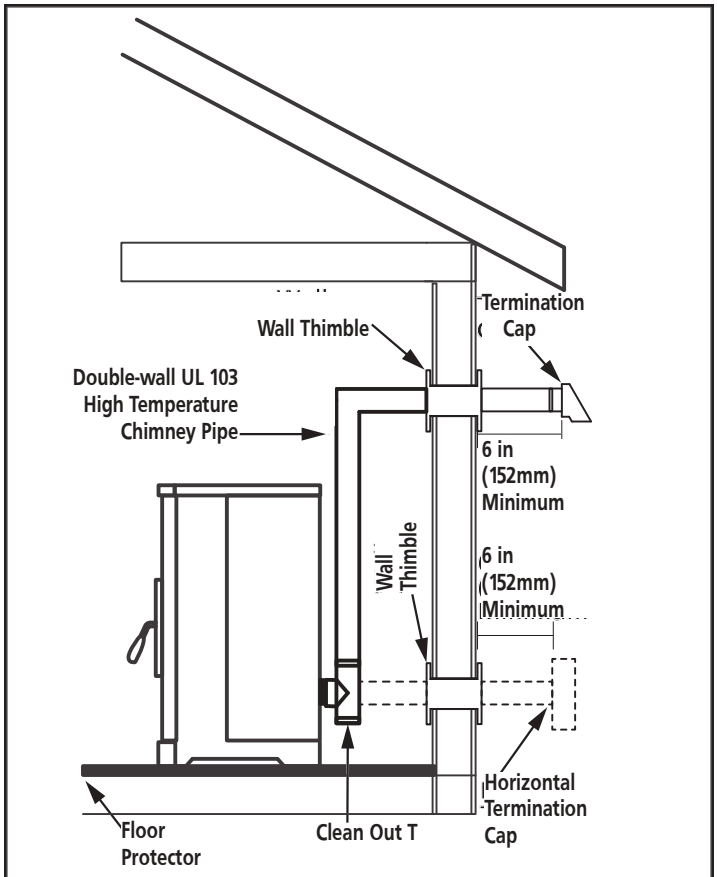


Figure 12 Manufactured Chimney through Wall

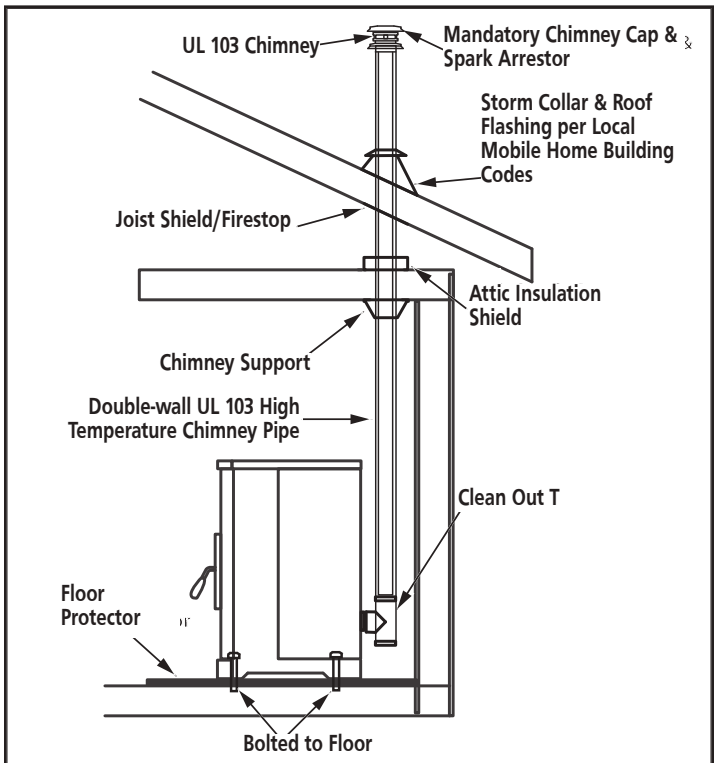


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

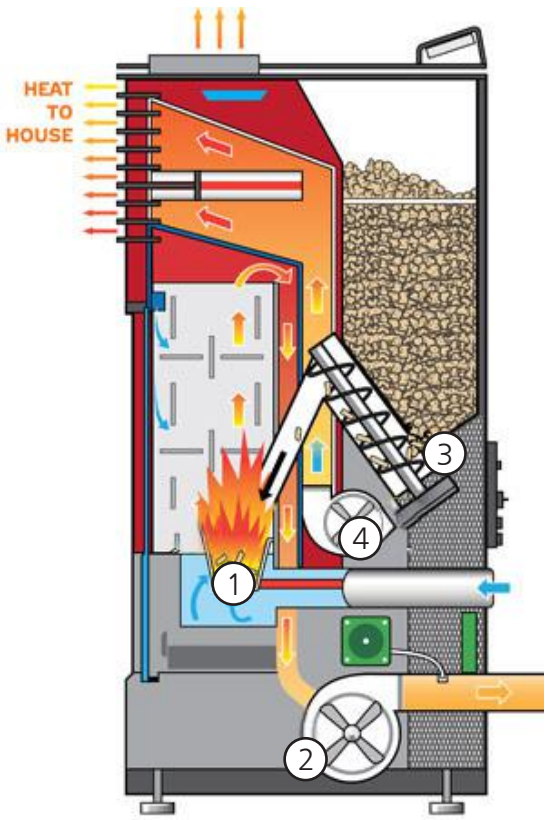


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or fly ash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

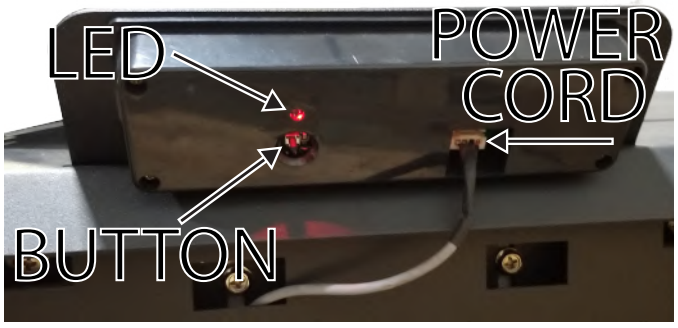


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

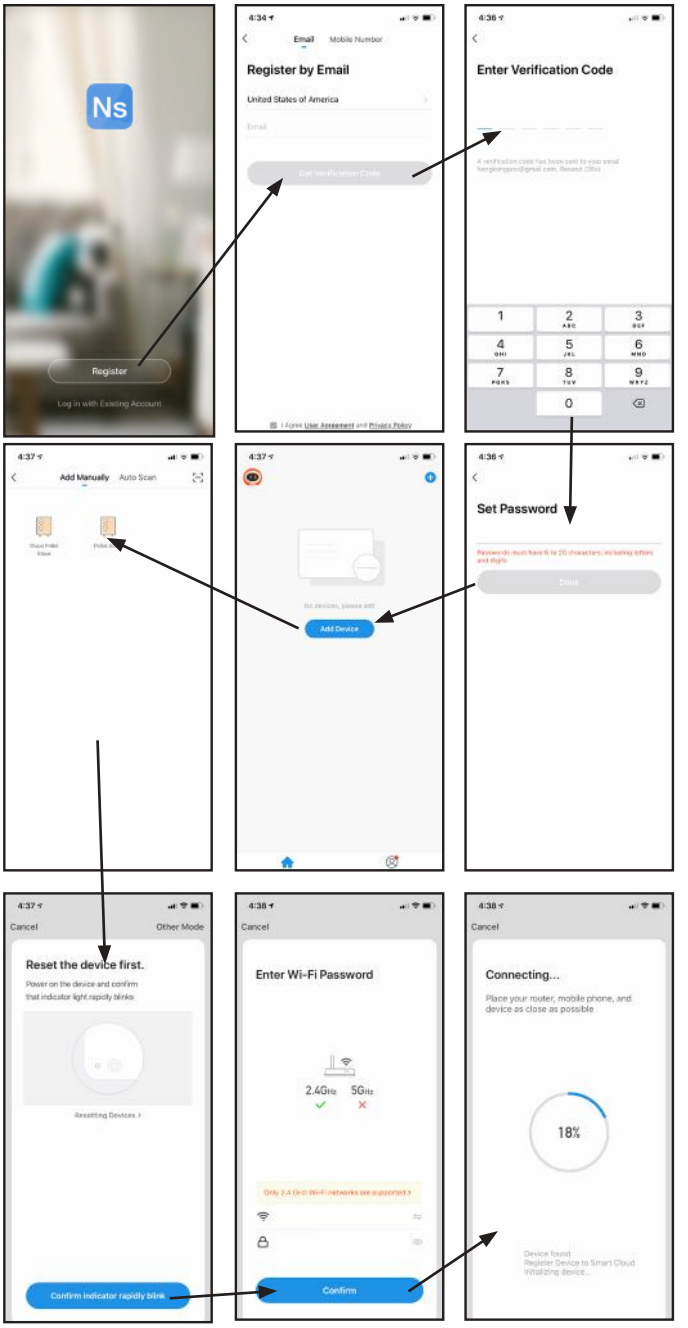
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



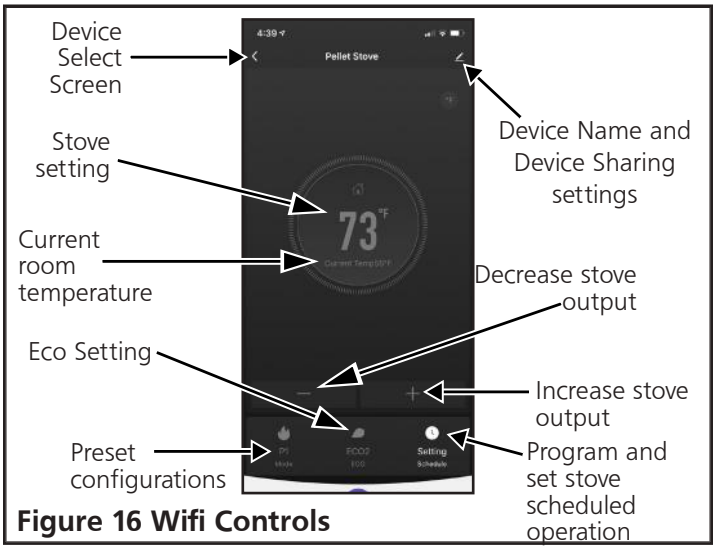


Figure 16 Wifi Controls

N30XL MULTI FUNCTION CONTROLS

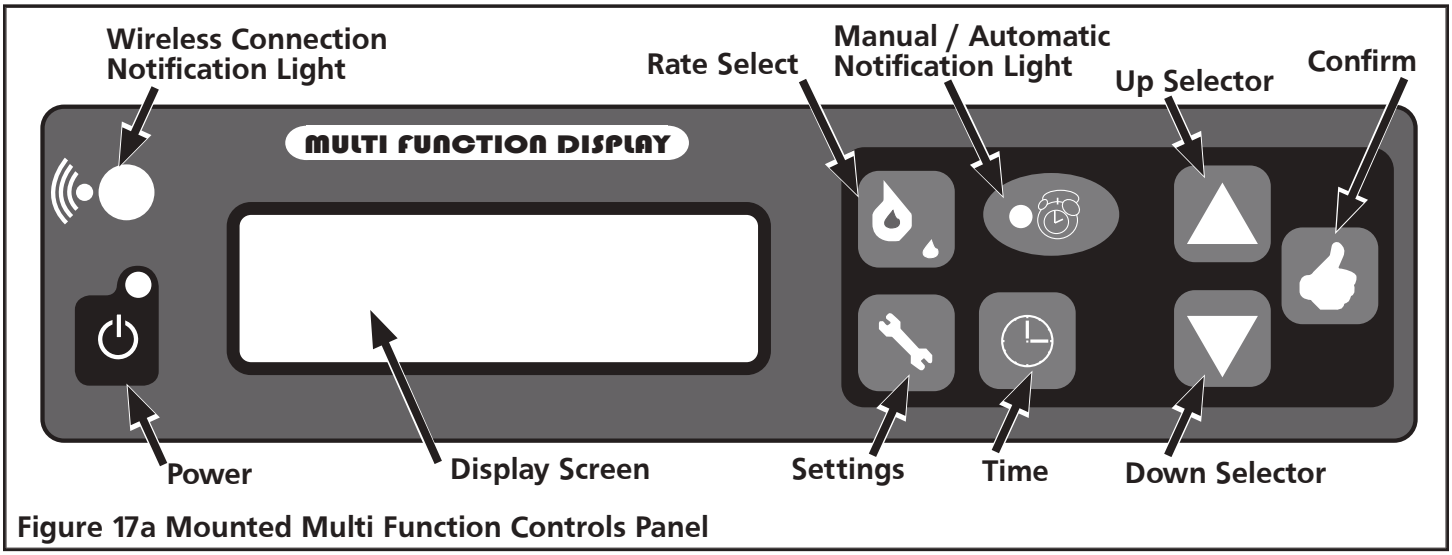


Figure 17a Mounted Multi Function Controls Panel

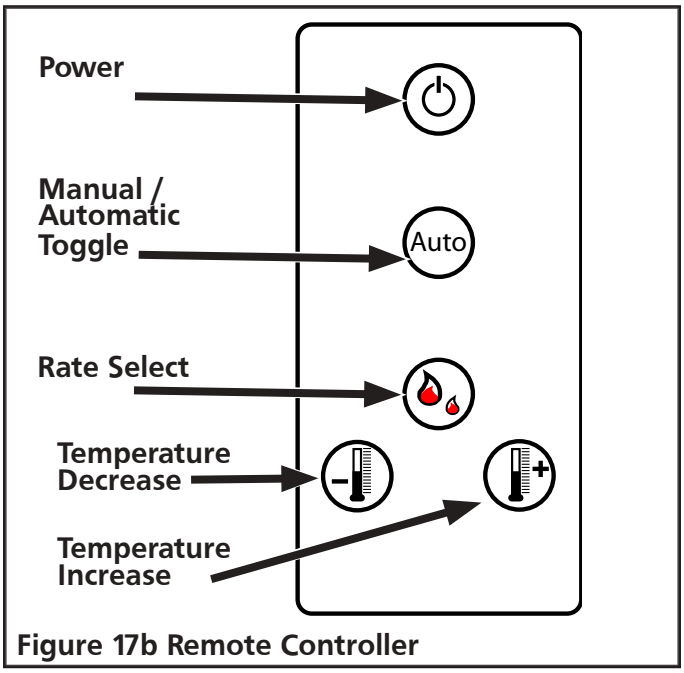


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

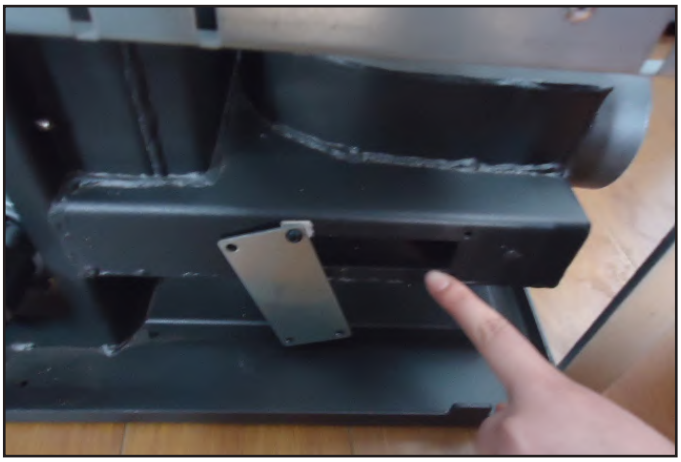


Figure 18 Inlet Duct

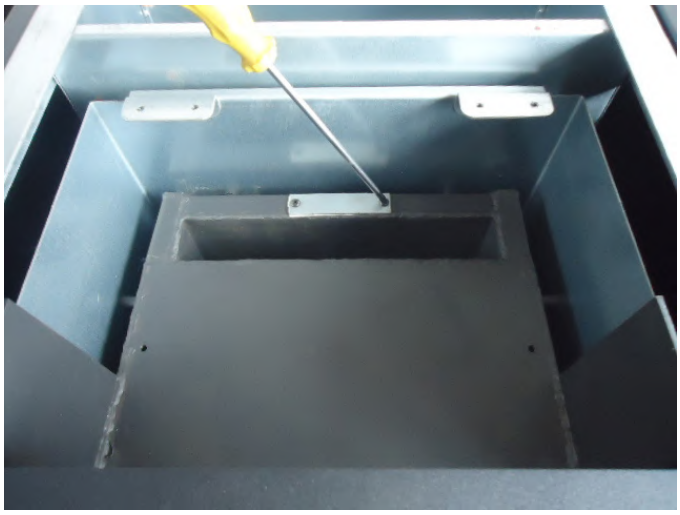


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

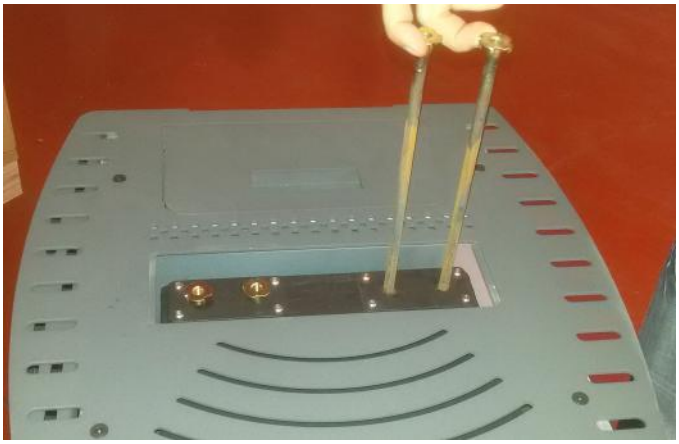


Figure 20 Pipe Cleaners

FLY ASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of fly ash. The fly ash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

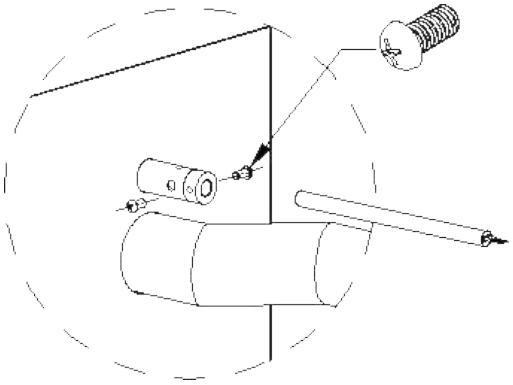


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

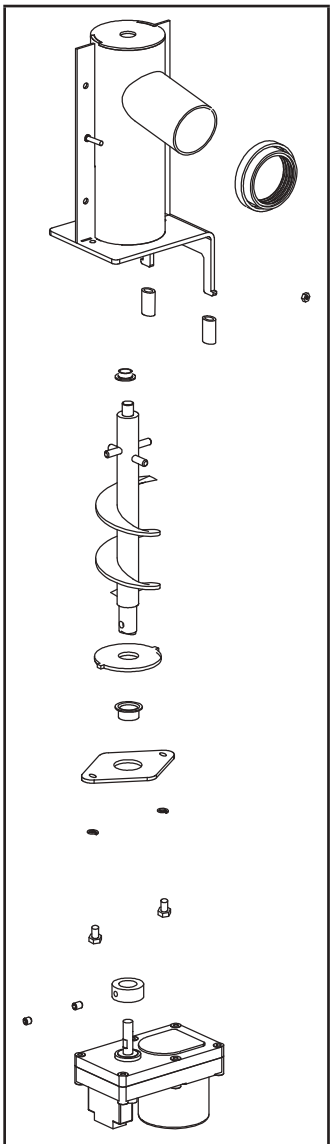


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

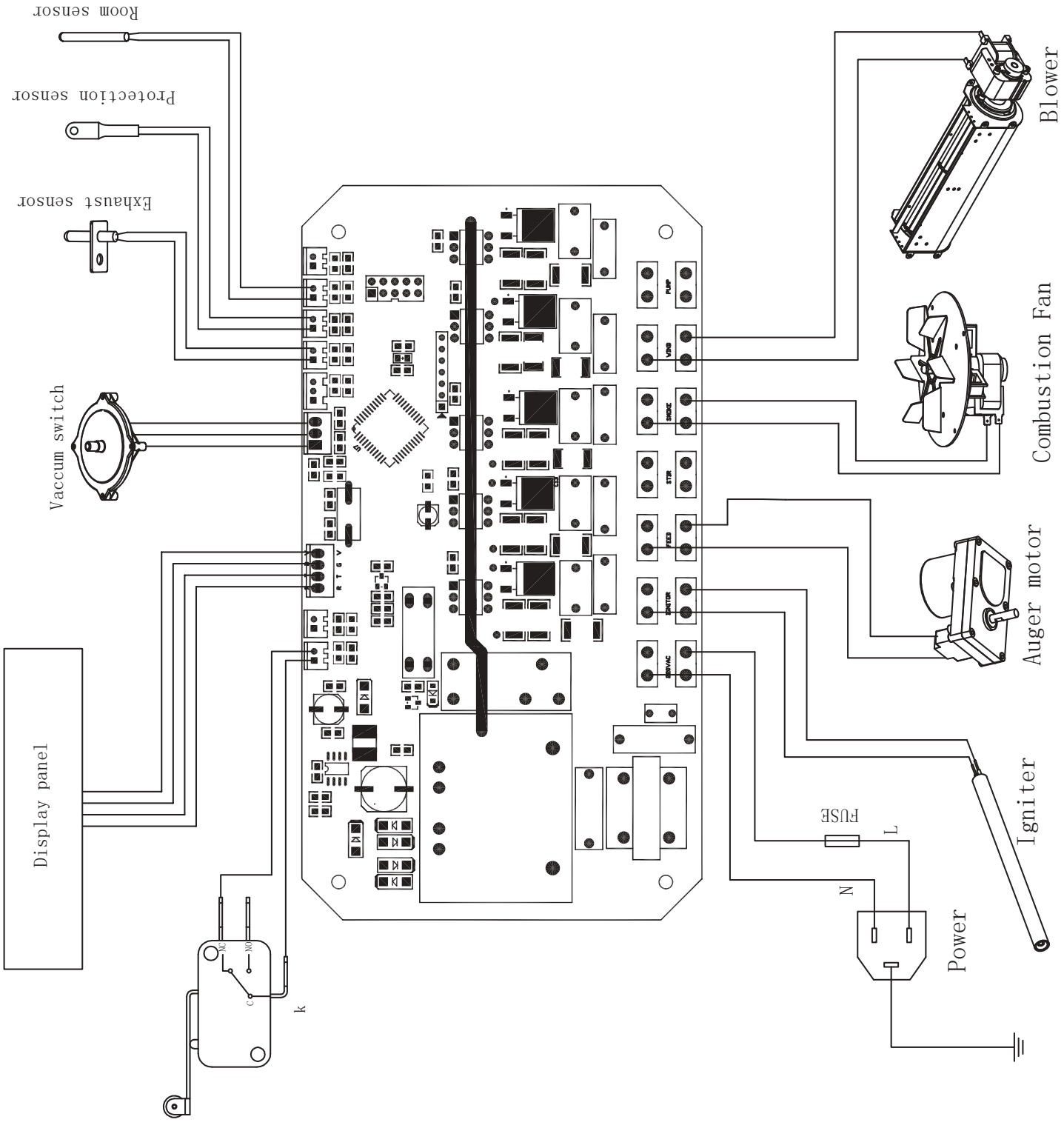
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

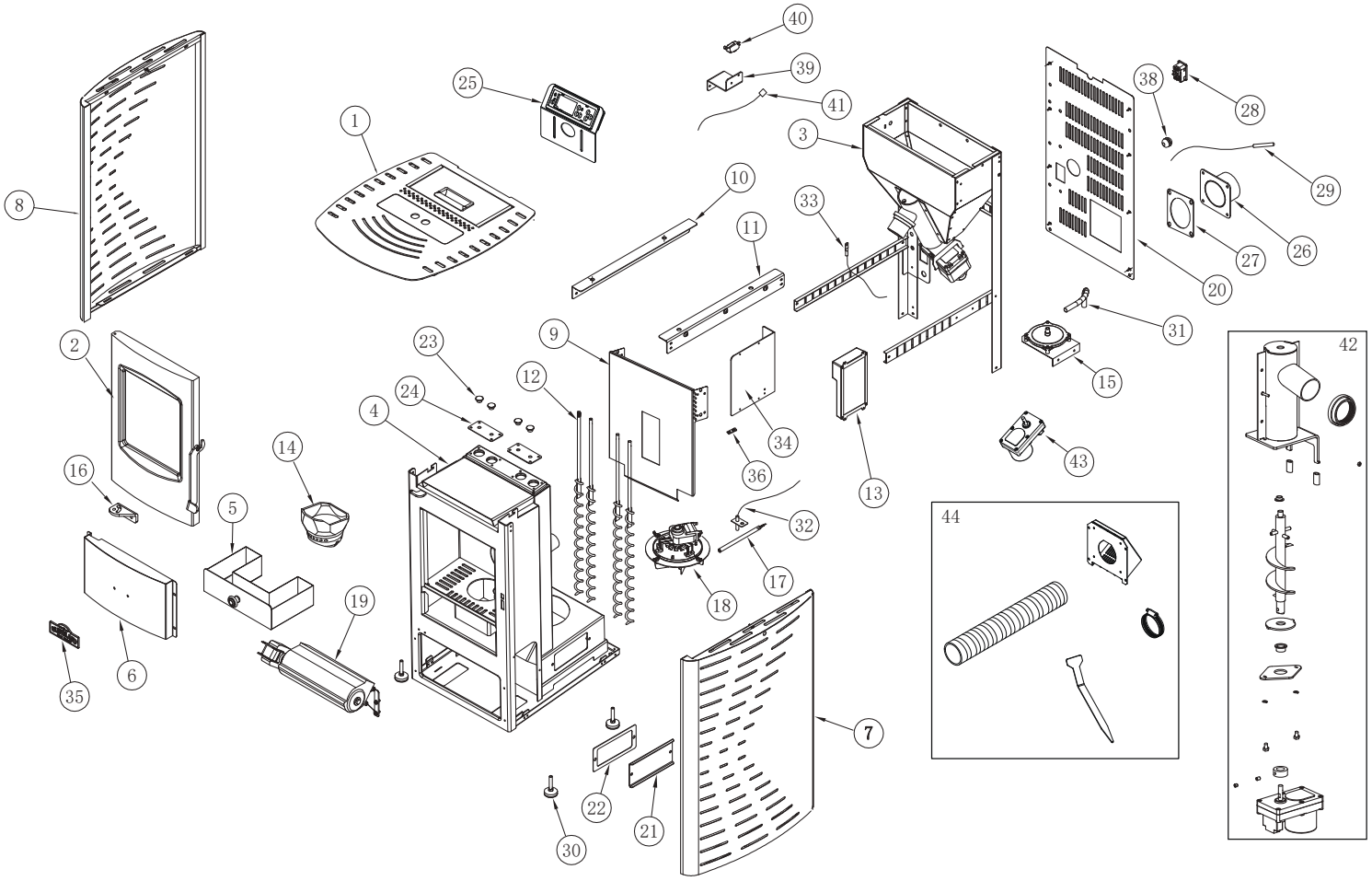
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL N30XL

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Drawer Cover
7	66733	Right Side Panel
8	66734	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66735	Rear Cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Temperature Sensor
33	66613	Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Door Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model #
N30XL

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

ENERCO GROUP, INC., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # H20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

H20W

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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FCC INFORMATION

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

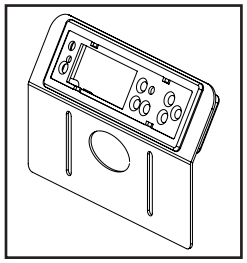
SPECIFICATIONS

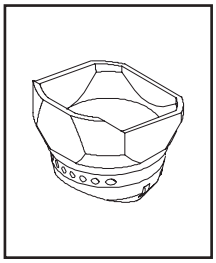
Model #	H20W
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

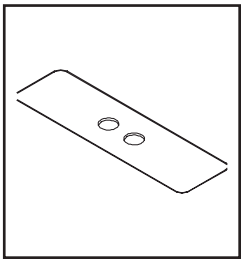
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
H20W: 23,945 to 10,796 Btu/hr

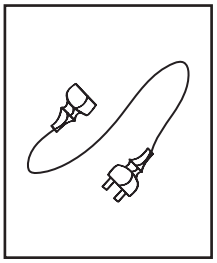
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

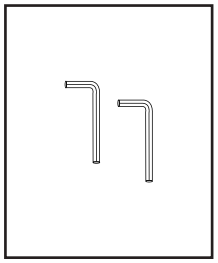
GETTING STARTED

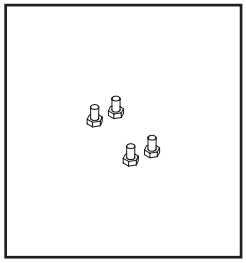

Display Panel

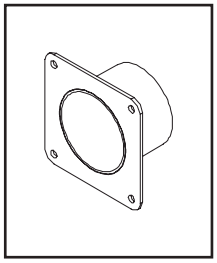

Firepot

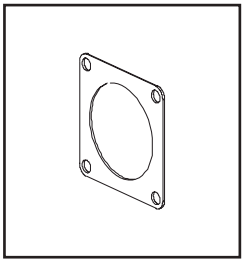

Cover

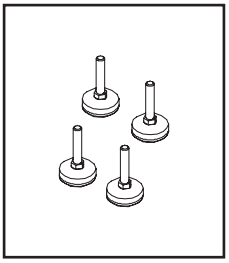

Main Power Cord


Allen Wrenches (x2)

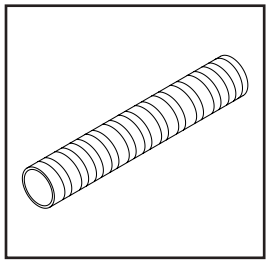

Screws (x4)

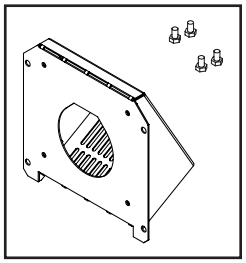

Exhaust Connector

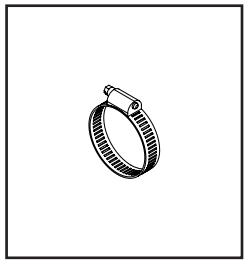

Exhaust Connector Silicon Pad

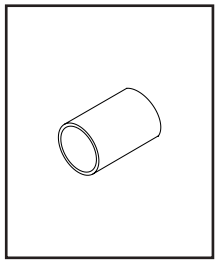

Stove Feet

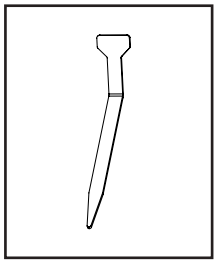
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

BATTERY INFORMATION FOR REMOTE

The remote that is shipped with your stove comes with one (1) 3V CR2025 Lithium Battery installed.

IMPORTANT:

- Non-rechargeable batteries are not to be recharged.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the remote.
- Caution for ingestion.

⚠ WARNING: DO NOT DISPOSE OF BATTERIES IN FIRE. BATTERIES MAY EXPLODE OR LEAK.

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

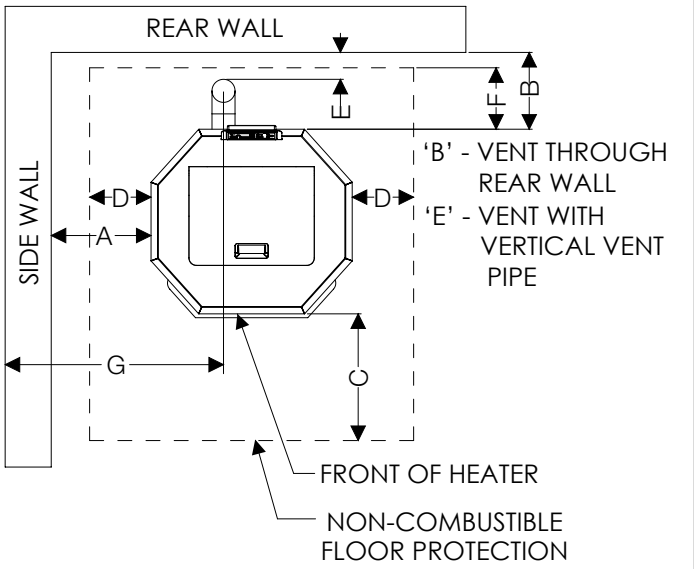


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

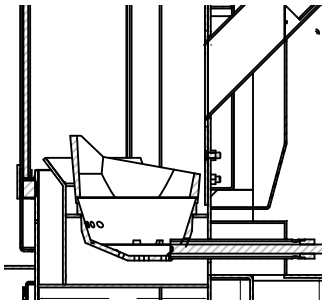


Figure 2: H20W Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: H20W Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

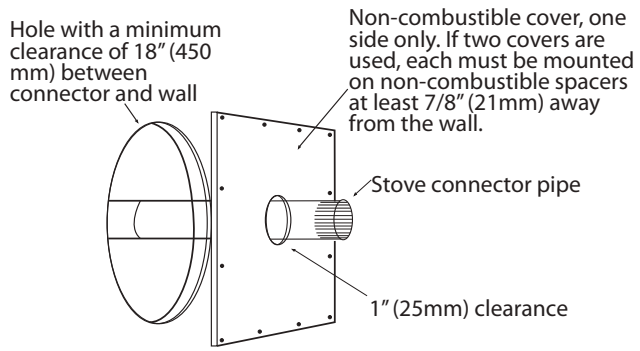


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

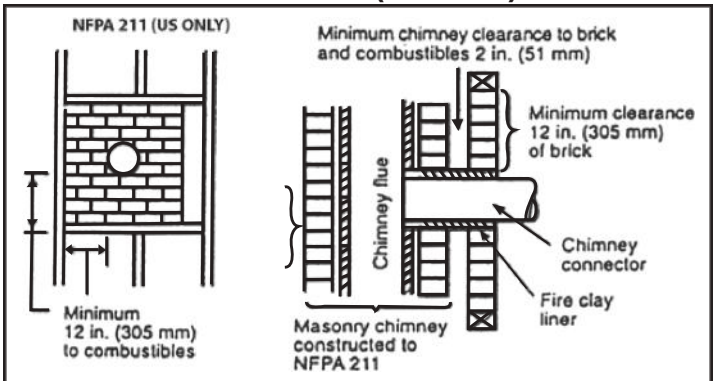


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

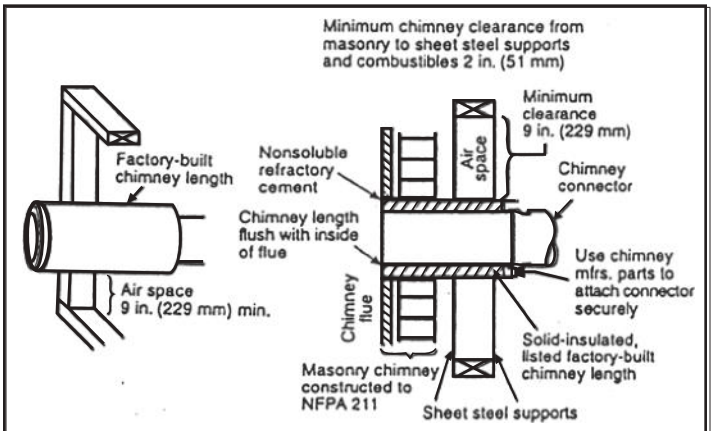


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

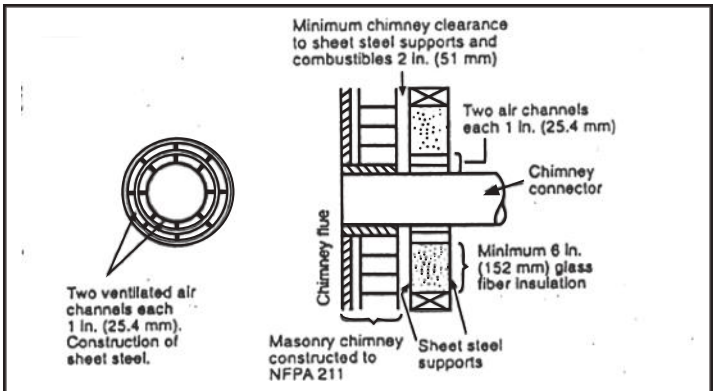


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

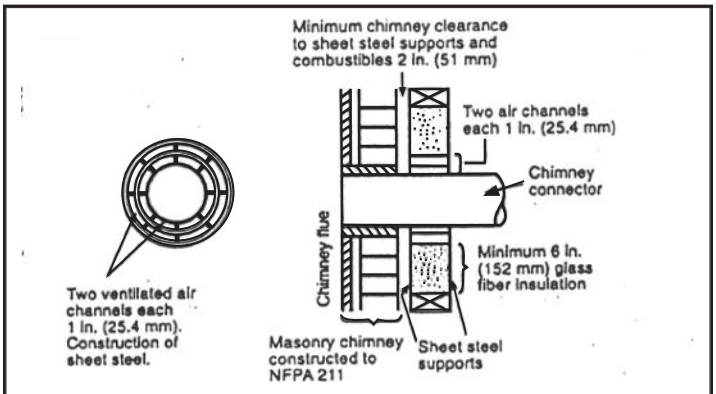


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

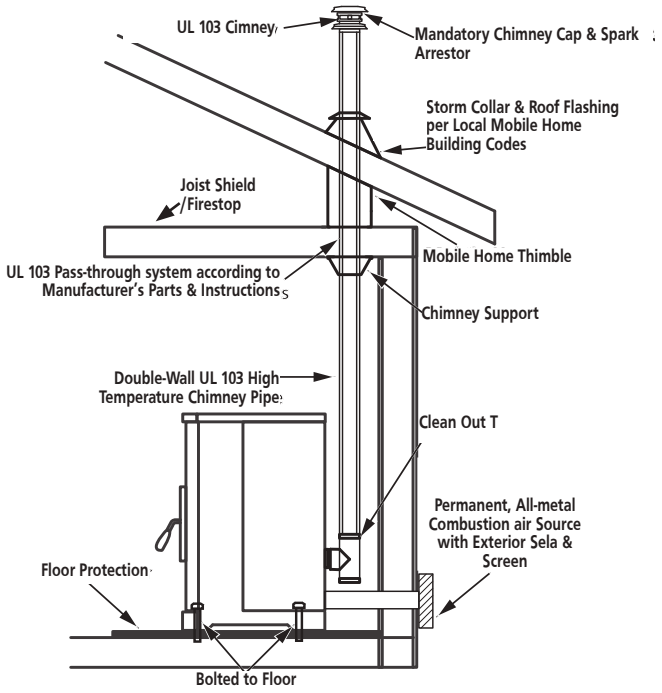


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

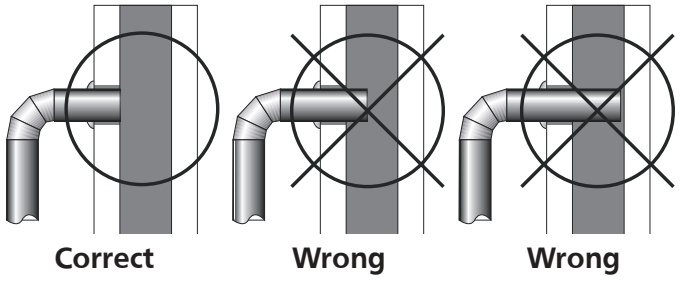


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

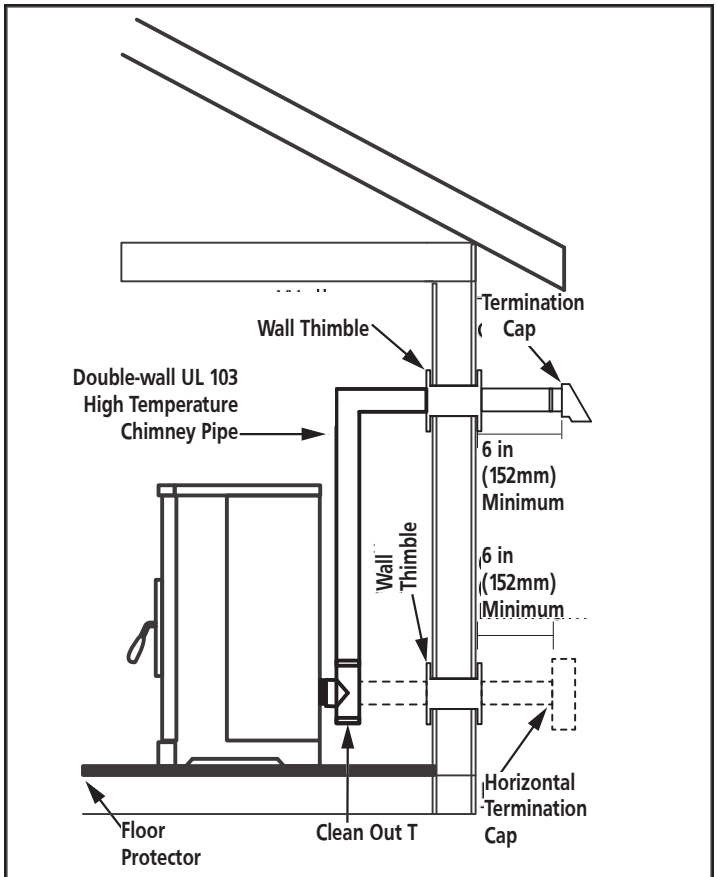


Figure 12 Manufactured Chimney through Wall

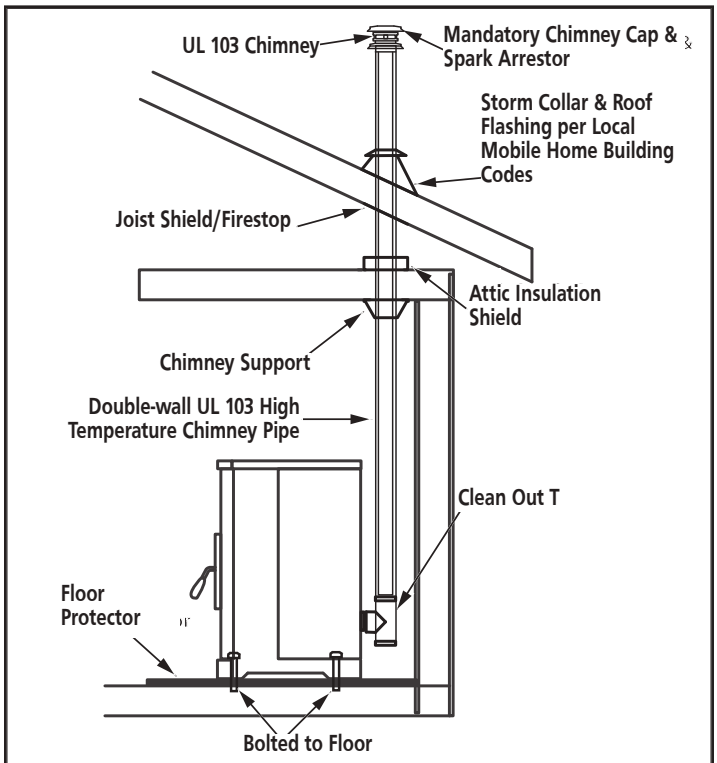


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

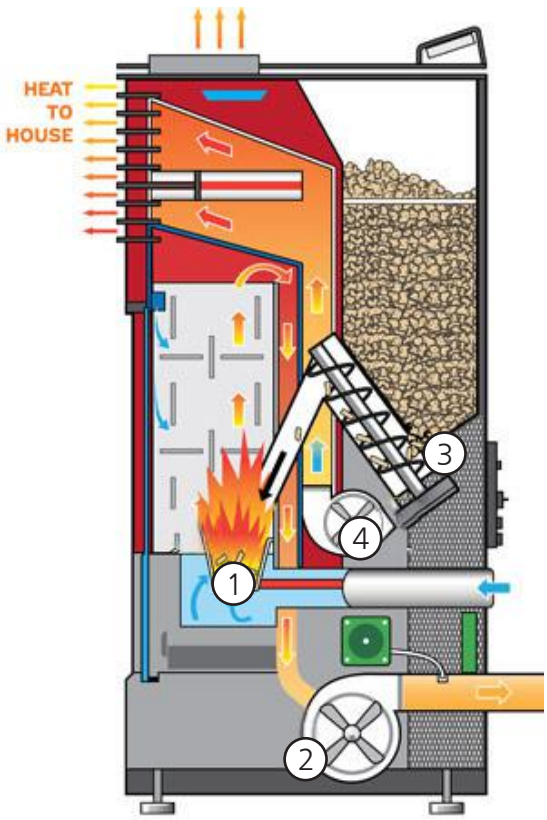


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

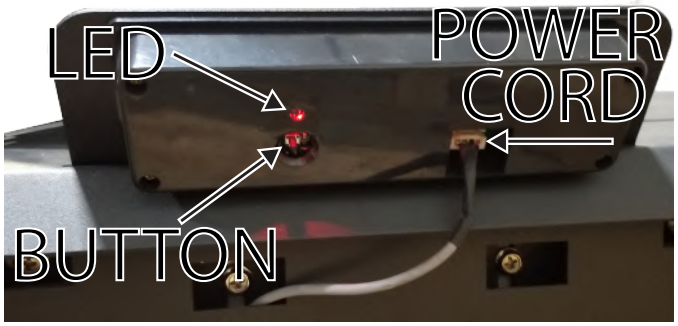


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

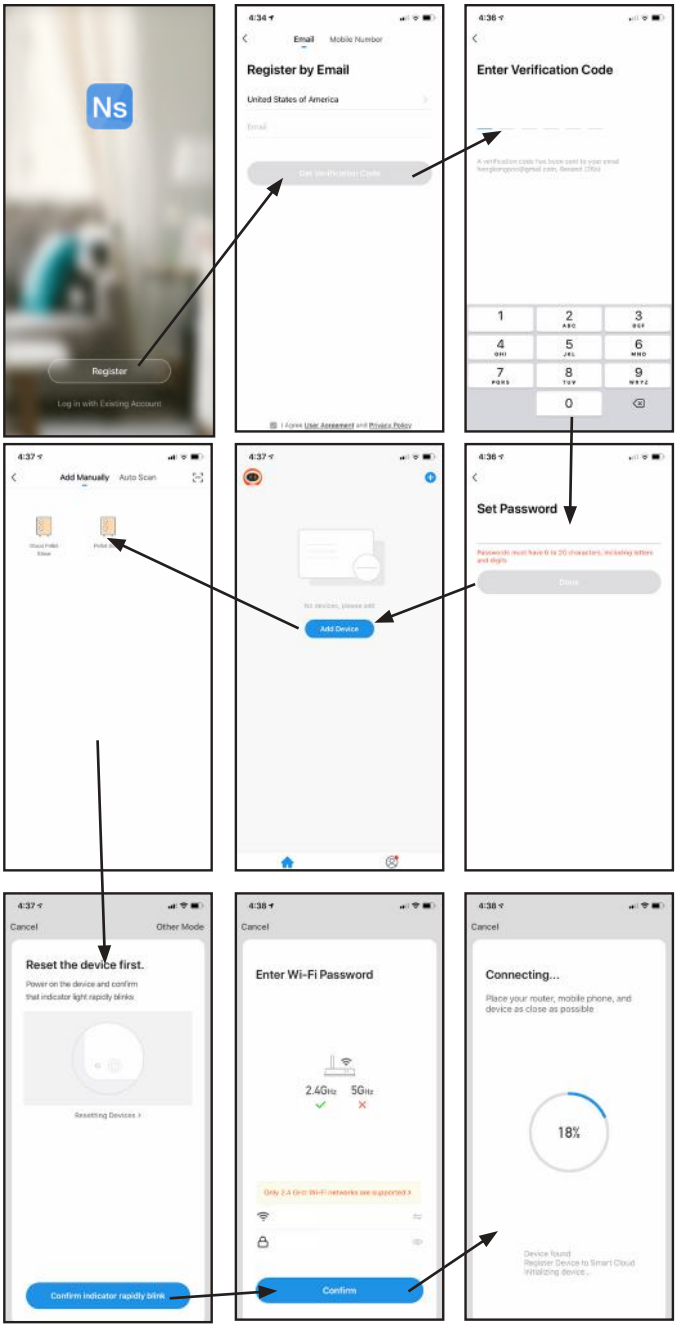
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



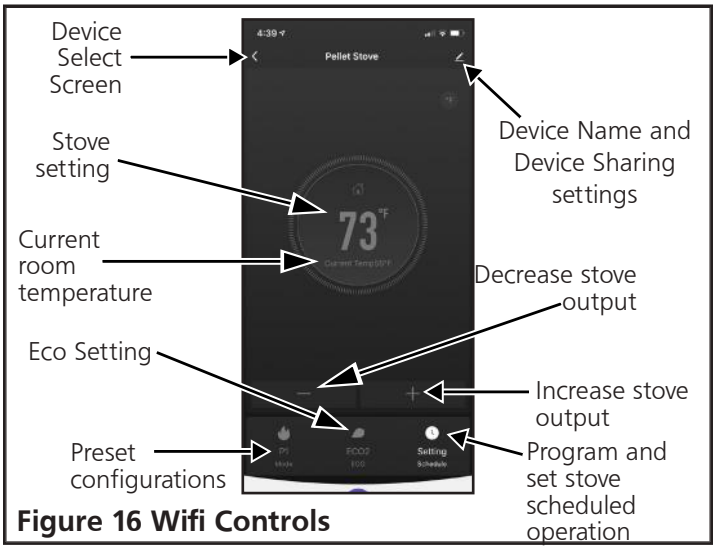


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

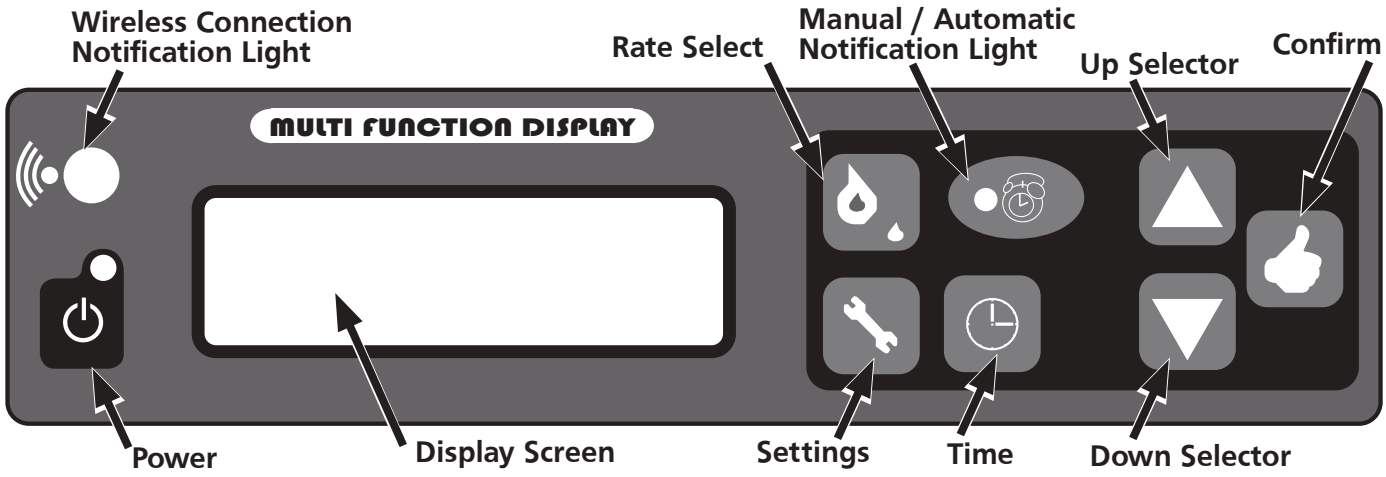


Figure 17a Mounted Multi Function Controls Panel

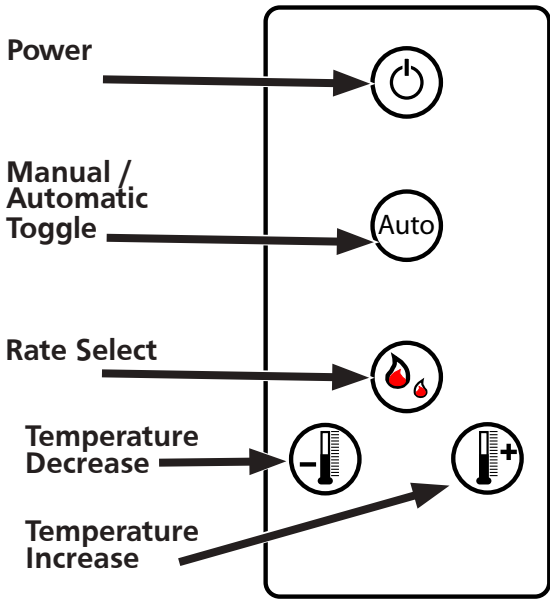


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

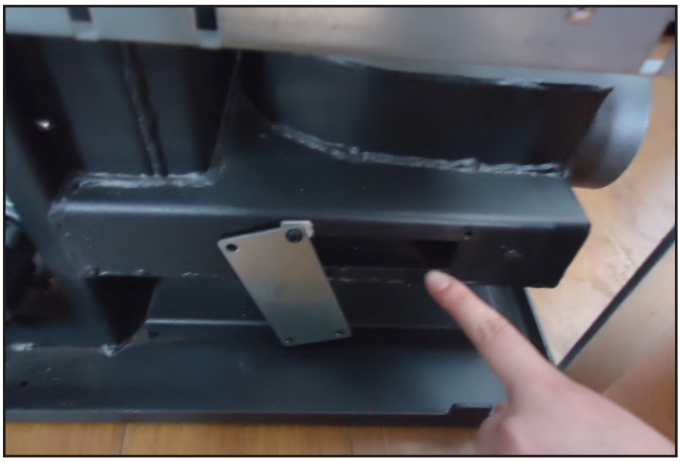


Figure 18 Inlet Duct

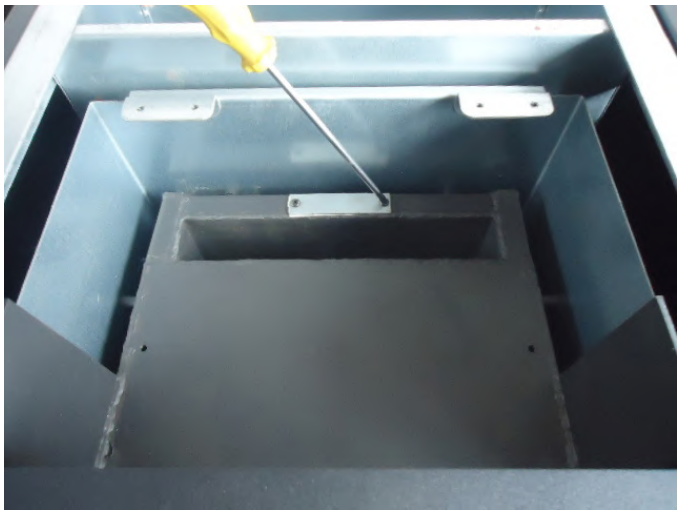


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

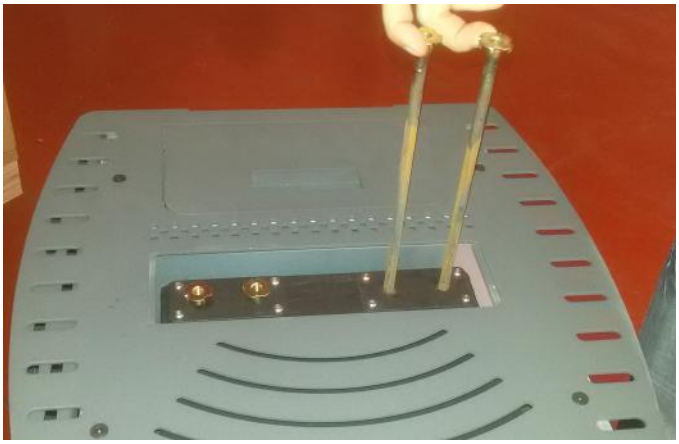


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

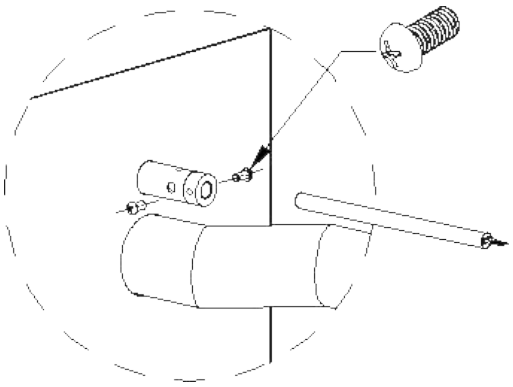


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

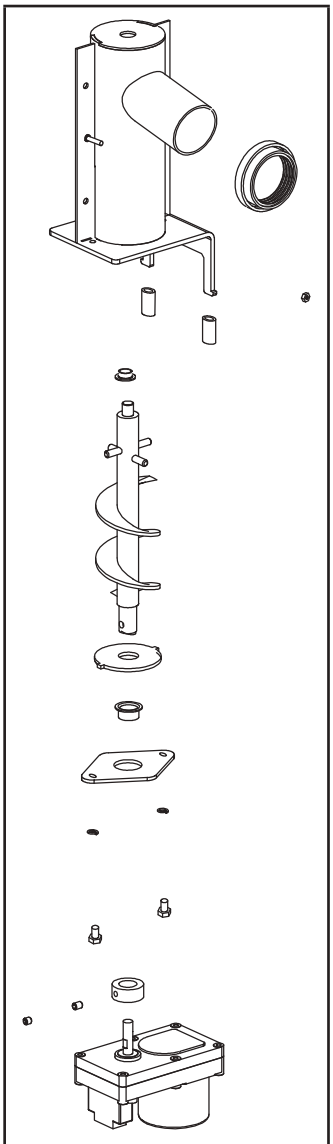


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °C Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (refer to exploded view).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

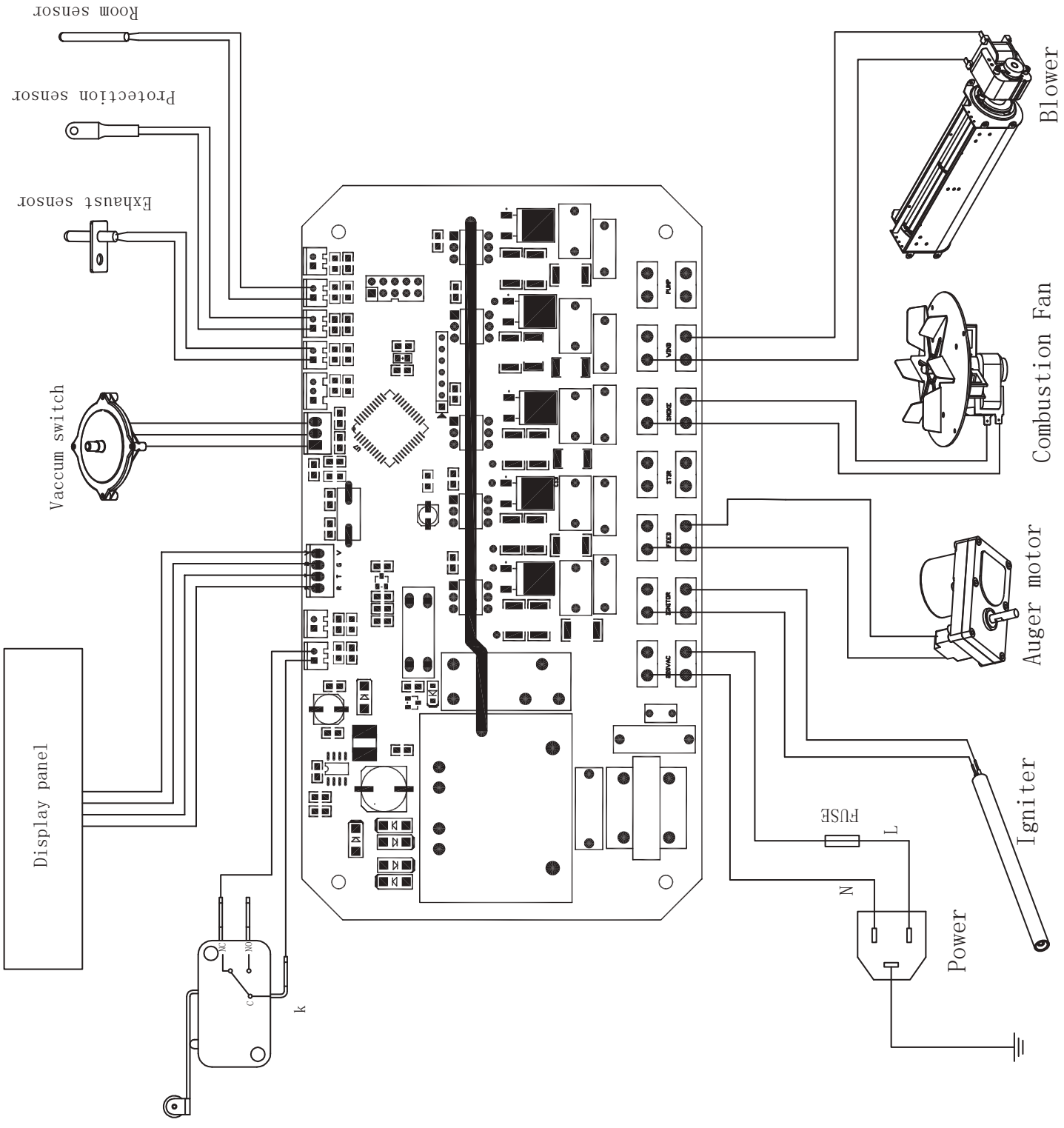
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

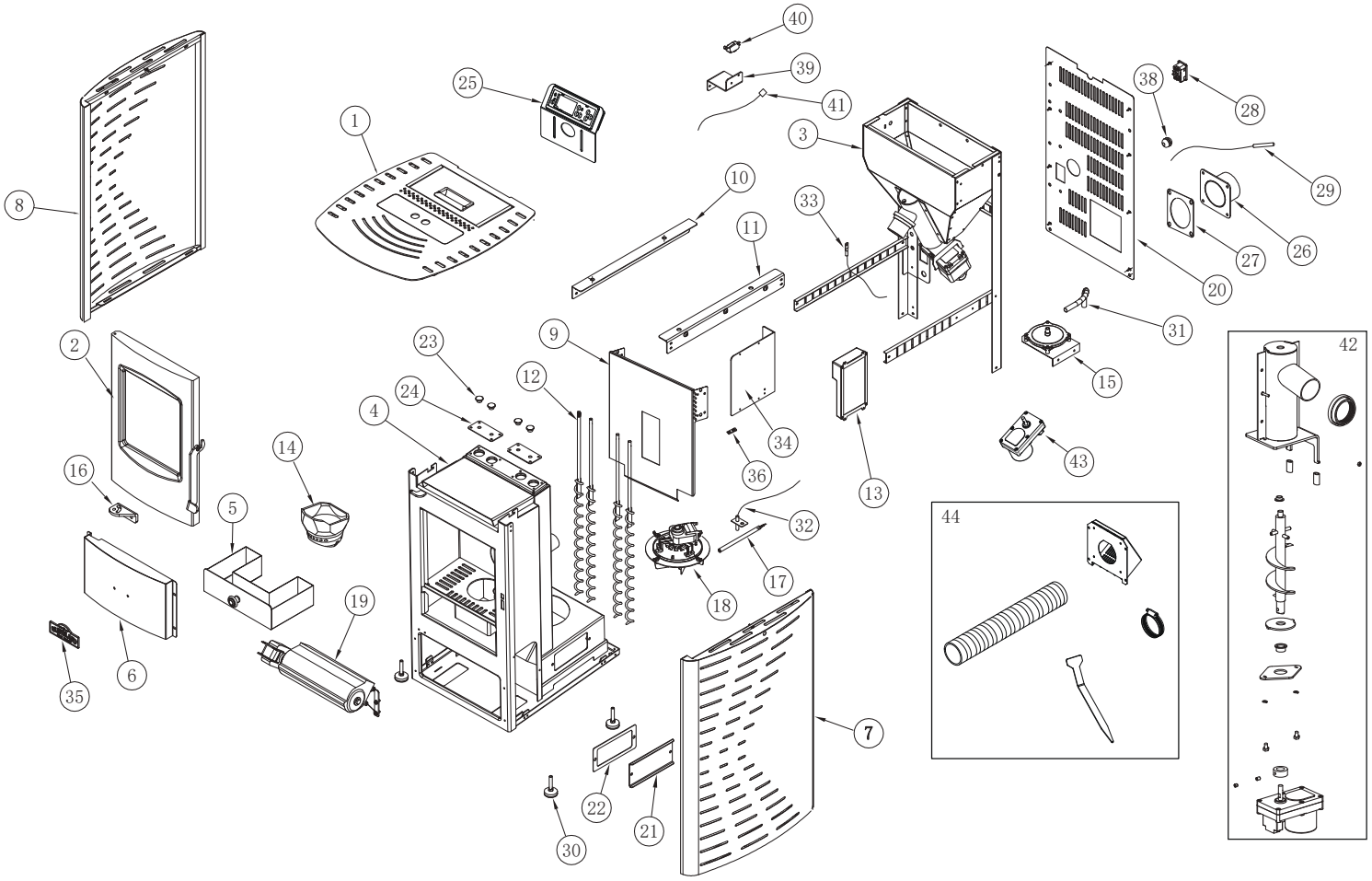
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL H20W

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Hopper Lid Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # H20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

US Patent Pending

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # H20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

H20WTS

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

66901 REV A

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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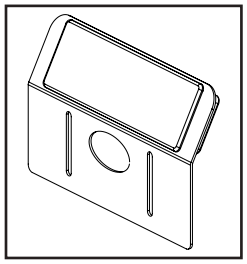
SPECIFICATIONS

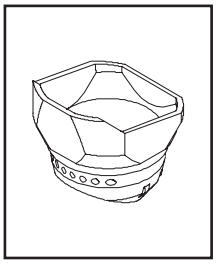
Model #	H20WTS
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	800 (74.3)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

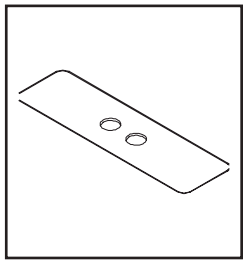
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
H20WTS: 23,945 to 10,796 Btu/hr

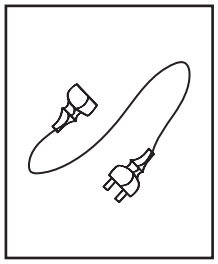
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

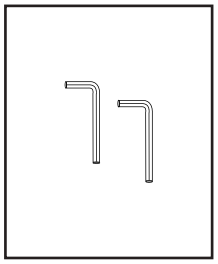
GETTING STARTED

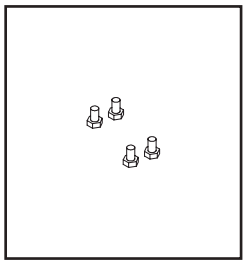

Display Panel

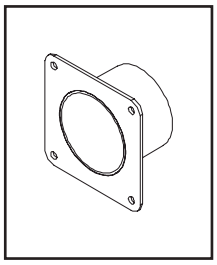

Firepot

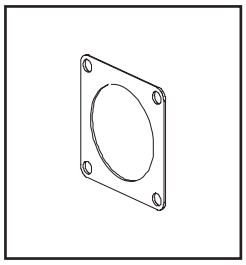

Cover

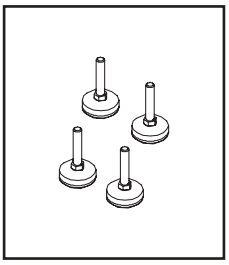

Main Power Cord


Allen Wrenches (x2)

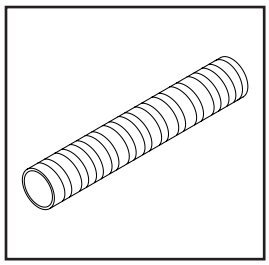

Screws (x4)

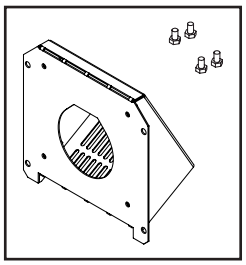

Exhaust Connector

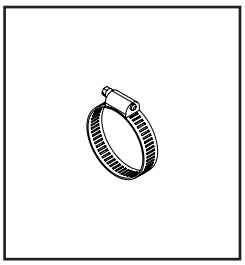

Exhaust Connector Silicon Pad

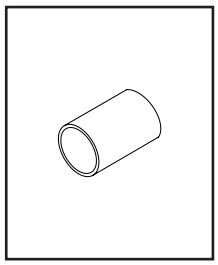

Stove Feet

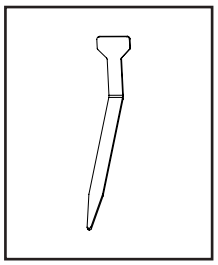
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

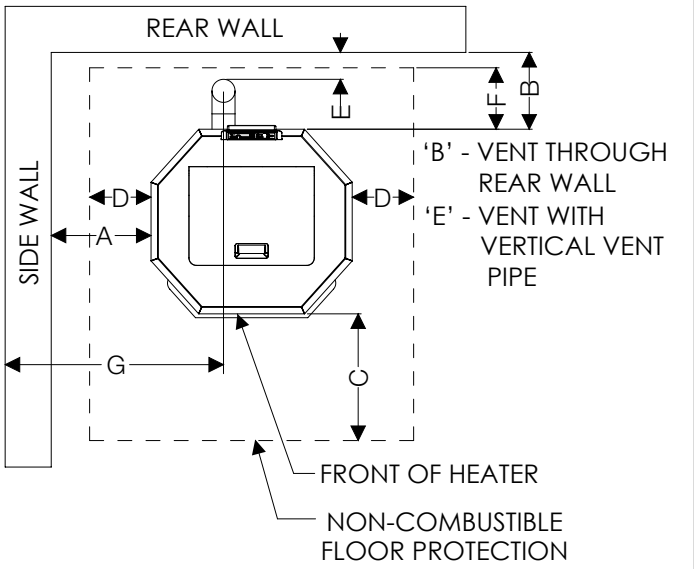


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

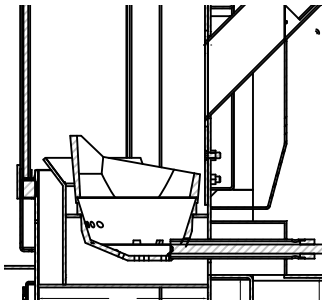


Figure 2: H20WTS Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: H20WTS Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Enerco Group, Inc. with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

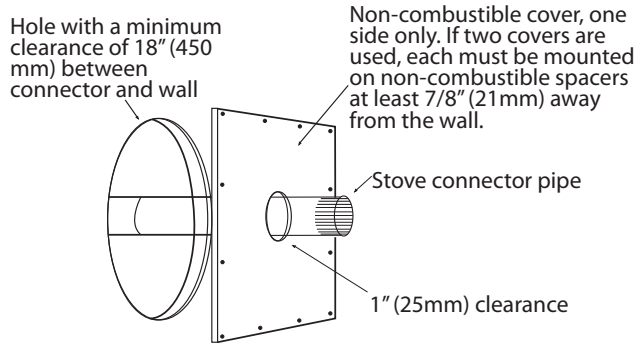


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

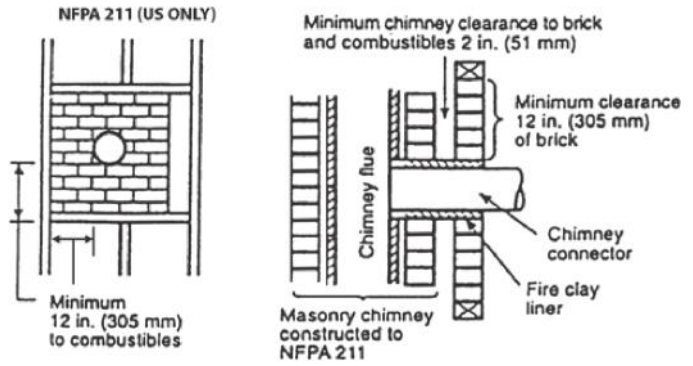


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

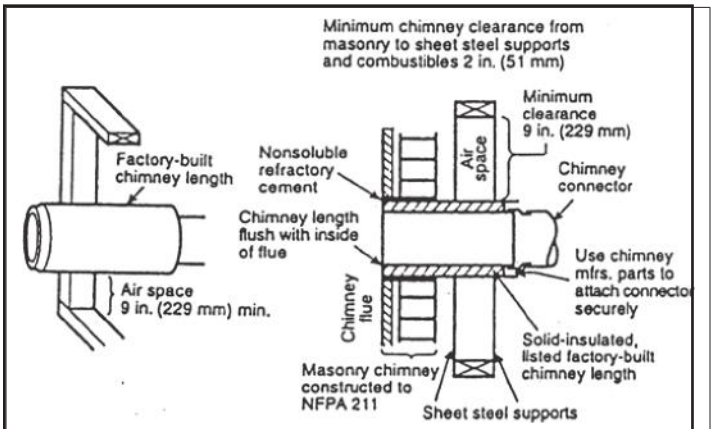


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

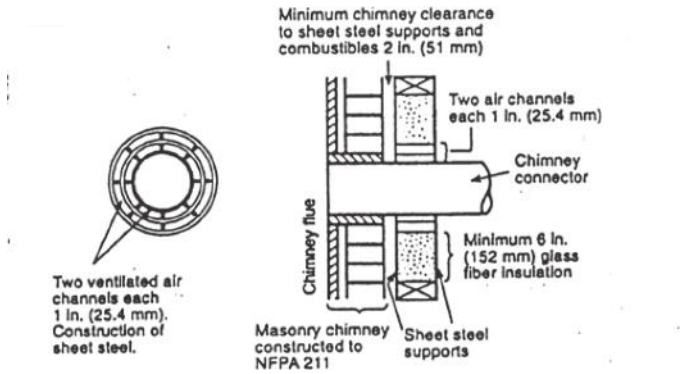


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

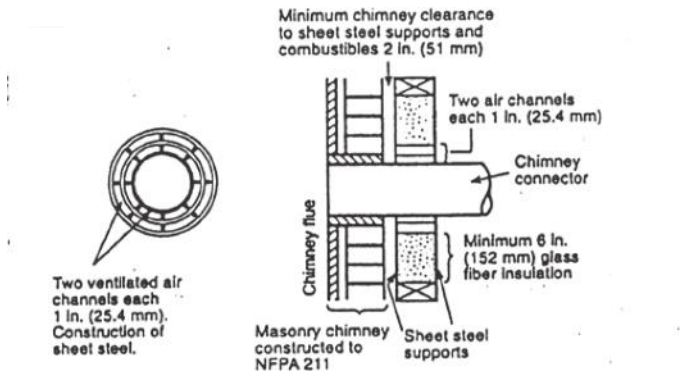


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

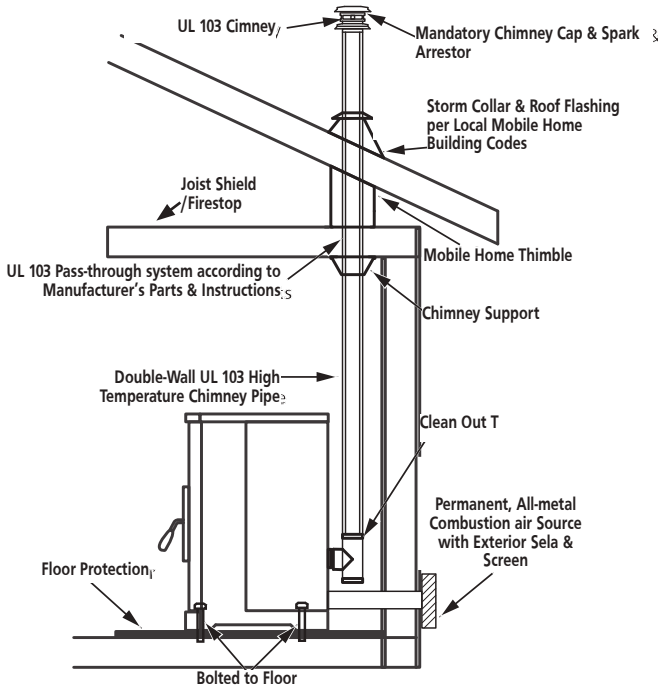


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 10 below illustrates.

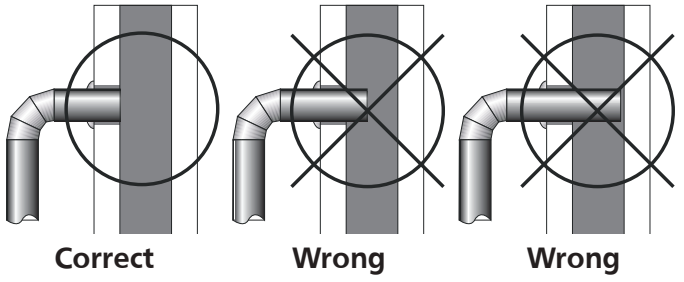


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

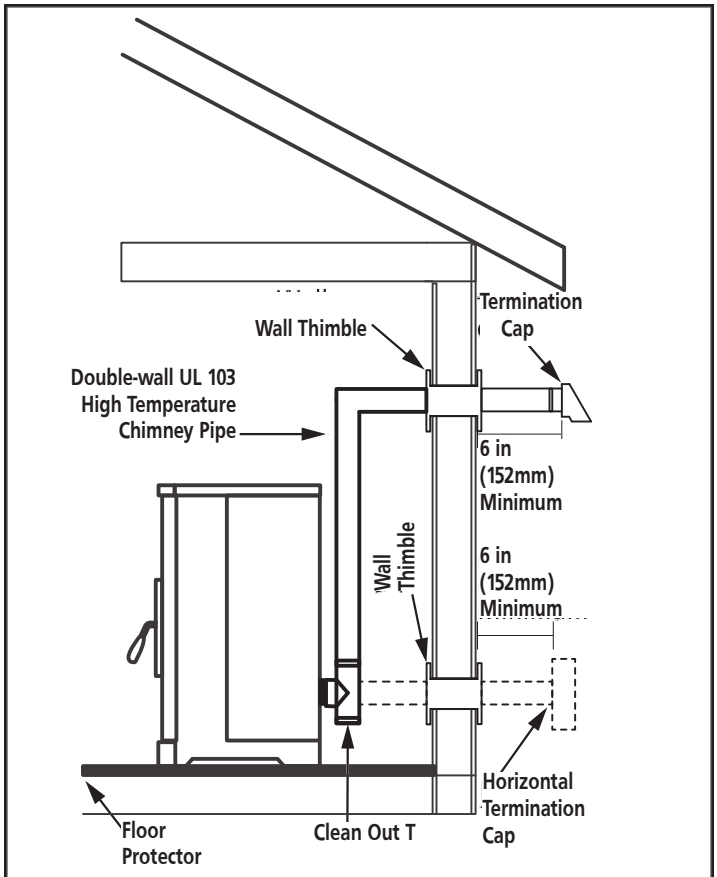


Figure 12 Manufactured Chimney through Wall

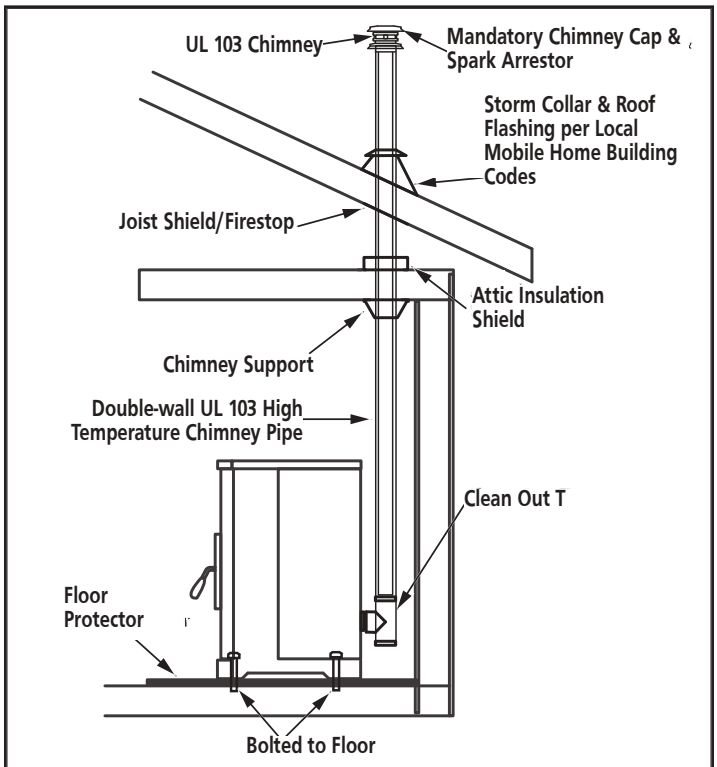


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

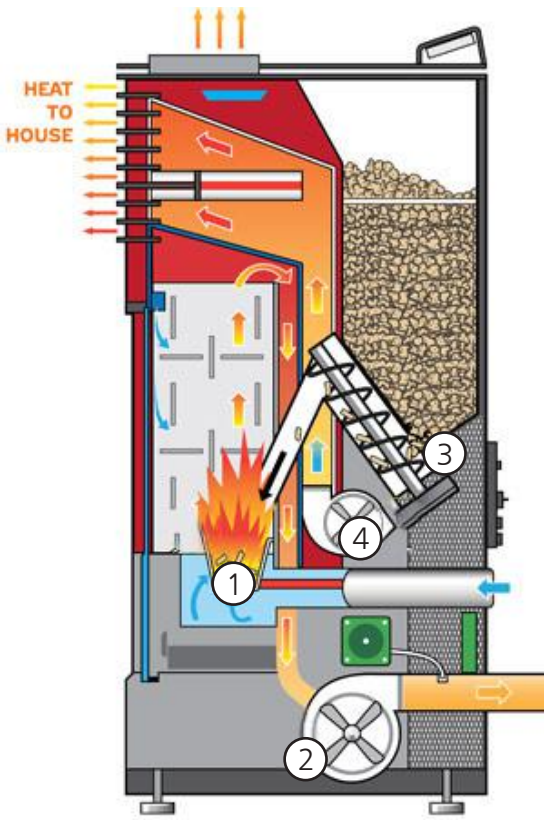


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

⚠ CAUTION: DO NOT store unused pellets in the stove for future use as they may collect moisture. Using wet or damp pellets may result in ignition difficulty, incomplete combustion, and the potential for a hopper fire.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.
3. Press the power button. The stove will begin to automatically progress through the following stages:
   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes
4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Press the power button. The stove will begin to automatically progress through the following stages:
   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.
   - Goodbye: The final message from the display screen to designate that the stove has cooled.
2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 18 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the back bottom of the stove as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

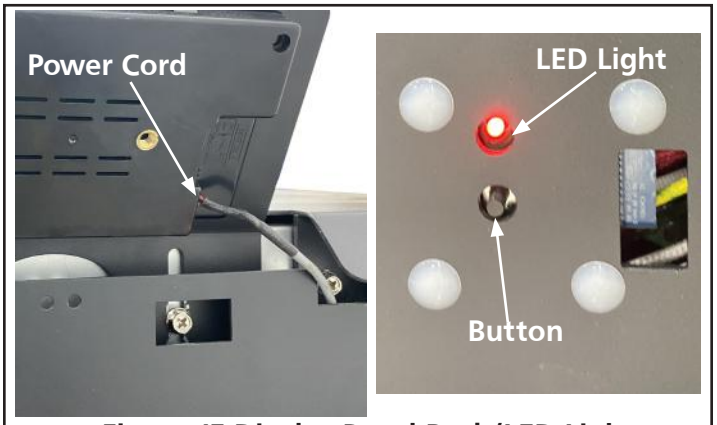


Figure 15 Display Panel Back/LED Light

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings

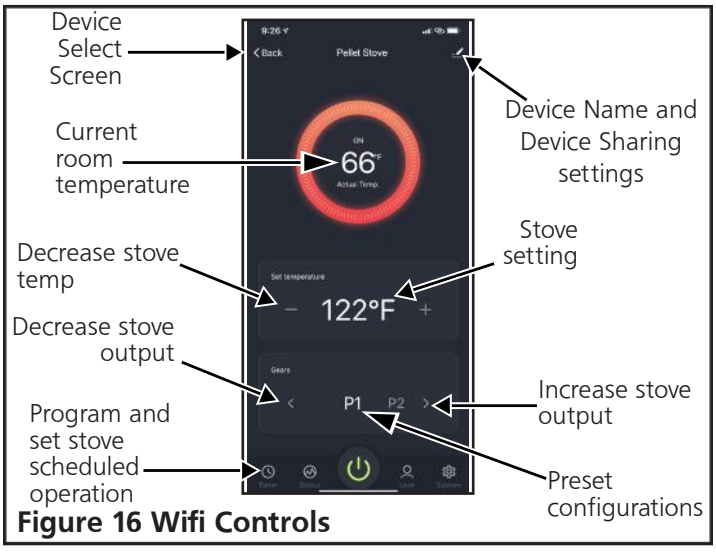


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

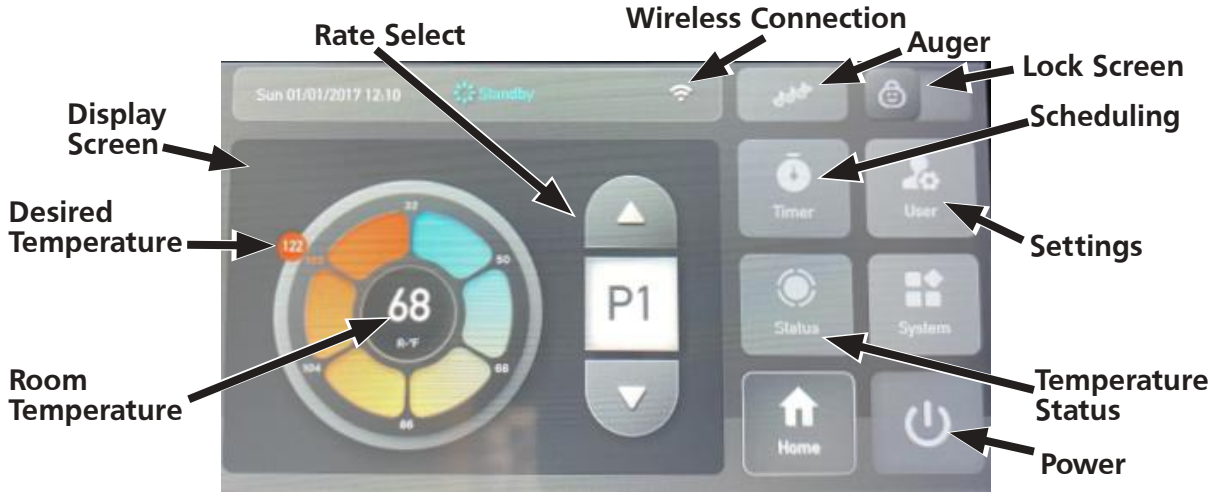


Figure 17a Mounted Multi Function Display Panel

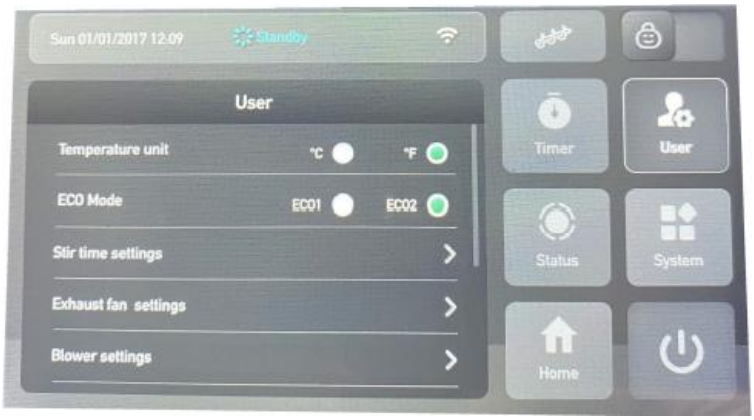


Figure 17b User Menu

Mounted Button Functionality: Normal Operation

Power
- Press to begin stove heating if the stove was off.
- Press to begin stove shut off if the stove was on.

Temperature Status
- Press to see temperature readings of the stove.
- Displays the exhaust pipe temp, the hopper protection temp and number of run hours etc.

Settings
- Press to enter User Settings Menu (Figure 17b).
- On this menu, you may select ˚F or ˚C, ECO Mode (see Wi-Fi controls for explanation), Stir Time/Exhaust Fan/Blower settings, etc.

Scheduling
- Press to enter desired run times.

Lock Screen
- Lock screen will illuminate when screen is locked in a Programmed Mode.

Auger
- Allows user to use/engage the auger directly, prep/pre-feed the firepot, or get pellets into the auger/unit prior to lighting.

Rate Select
- Pressing the rate select arrows will toggle between four configurable heating presets (see Wi-Fi controls for explanation of P#'s). The currently set preset is displayed between the Up and Down arrows.

Desired Temperature
- Using your finger, press down and rotate around the wheel to desired temperature (only applicable when using Thermostat and ECO modes).

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

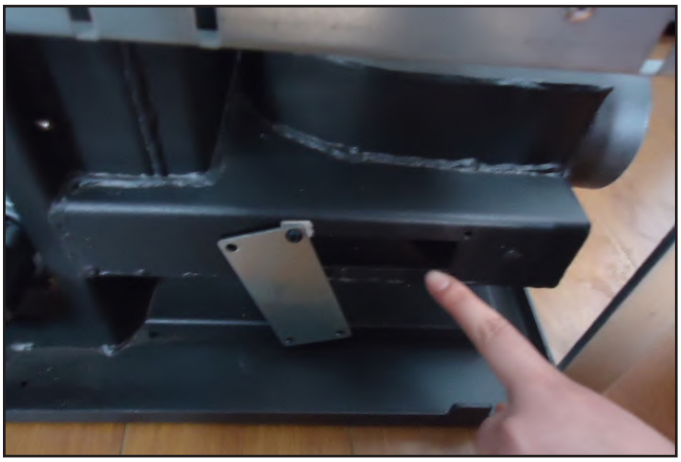


Figure 18 Inlet Duct

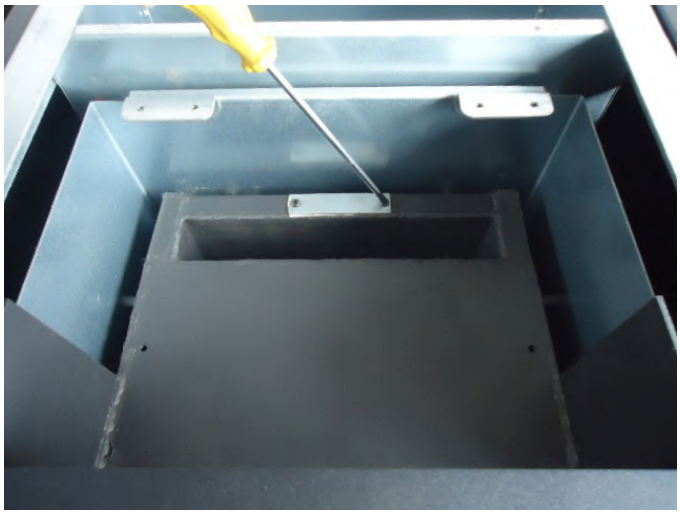


Figure 19 Dutlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 20. This task is to be performed every day, while the stove is cooled down and unplugged.

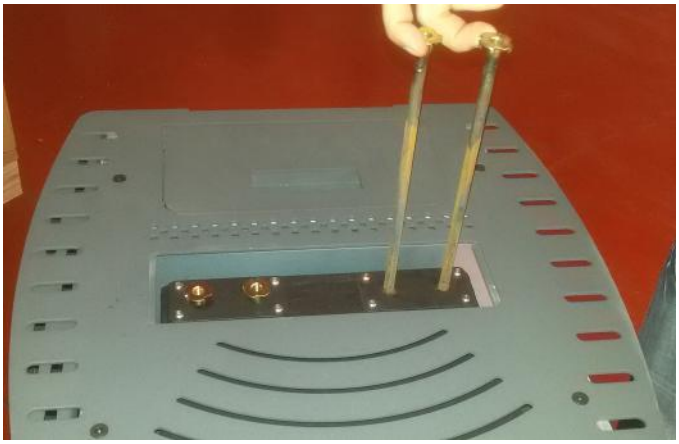


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

> ⚠ **WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.**

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

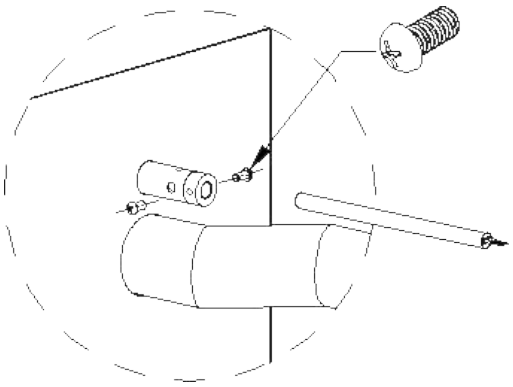


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

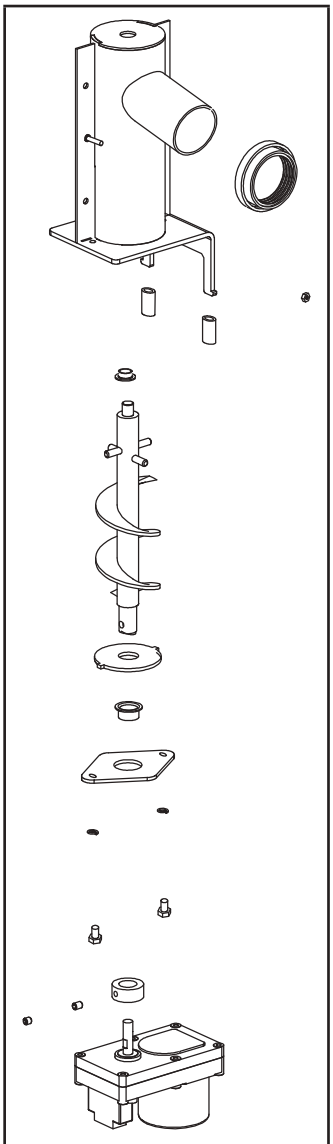


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
E9	Hopper sensor. Hopper low on pellets.	1. Replenish pellets in hopper.
ESC1	Short circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESC2	Short circuit at temperature sensor #2.	1. Check wires and connection points. 2. Replace Motherboard.
ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.

TROUBLESHOOTING CONTINUED

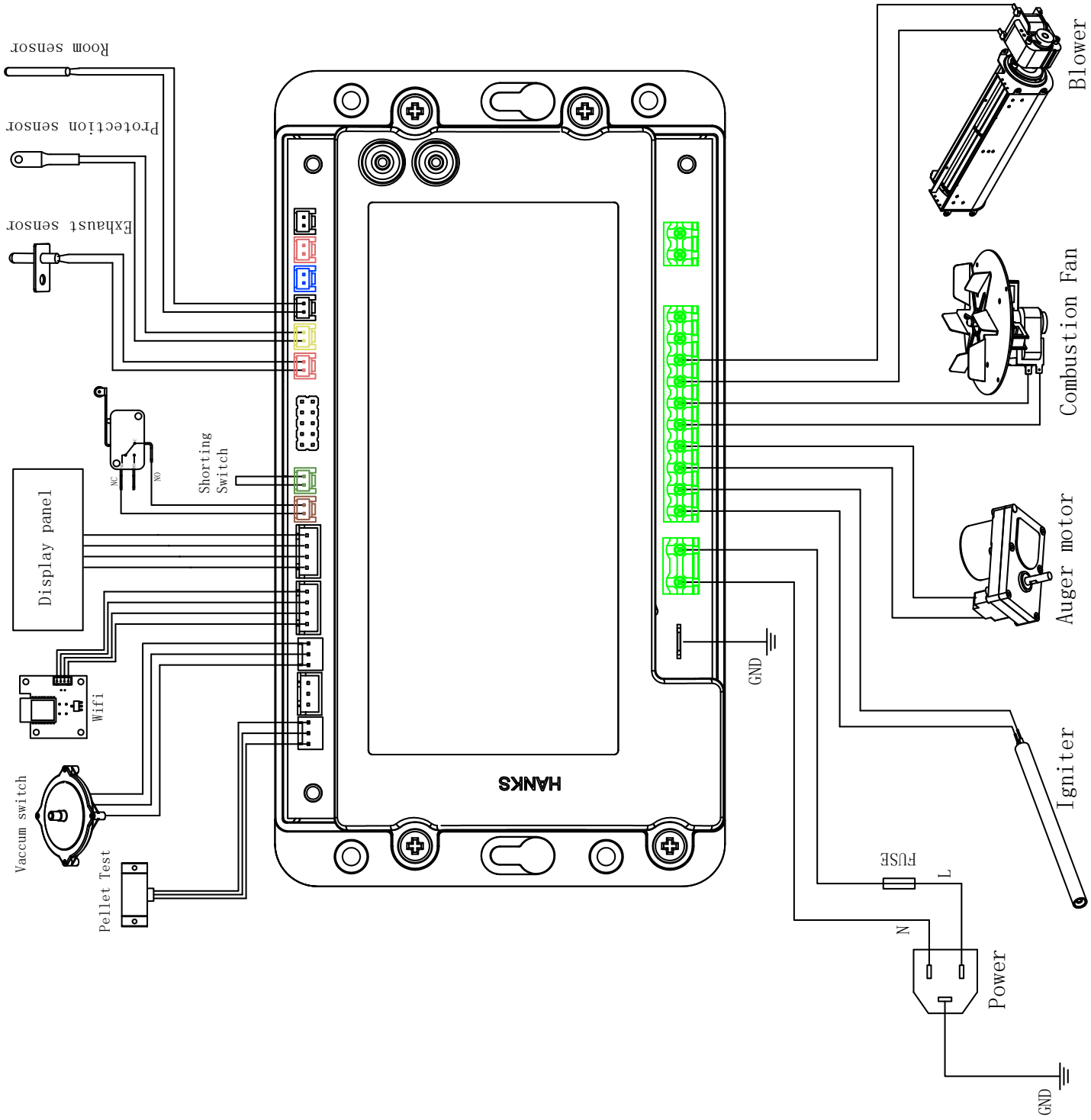
SYMPTOM	CAUSE	SOLUTION
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

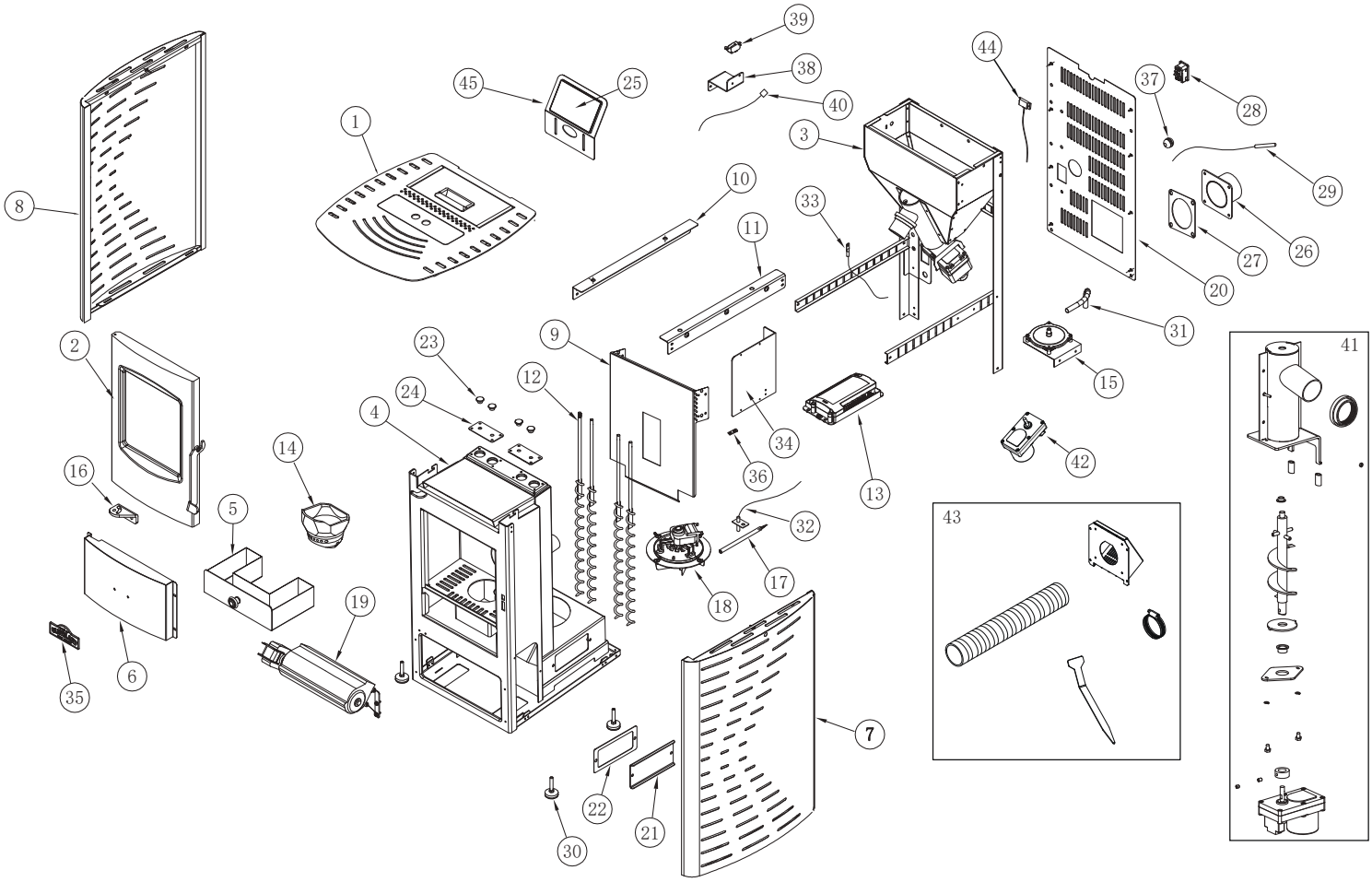
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL H20WTS

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66664	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge
17	66608	Igniter

NO.	PART NUM.	DESCRIPTION
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66702	Touch Screen
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor

NO.	PART NUM.	DESCRIPTION
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	n/a	Wire Grommit
38	n/a	Switch fixing board
39	66617	Hopper Lid Switch
40	66694	Switch Wire
41	66695	Auger Assembly
42	66696	Auger Motor
43	66659	Accessory Kit
44	66701	Hopper Sensor
45	66837	Touch Screen Bracket
N/S	66854	Power Cord
N/S	66856	Data Cable
N/S	66858	Door Pin

N/S - Not Shown

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model #
H20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # J20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

J20W

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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FCC INFORMATION

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

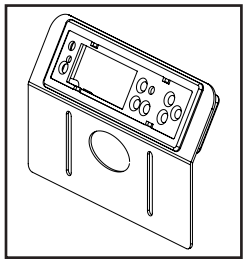
SPECIFICATIONS

Model #	J20W
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
J20W: 23,945 to 10,796 Btu/hr

*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

GETTING STARTED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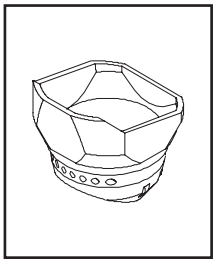
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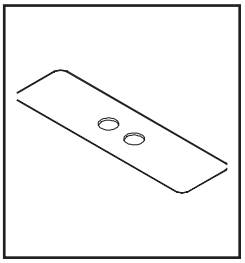
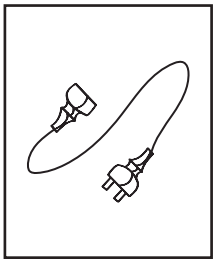
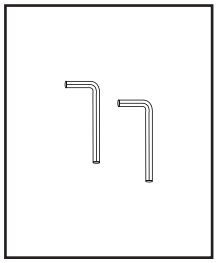
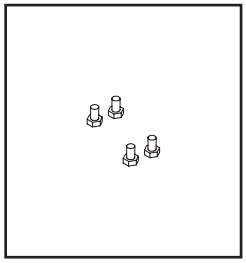
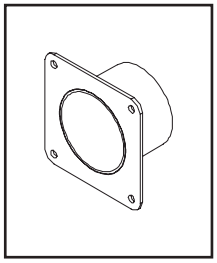
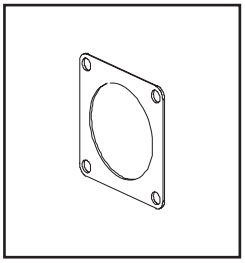

Cover


Main Power Cord


Allen Wrenches (x2)


Screws (x4)


Exhaust Connector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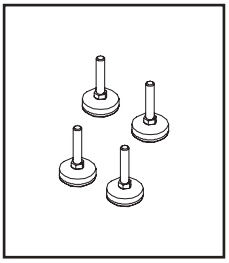
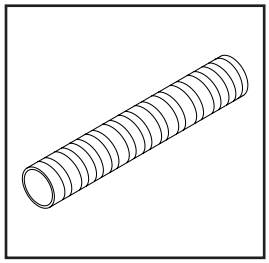
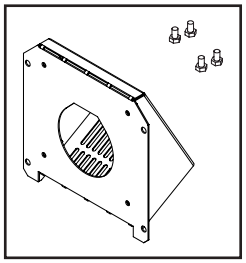
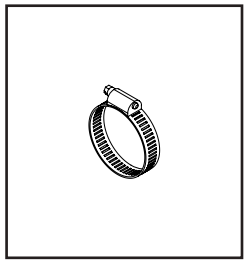
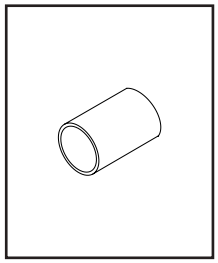

Stove Feet

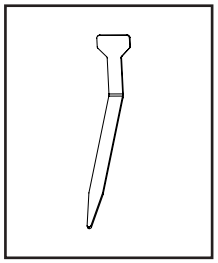
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

BATTERY INFORMATION FOR REMOTE

The remote that is shipped with your stove comes with one (1) 3V CR2025 Lithium Battery installed.

IMPORTANT:

- Non-rechargeable batteries are not to be recharged.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the remote.
- Caution for ingestion.

⚠ WARNING: DO NOT DISPOSE OF BATTERIES IN FIRE. BATTERIES MAY EXPLODE OR LEAK.

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

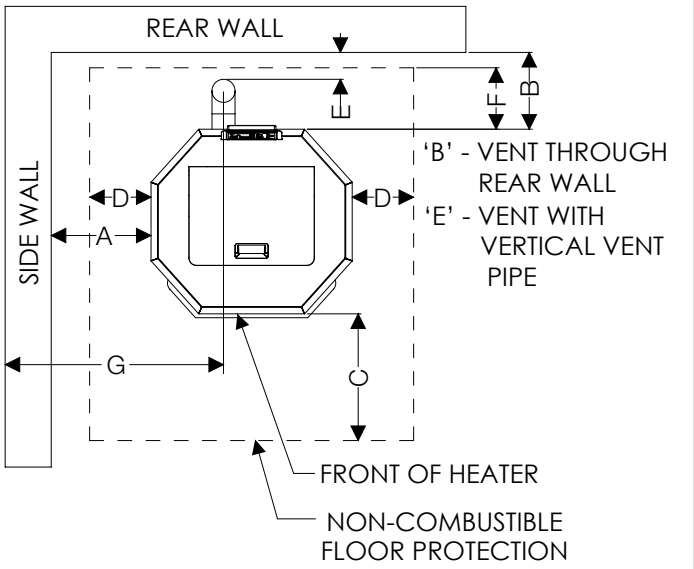


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

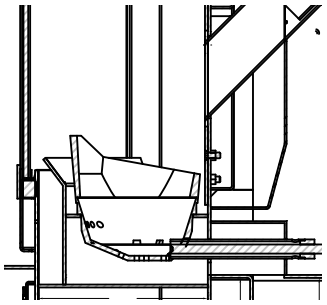


Figure 2: J20W Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: J20W Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

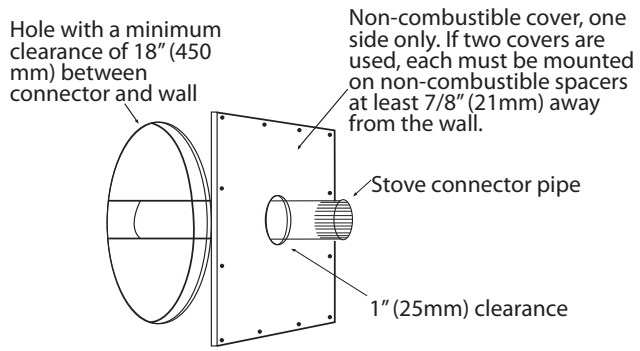


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

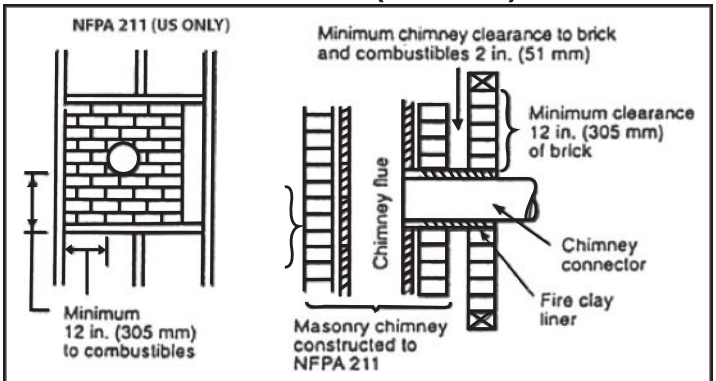


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

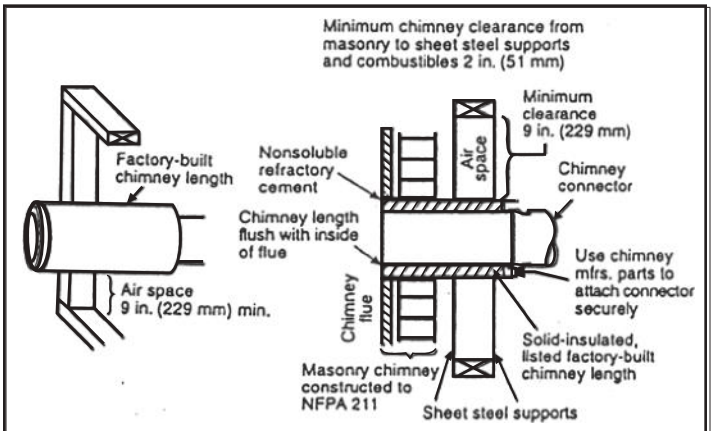


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

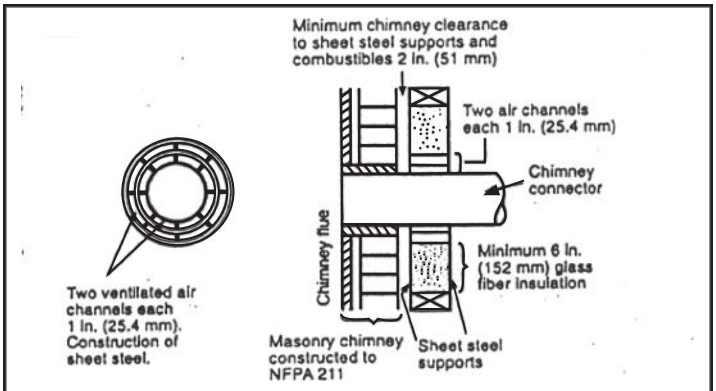


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

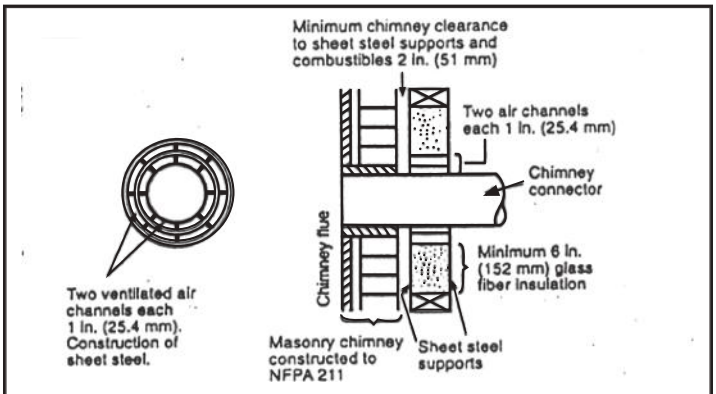


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

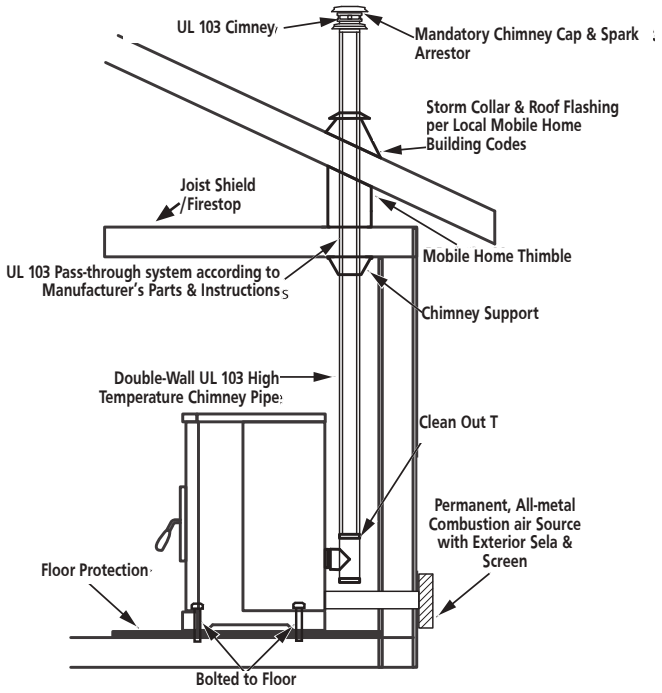


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

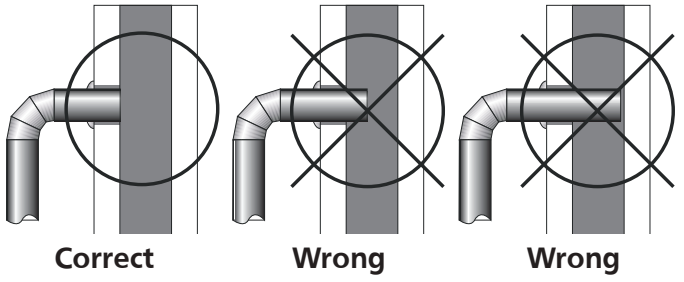


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

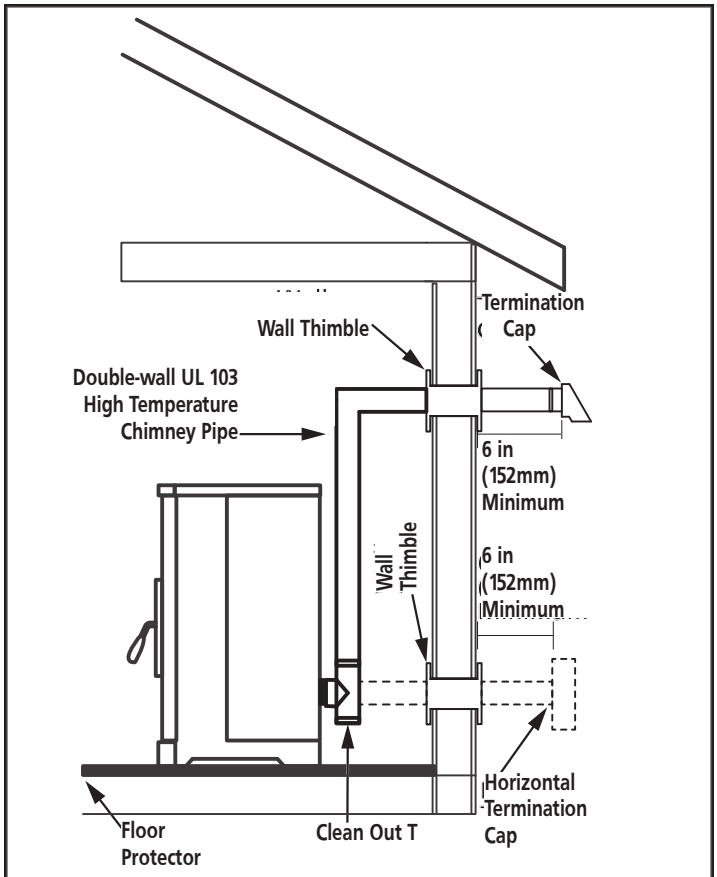


Figure 12 Manufactured Chimney through Wall

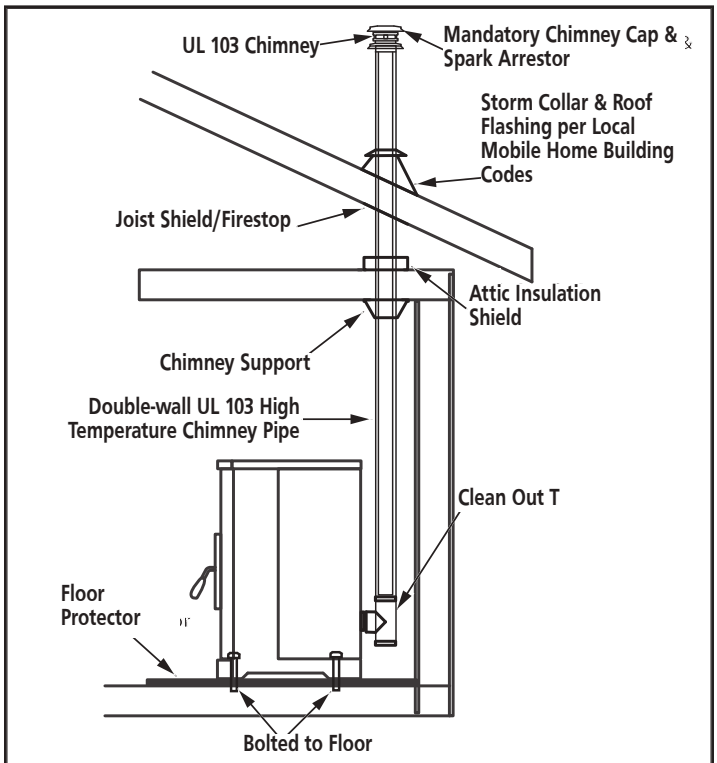


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

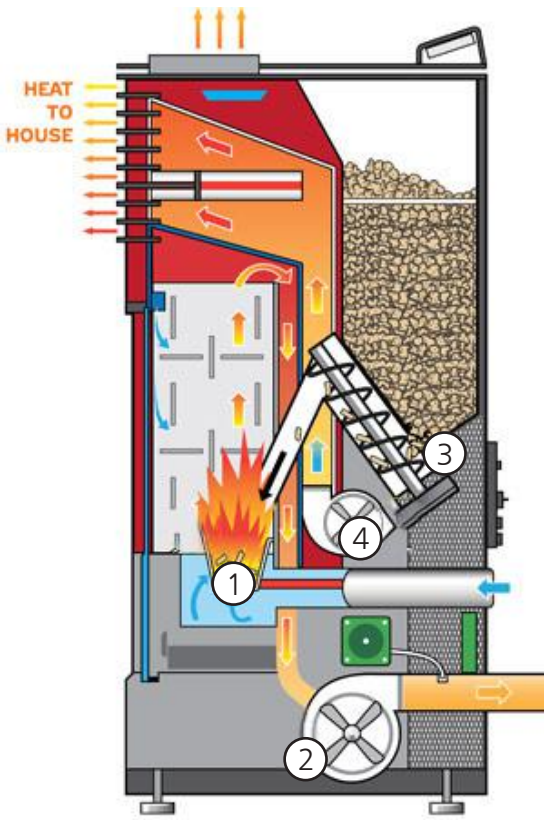


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

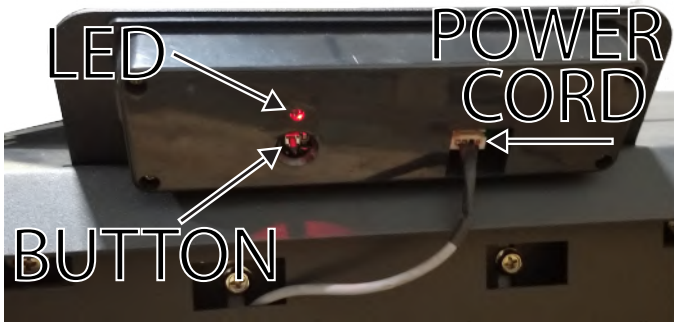


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

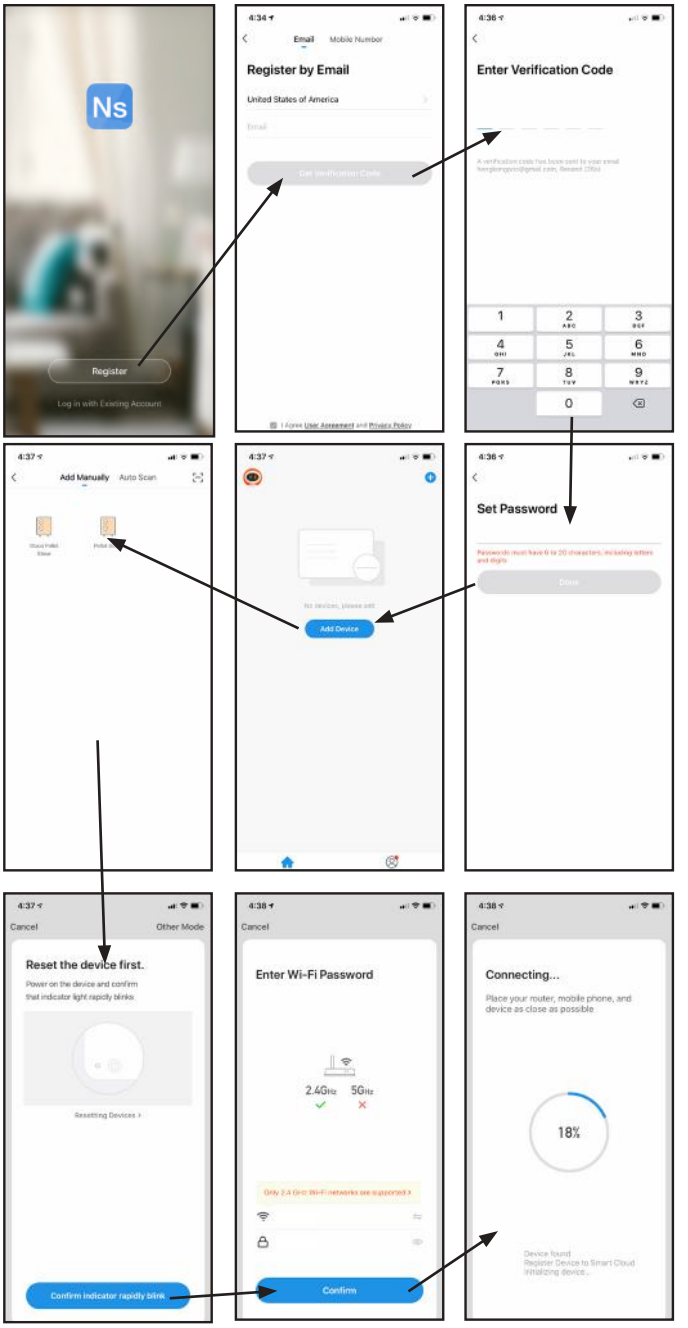
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



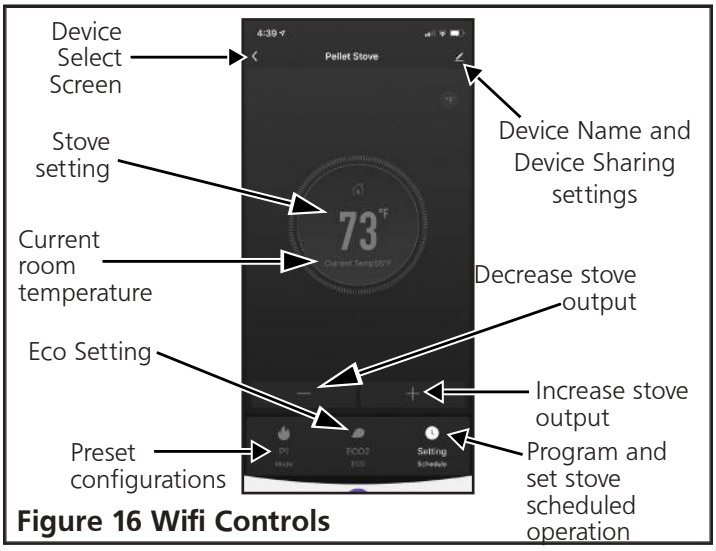


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

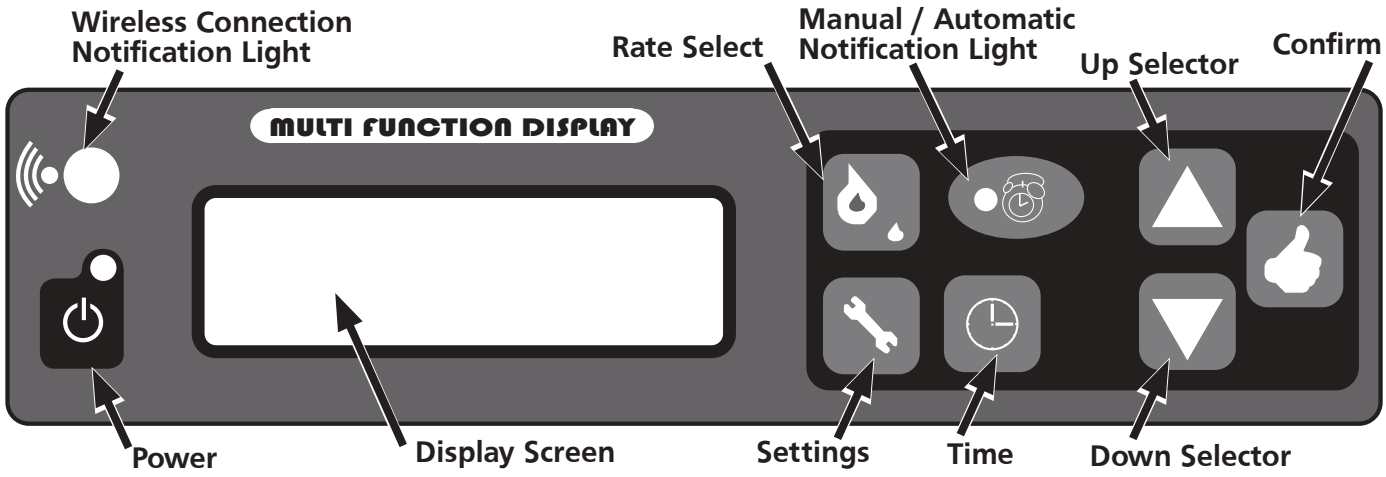


Figure 17a Mounted Multi Function Controls Panel

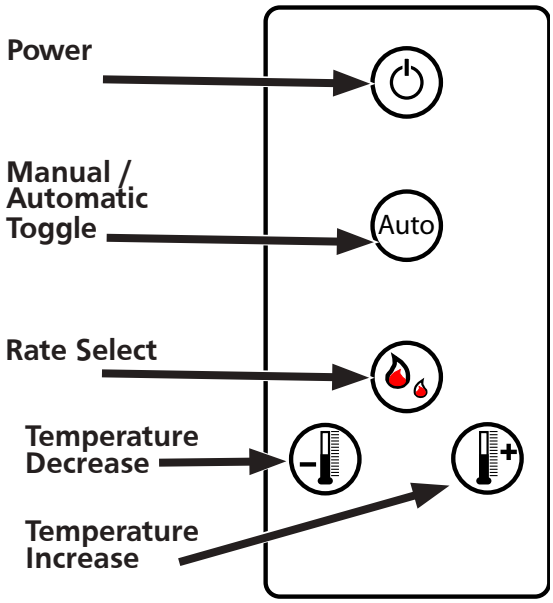


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

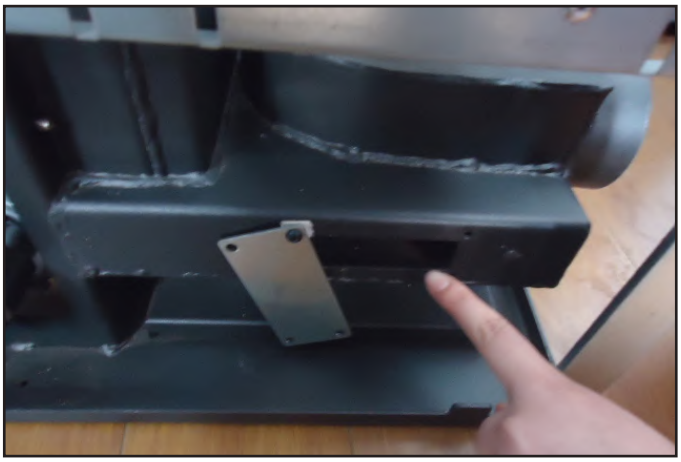


Figure 18 Inlet Duct

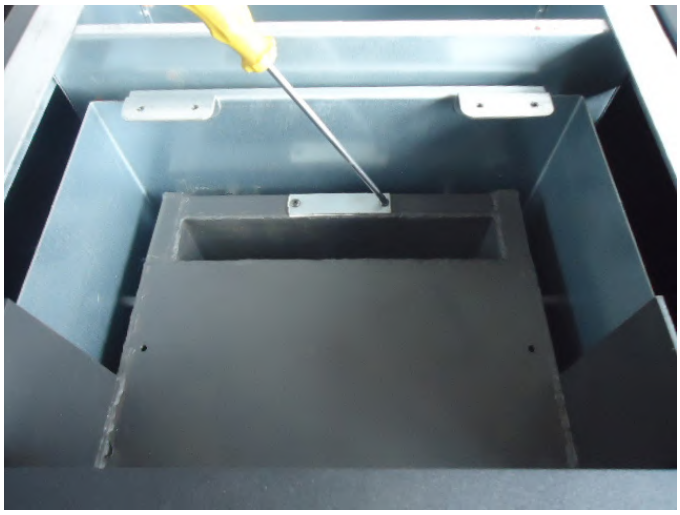


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

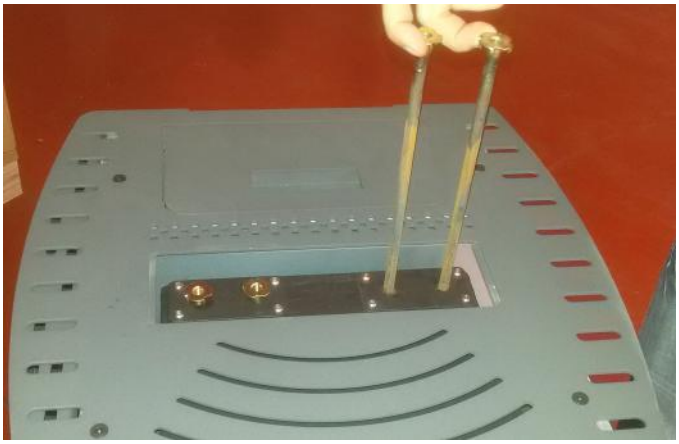


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

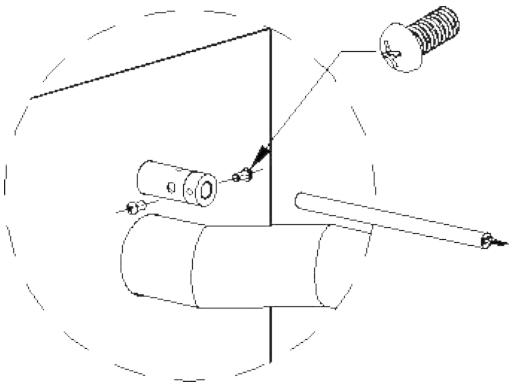


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

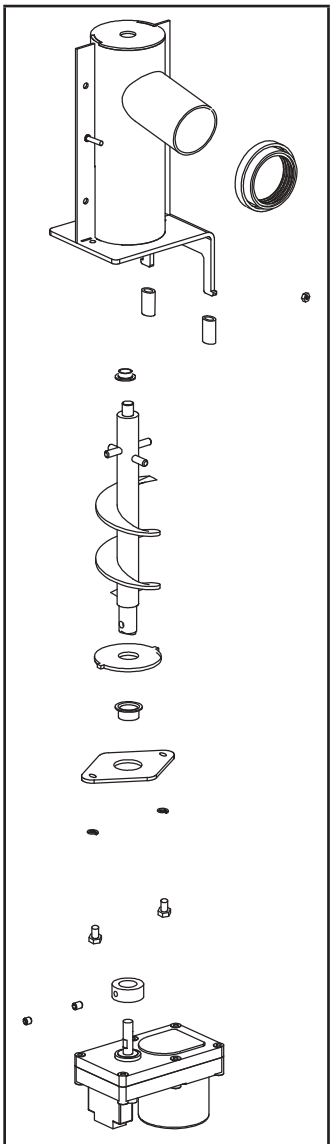


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °C Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (refer to exploded view).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

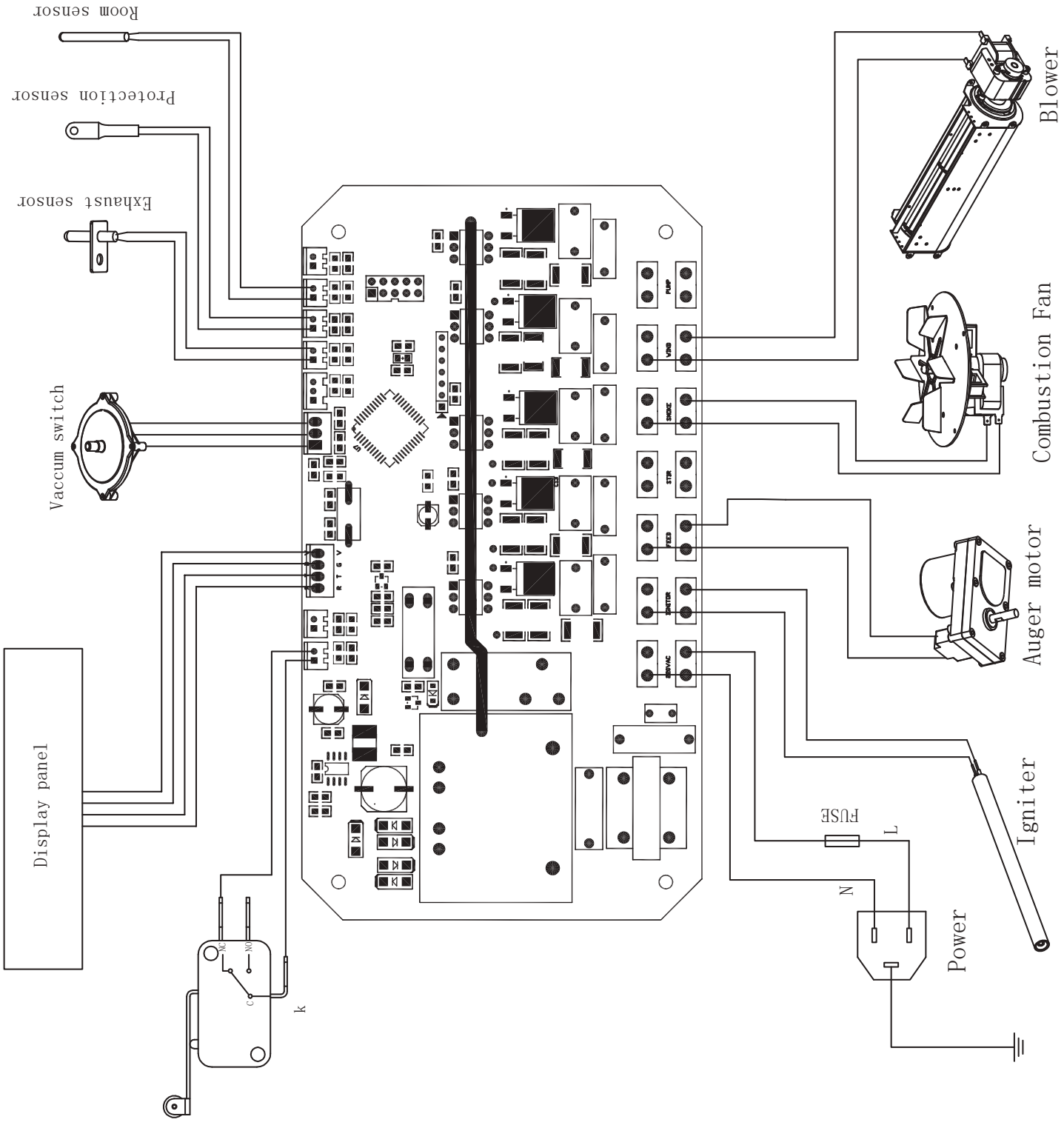
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

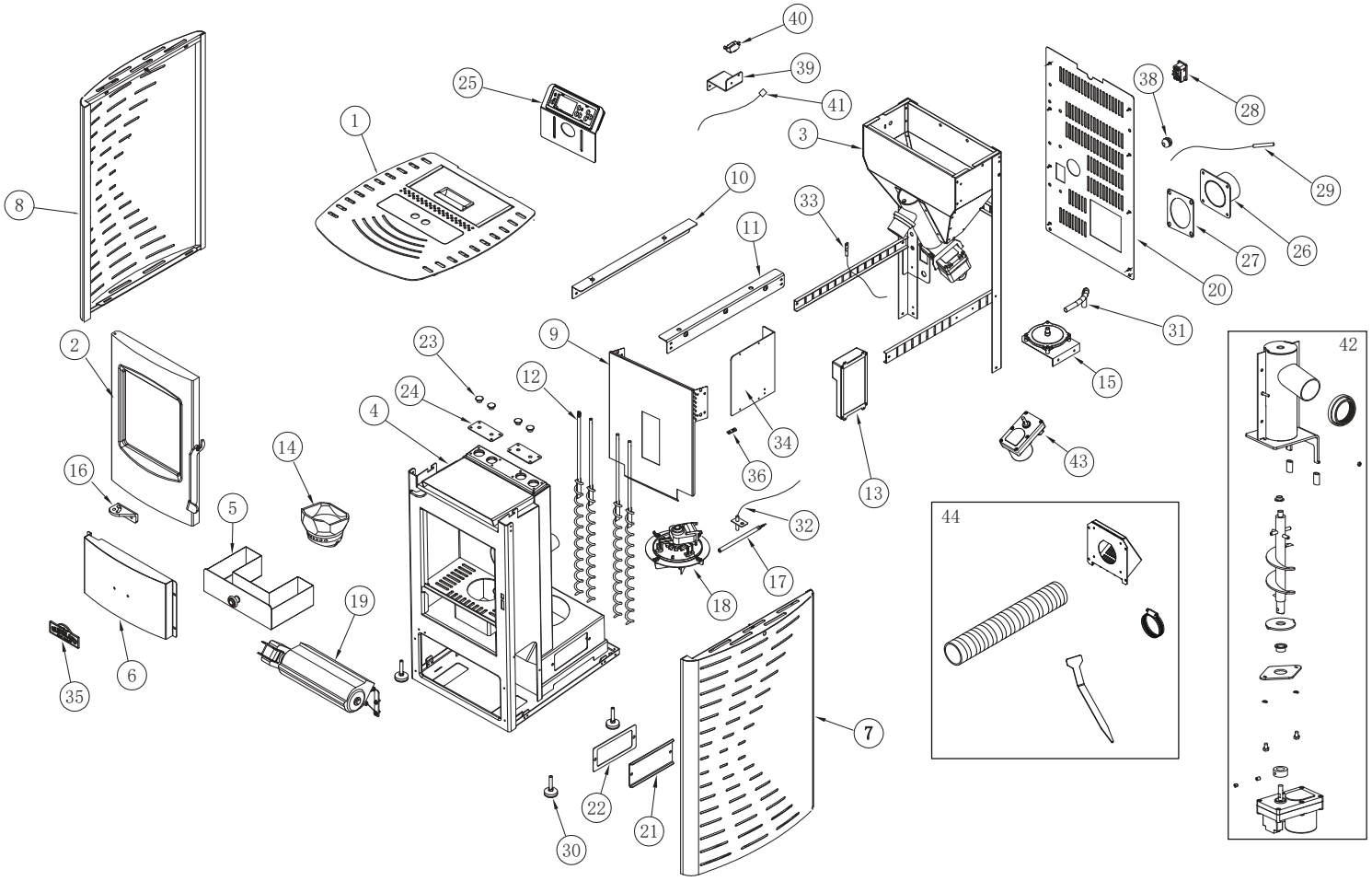
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL J20W

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Hopper Lid Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model #
J20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

US Patent Pending

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # J20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

J20WTS

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

66903 REV A

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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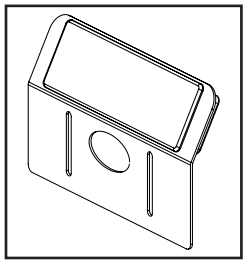
SPECIFICATIONS

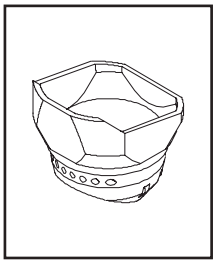
Model #	J20WTS
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	800 (74.3)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

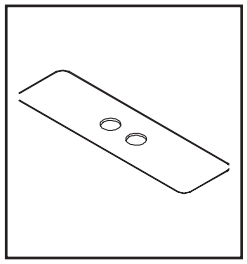
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
J20WTS: 23,945 to 10,796 Btu/hr

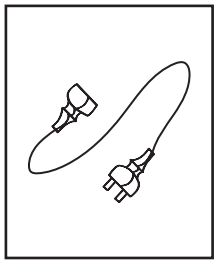
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

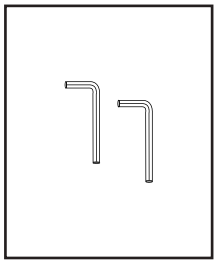
GETTING STARTED

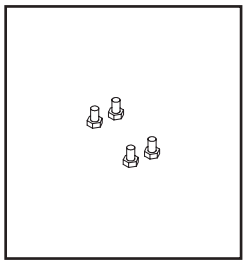

Display Panel

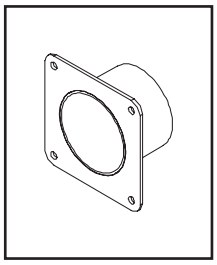

Firepot

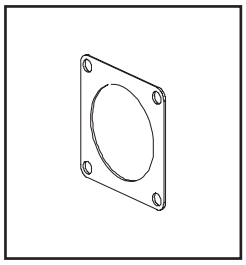

Cover

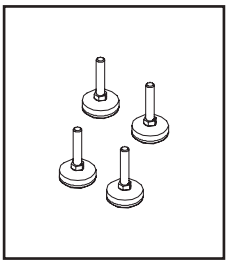

Main Power Cord


Allen Wrenches (x2)

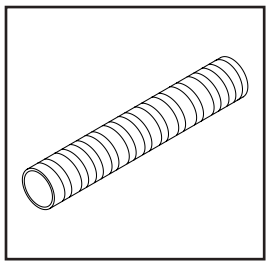

Screws (x4)

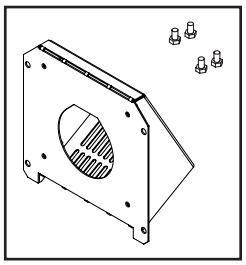

Exhaust Connector

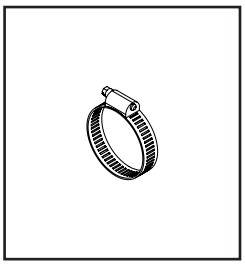

Exhaust Connector Silicon Pad

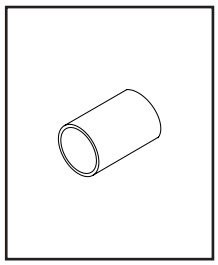

Stove Feet

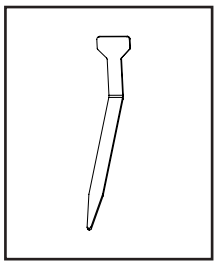
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

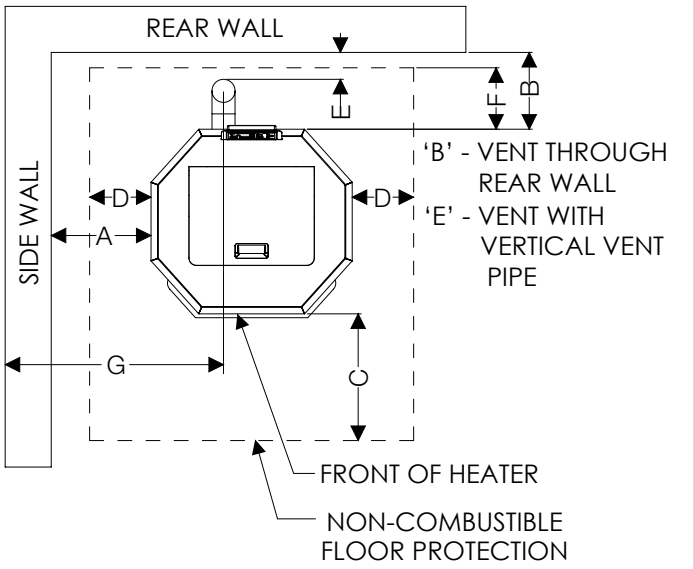


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

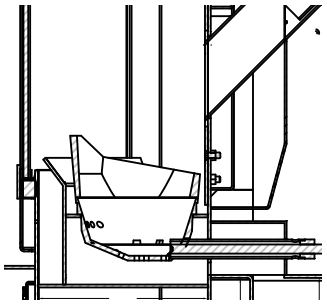


Figure 2: J20WTS Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: J20WTS Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Enerco Group, Inc. with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

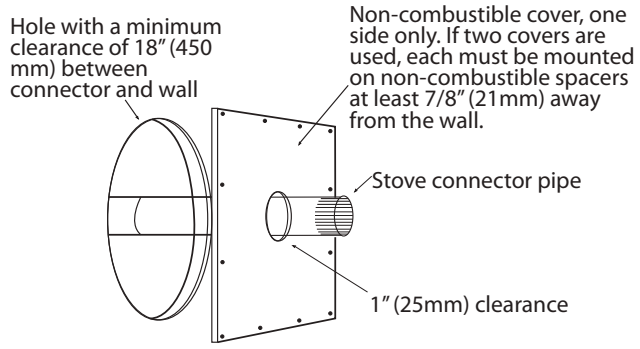


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

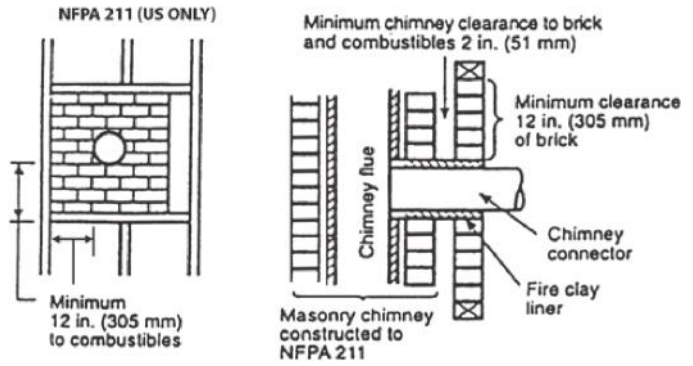


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

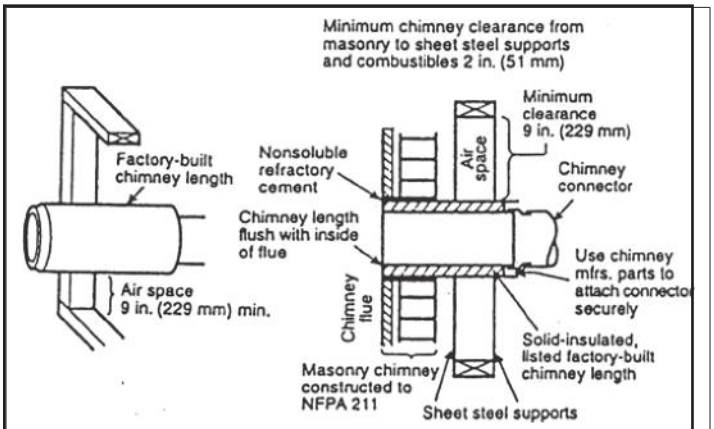


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

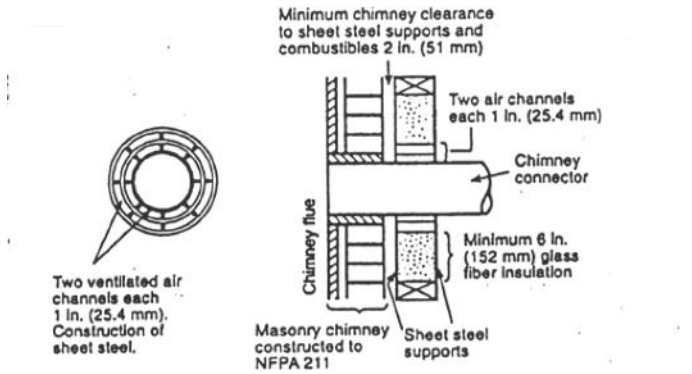


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

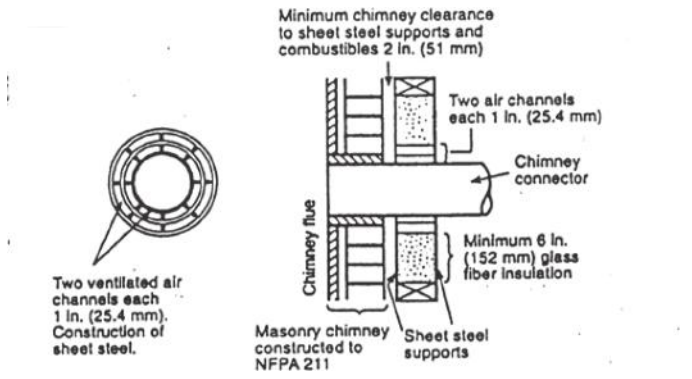


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

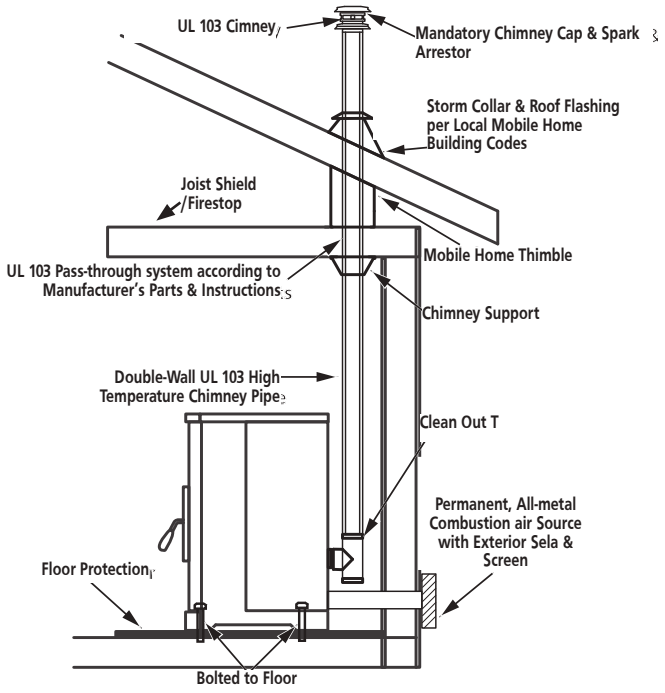


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 10 below illustrates.

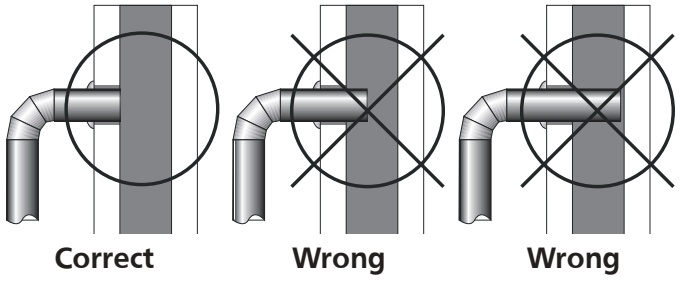


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

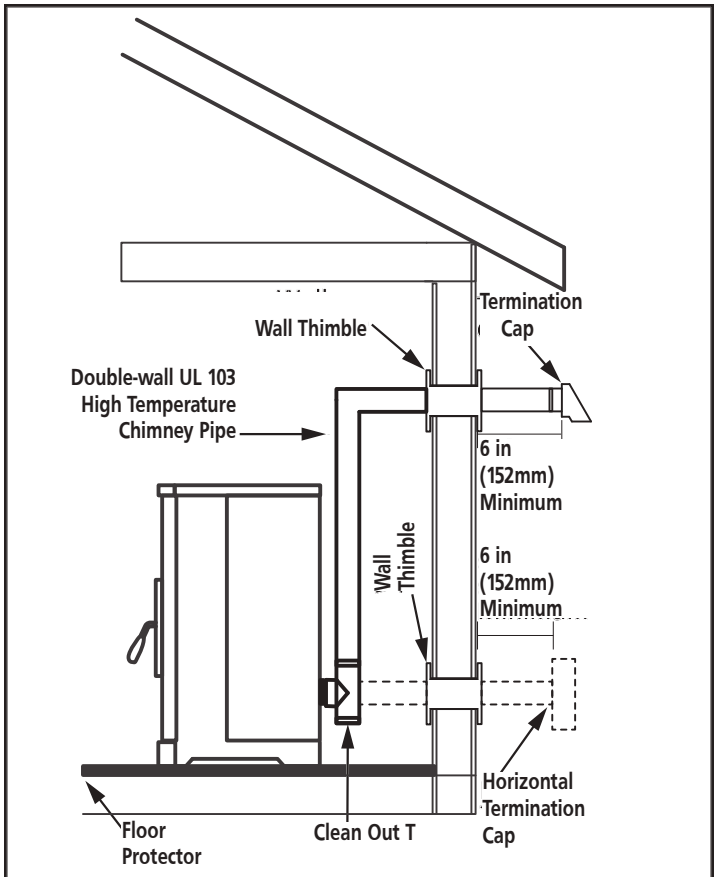


Figure 12 Manufactured Chimney through Wall

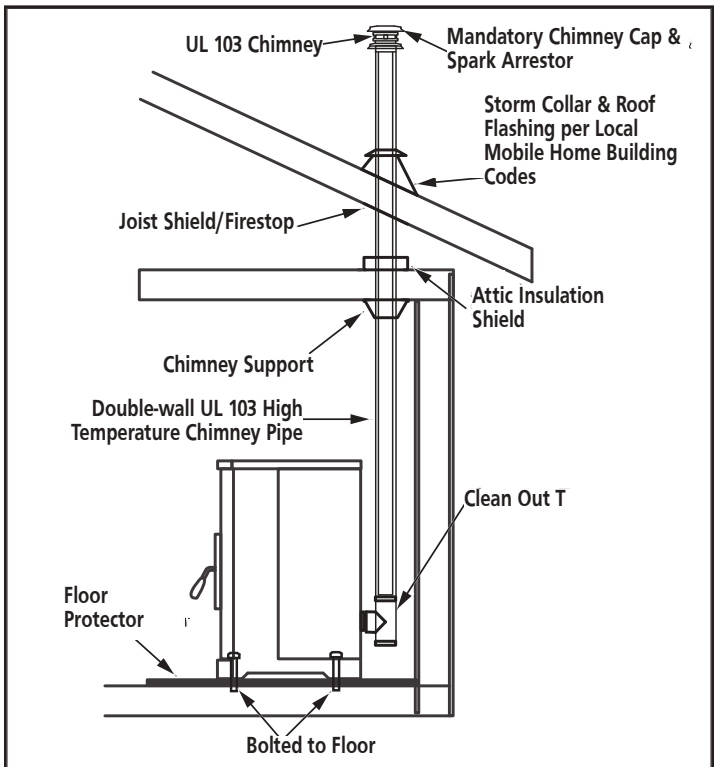


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

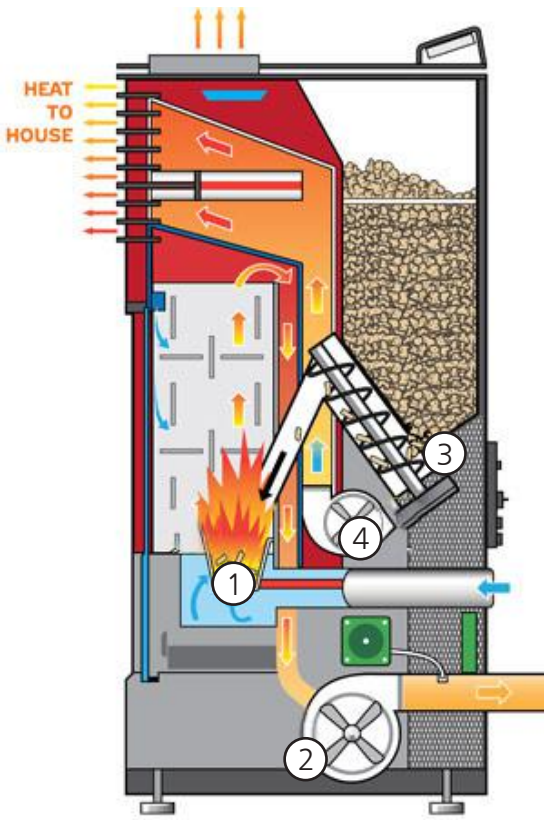


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

⚠ CAUTION: DO NOT store unused pellets in the stove for future use as they may collect moisture. Using wet or damp pellets may result in ignition difficulty, incomplete combustion, and the potential for a hopper fire.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.
3. Press the power button. The stove will begin to automatically progress through the following stages:
   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes
4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Press the power button. The stove will begin to automatically progress through the following stages:
   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.
   - Goodbye: The final message from the display screen to designate that the stove has cooled.
2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 18 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the back bottom of the stove as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

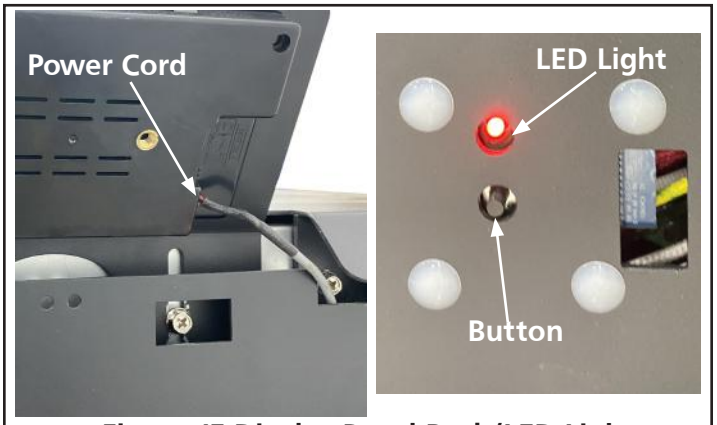


Figure 15 Display Panel Back/LED Light

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings

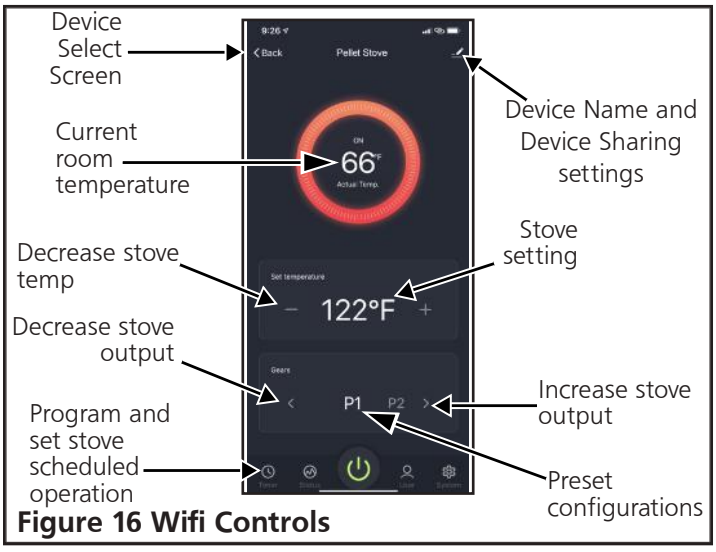


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

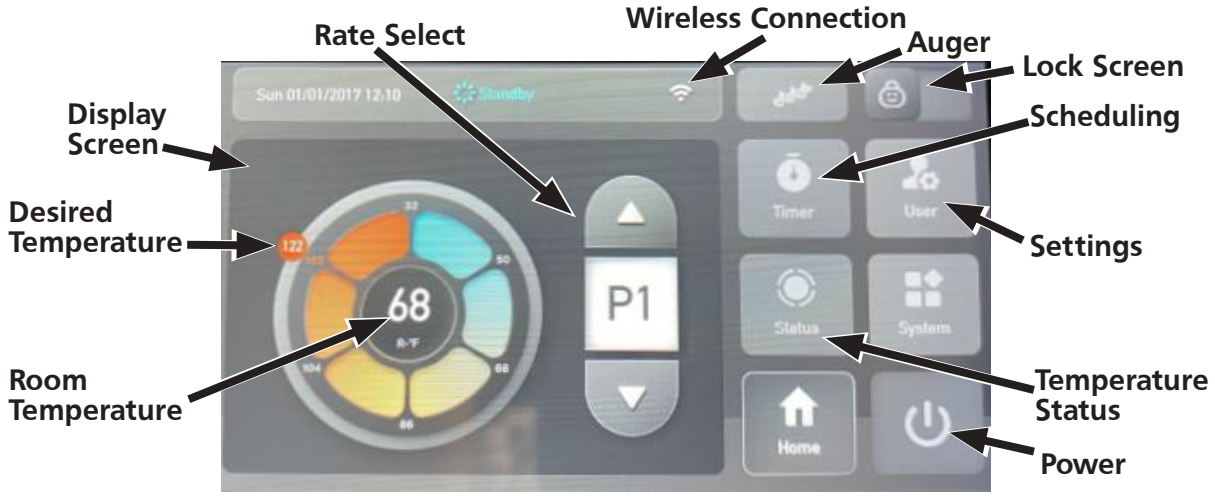


Figure 17a Mounted Multi Function Display Panel

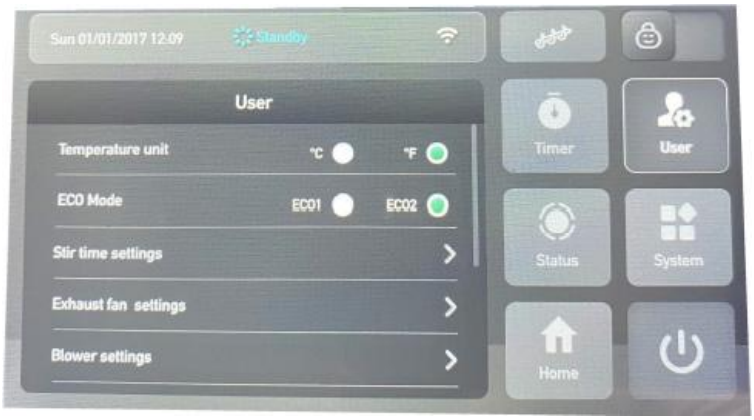


Figure 17b User Menu

Mounted Button Functionality: Normal Operation

Power
- Press to begin stove heating if the stove was off.
- Press to begin stove shut off if the stove was on.

Temperature Status
- Press to see temperature readings of the stove.
- Displays the exhaust pipe temp, the hopper protection temp and number of run hours etc.

Settings
- Press to enter User Settings Menu (Figure 17b).
- On this menu, you may select ˚F or ˚C, ECO Mode (see Wi-Fi controls for explanation), Stir Time/Exhaust Fan/Blower settings, etc.

Scheduling
- Press to enter desired run times.

Lock Screen
- Lock screen will illuminate when screen is locked in a Programmed Mode.

Auger
- Allows user to use/engage the auger directly, prep/pre-feed the firepot, or get pellets into the auger/unit prior to lighting.

Rate Select
- Pressing the rate select arrows will toggle between four configurable heating presets (see Wi-Fi controls for explanation of P#'s). The currently set preset is displayed between the Up and Down arrows.

Desired Temperature
- Using your finger, press down and rotate around the wheel to desired temperature (only applicable when using Thermostat and ECO modes).

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

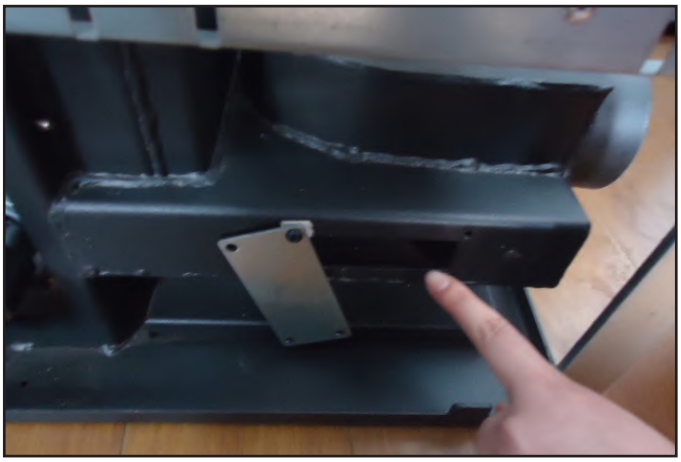


Figure 18 Inlet Duct

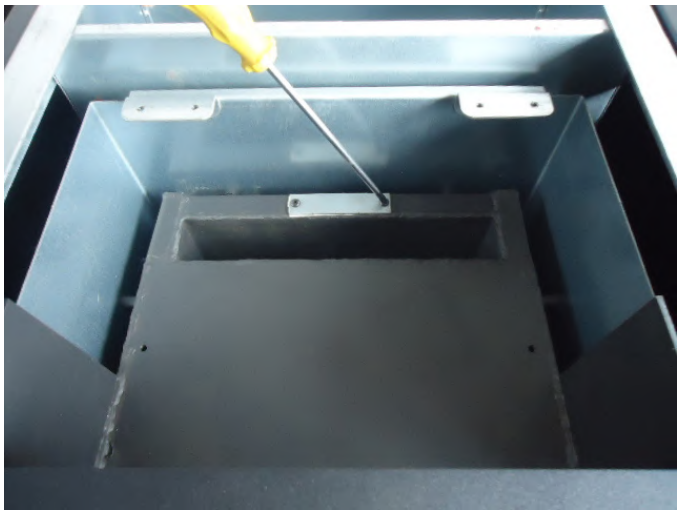


Figure 19 Dutlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 20. This task is to be performed every day, while the stove is cooled down and unplugged.

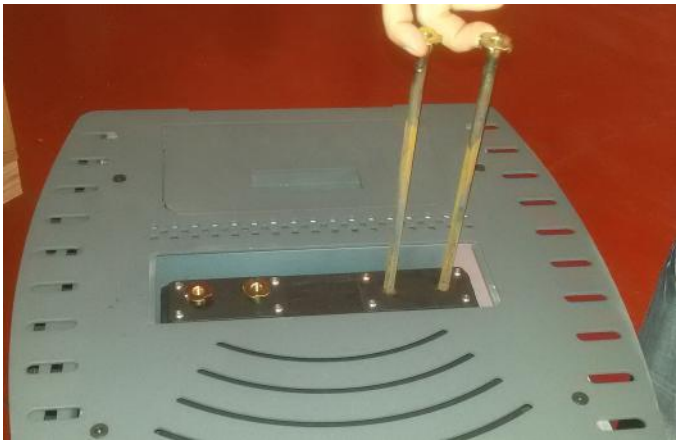


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

> ⚠ **WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.**

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

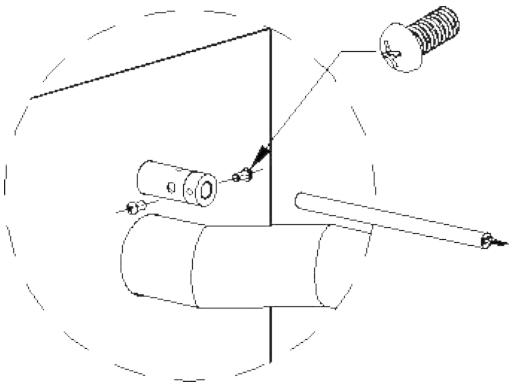


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

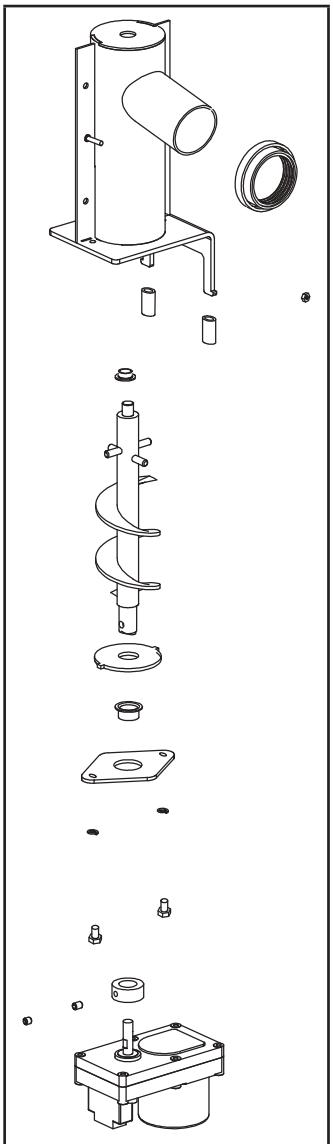


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
E9	Hopper sensor. Hopper low on pellets.	1. Replenish pellets in hopper.
ESC1	Short circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESC2	Short circuit at temperature sensor #2.	1. Check wires and connection points. 2. Replace Motherboard.
ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.

TROUBLESHOOTING CONTINUED

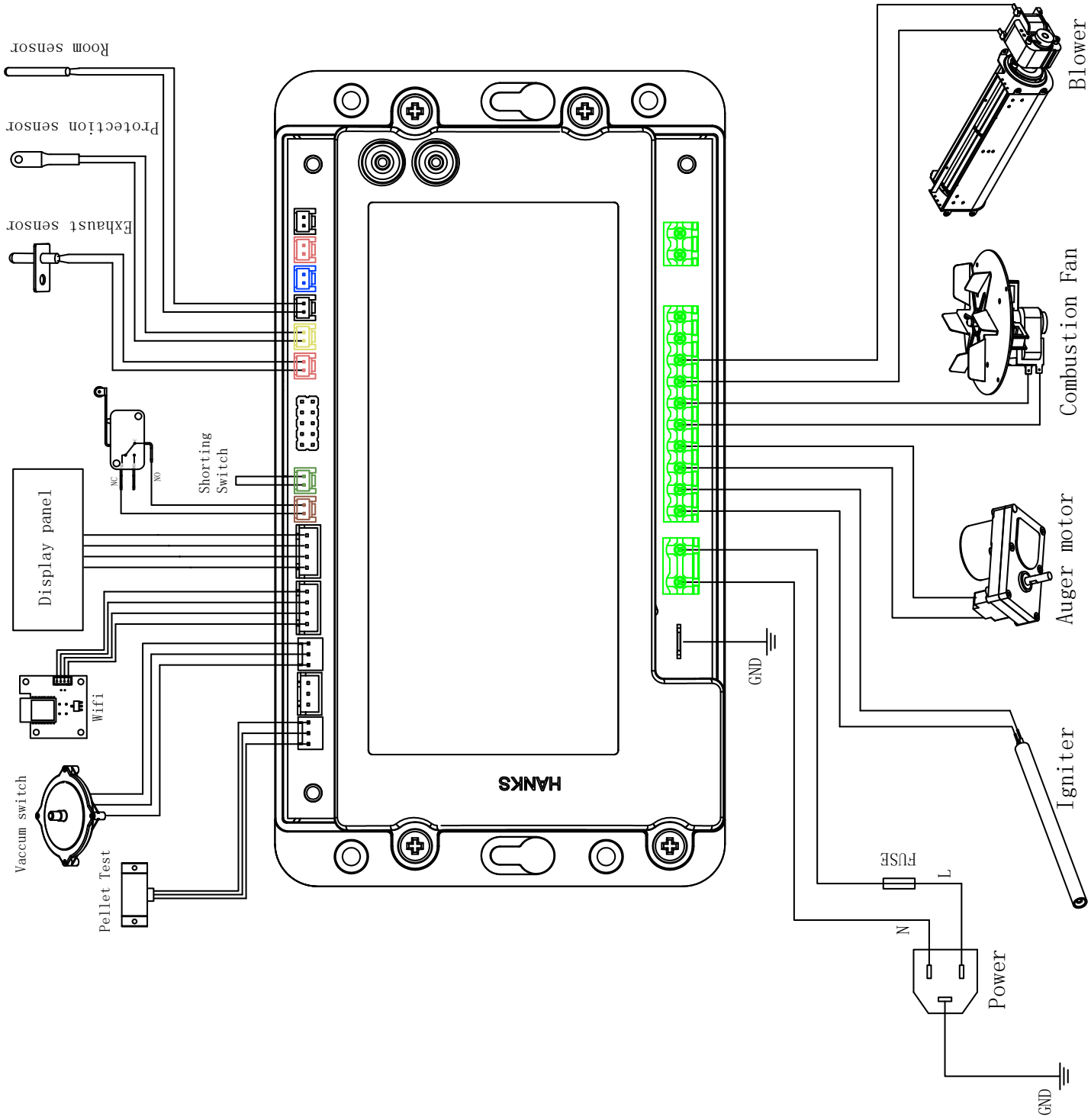
SYMPTOM	CAUSE	SOLUTION
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

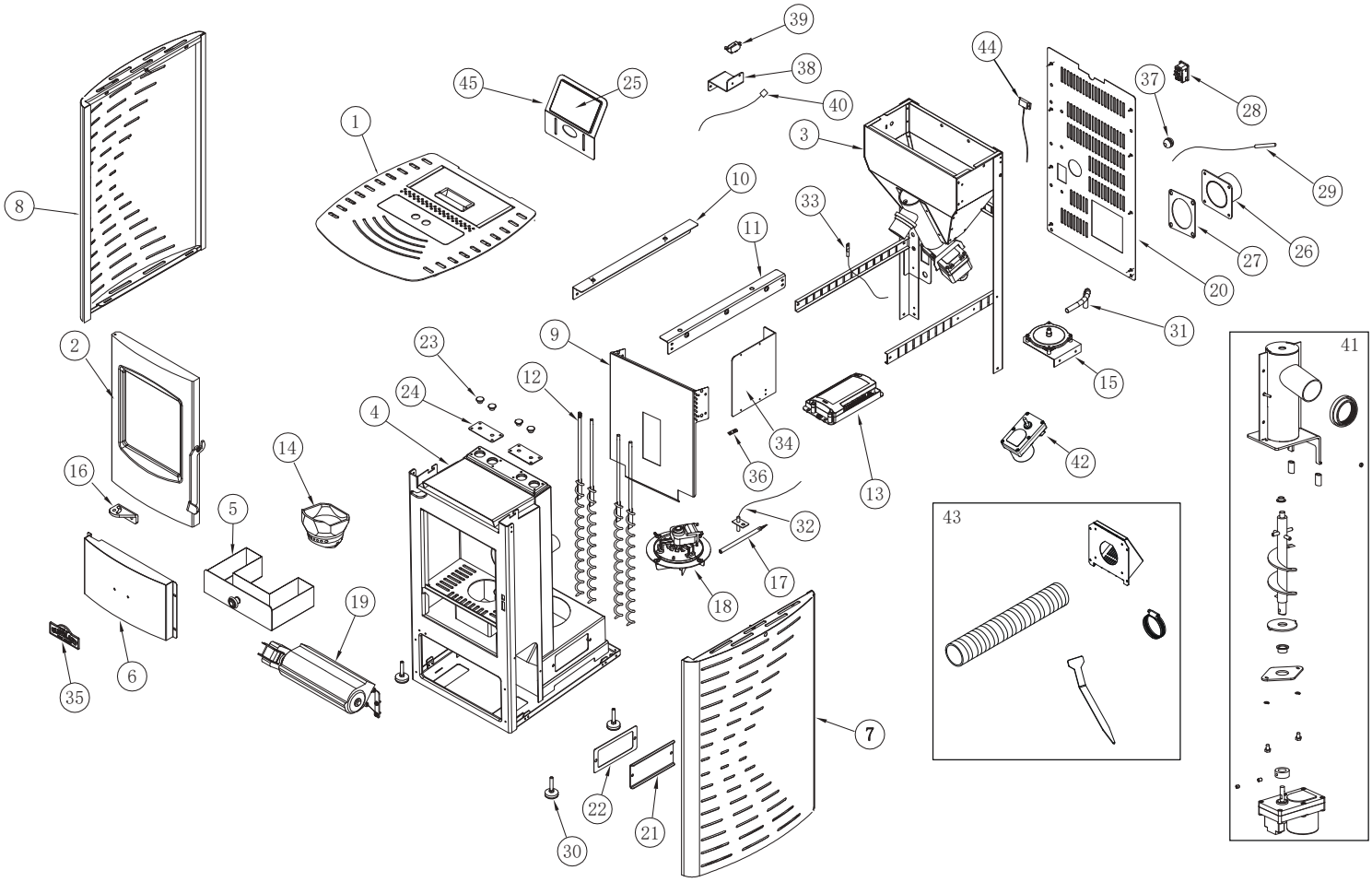
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL J20WTS

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66664	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge
17	66608	Igniter

NO.	PART NUM.	DESCRIPTION
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66702	Touch Screen
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor

NO.	PART NUM.	DESCRIPTION
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	n/a	Wire Grommit
38	n/a	Switch fixing board
39	66617	Hopper Lid Switch
40	66694	Switch Wire
41	66695	Auger Assembly
42	66696	Auger Motor
43	66659	Accessory Kit
44	66701	Hopper Sensor
45	66837	Touch Screen Bracket
N/S	66854	Power Cord
N/S	66856	Data Cable
N/S	66858	Door Pin

N/S - Not Shown

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # J20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # N20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

N20W

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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FCC INFORMATION

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

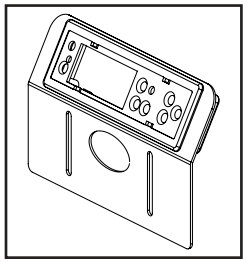
SPECIFICATIONS

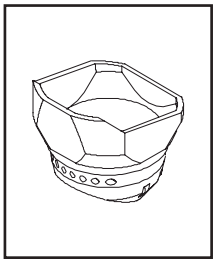
Model #	N20W
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

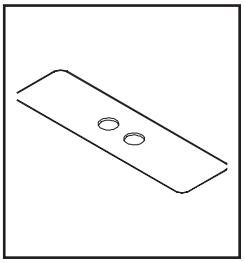
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
N20W: 23,945 to 10,796 Btu/hr

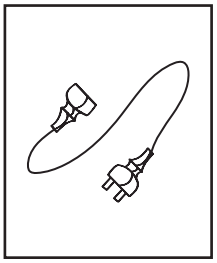
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

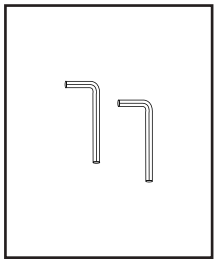
GETTING STARTED

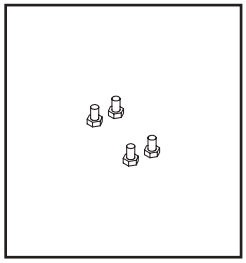

Display Panel

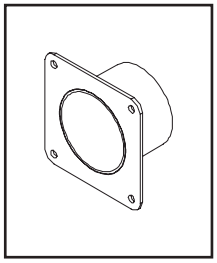

Firepot

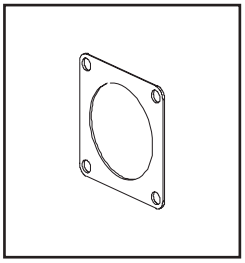

Cover

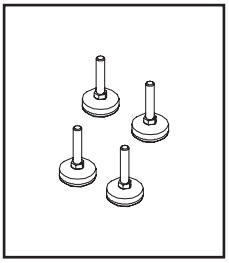

Main Power Cord


Allen Wrenches (x2)

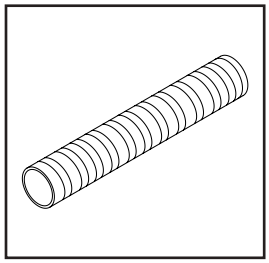

Screws (x4)

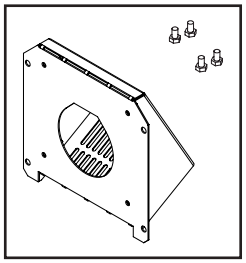

Exhaust Connector

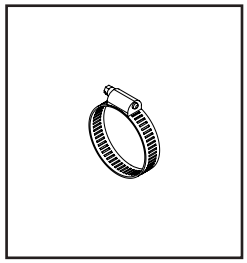

Exhaust Connector Silicon Pad

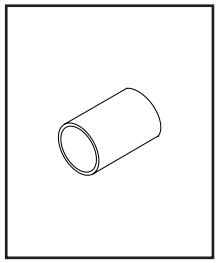

Stove Feet

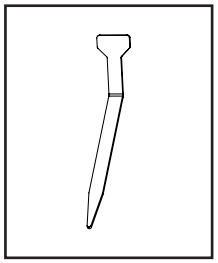
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

BATTERY INFORMATION FOR REMOTE

The remote that is shipped with your stove comes with one (1) 3V CR2025 Lithium Battery installed.

IMPORTANT:

- Non-rechargeable batteries are not to be recharged.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the remote.
- Caution for ingestion.

⚠ WARNING: DO NOT DISPOSE OF BATTERIES IN FIRE. BATTERIES MAY EXPLODE OR LEAK.

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

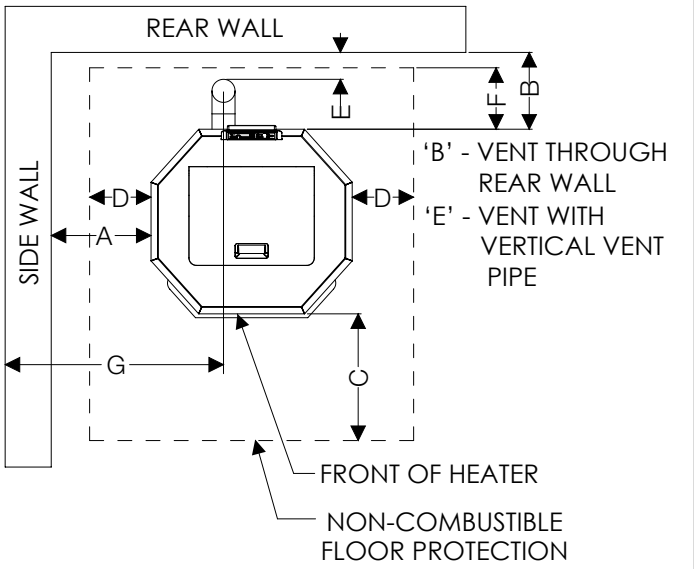


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

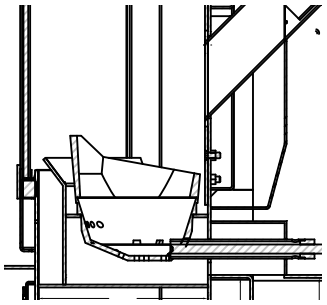


Figure 2: N20W Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: N20W Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact the manufacturer with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

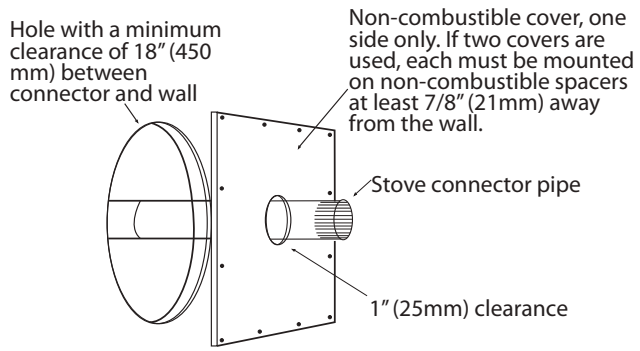


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

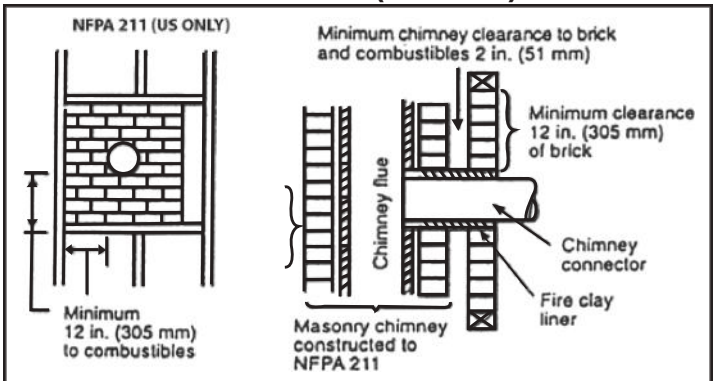


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

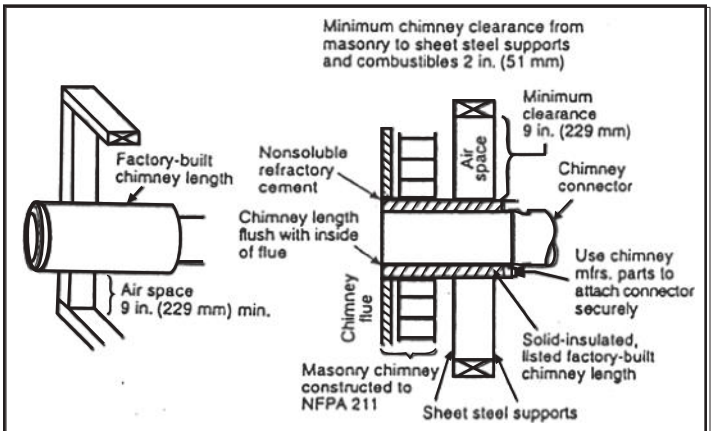


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

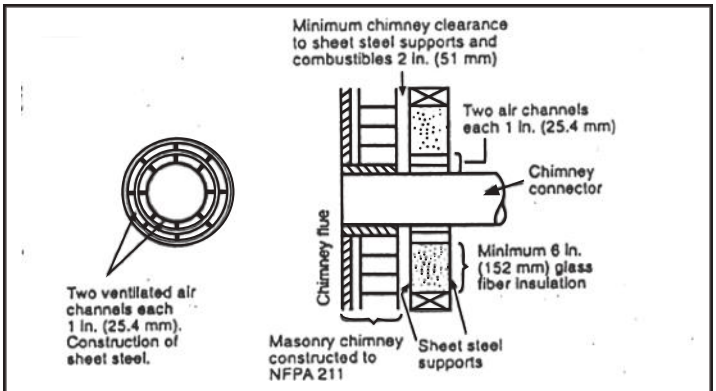


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

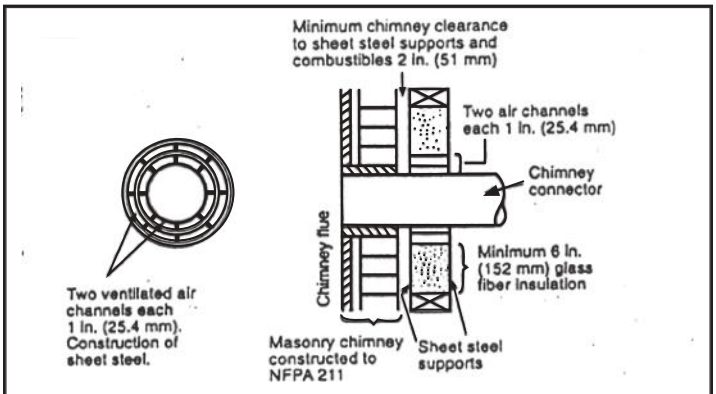


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

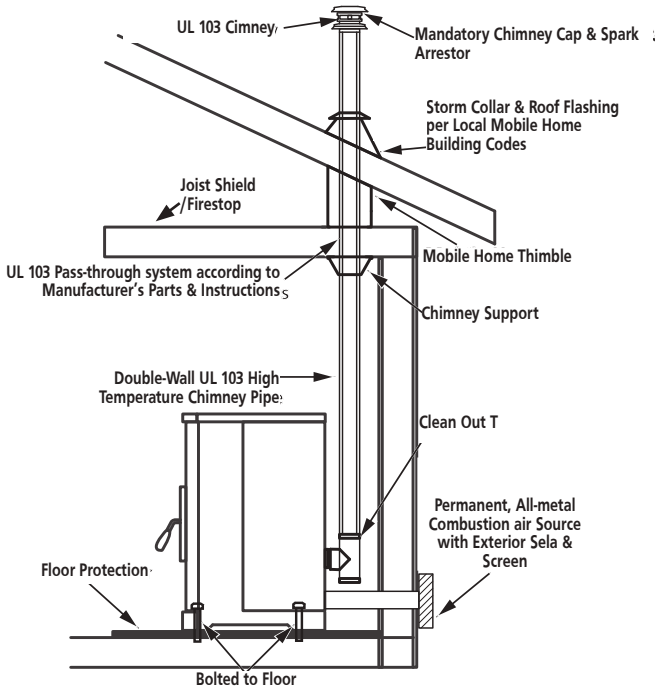


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

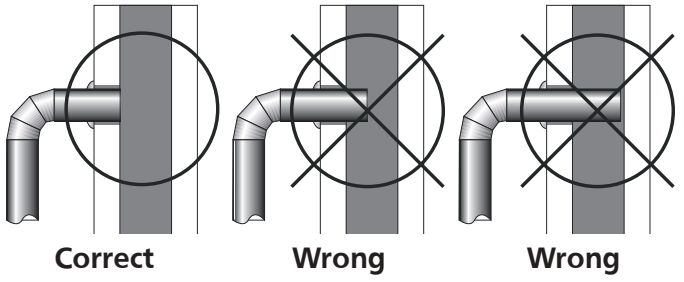


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

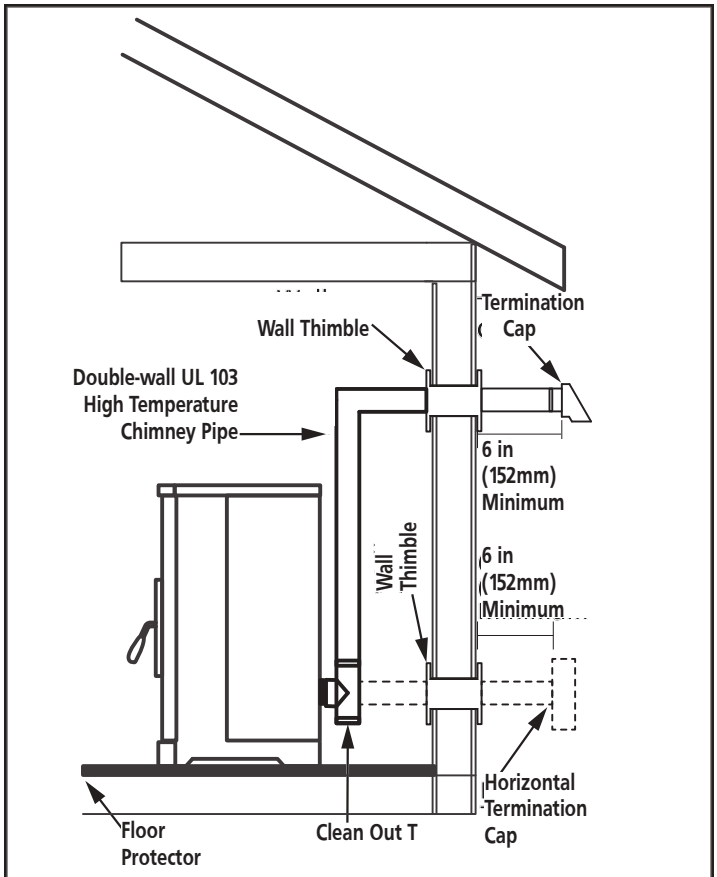


Figure 12 Manufactured Chimney through Wall

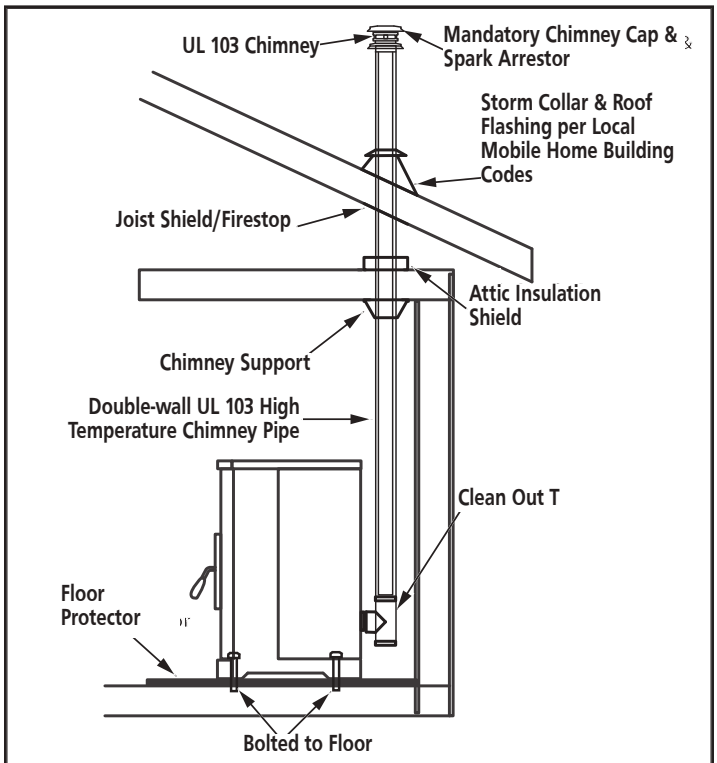


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

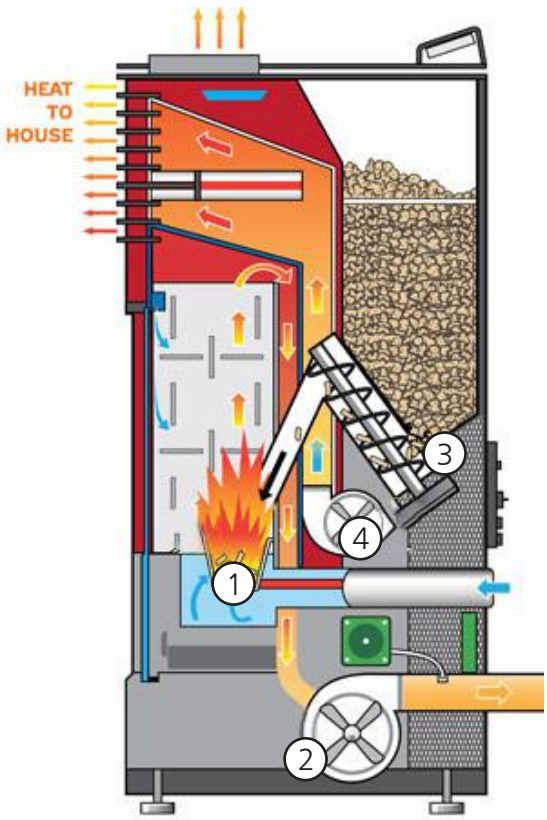


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

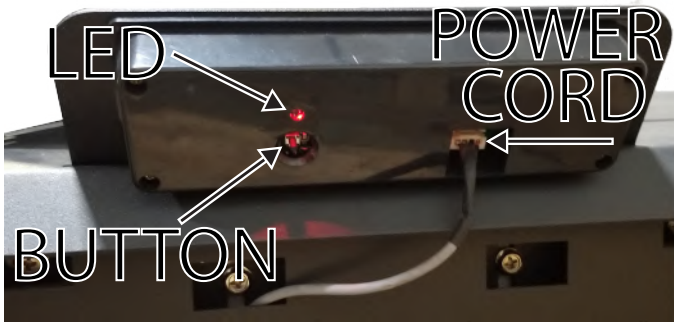


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

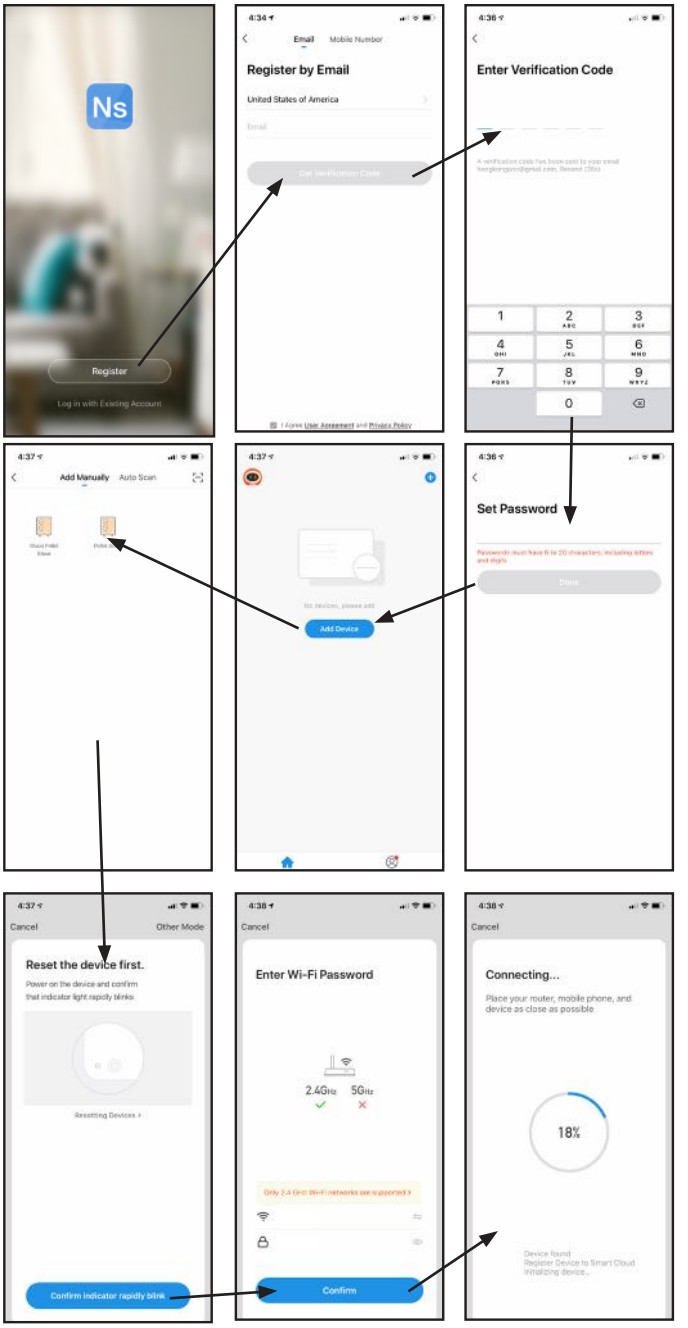
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



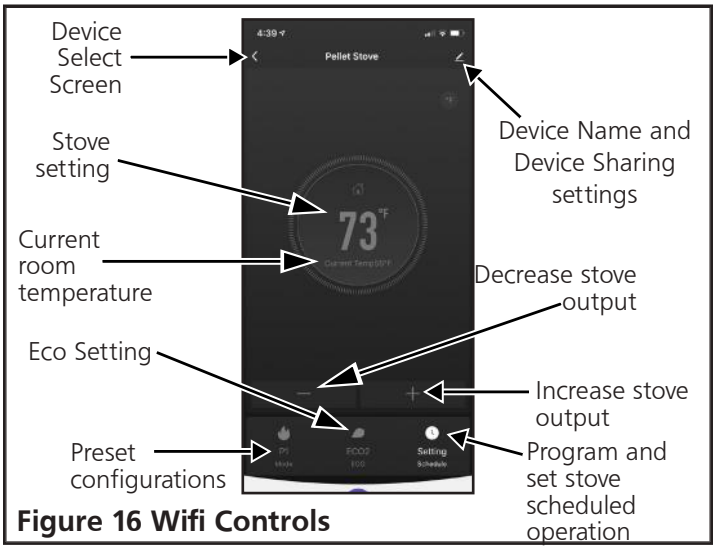


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

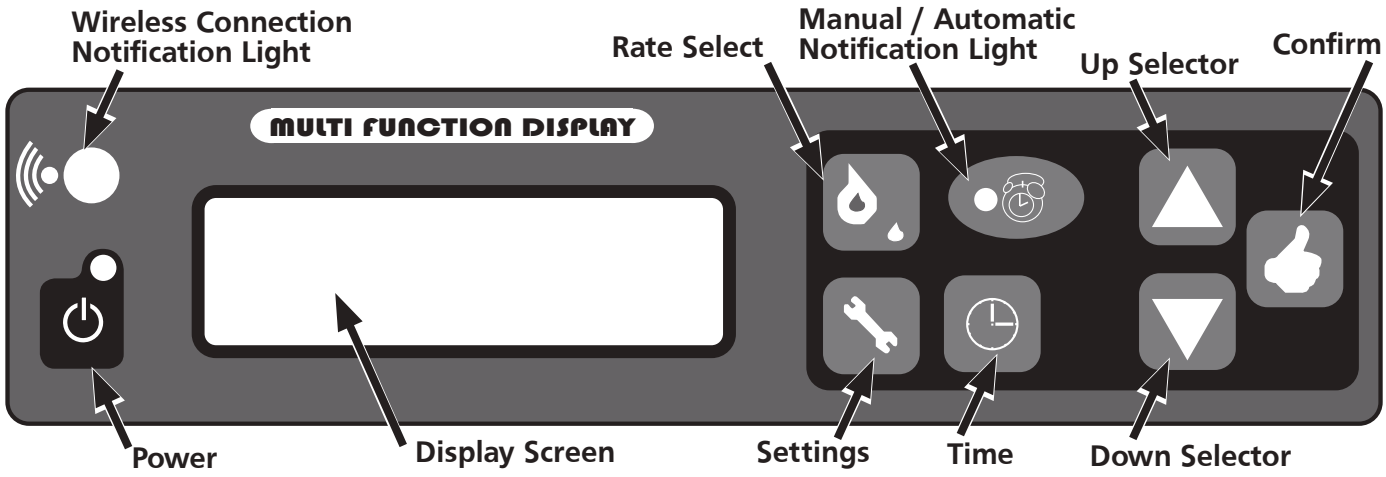


Figure 17a Mounted Multi Function Controls Panel

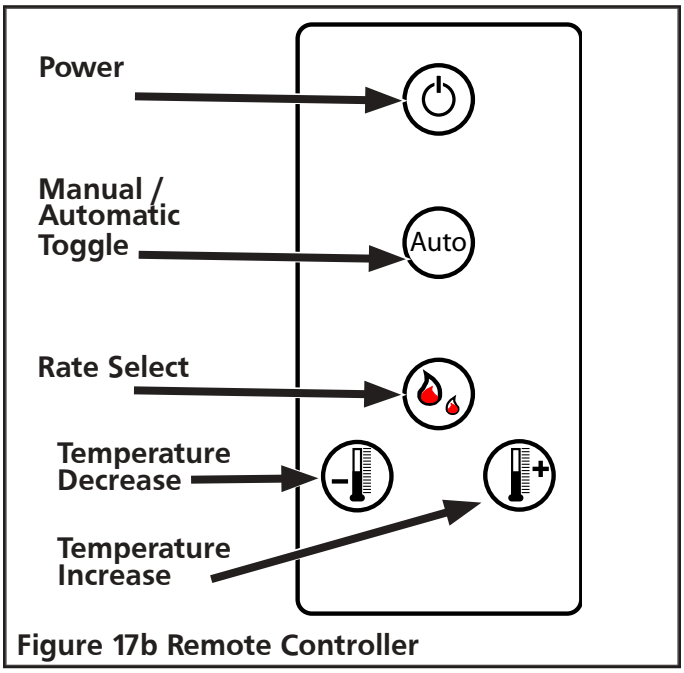


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

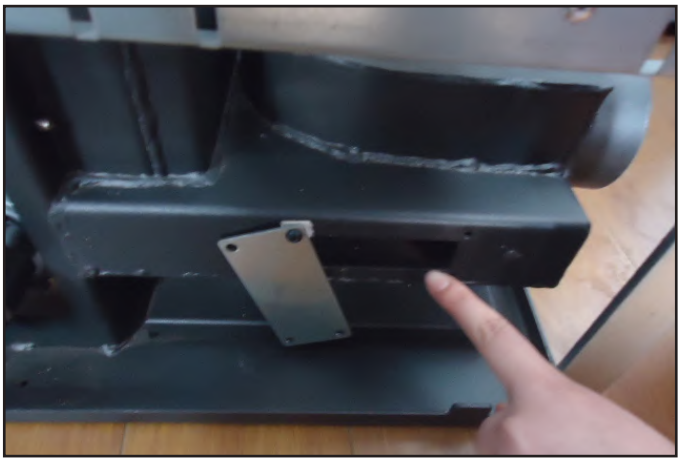


Figure 18 Inlet Duct

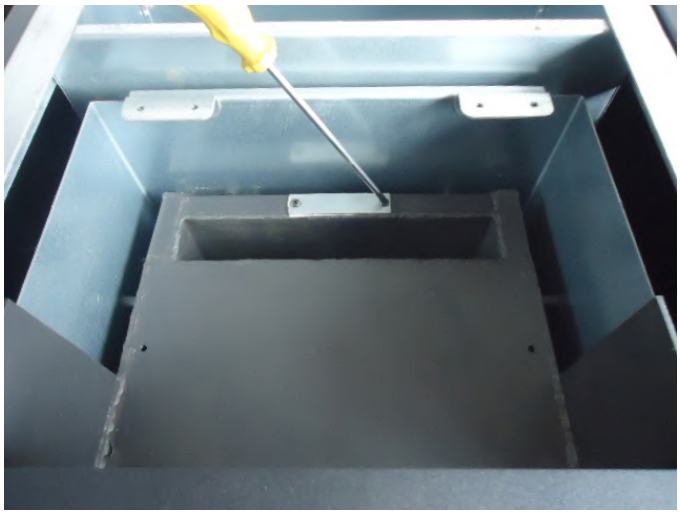


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

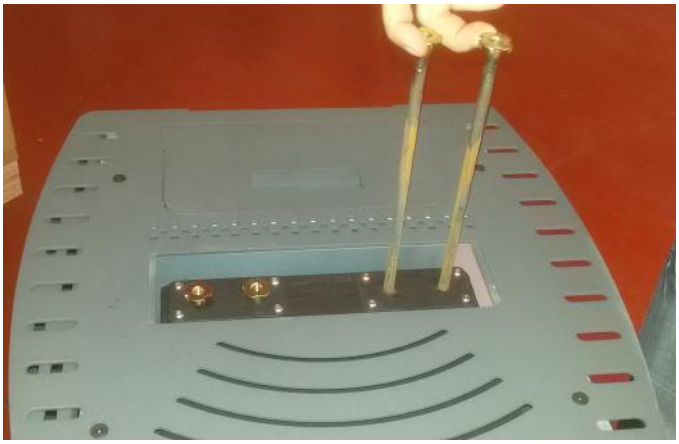


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

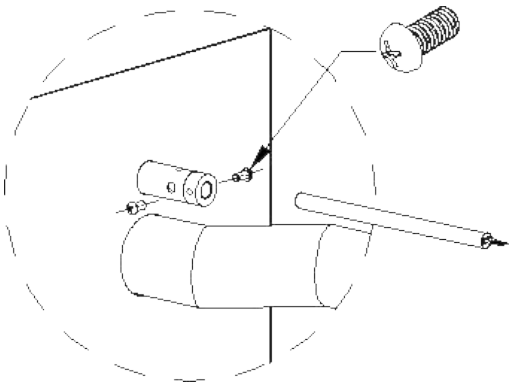


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

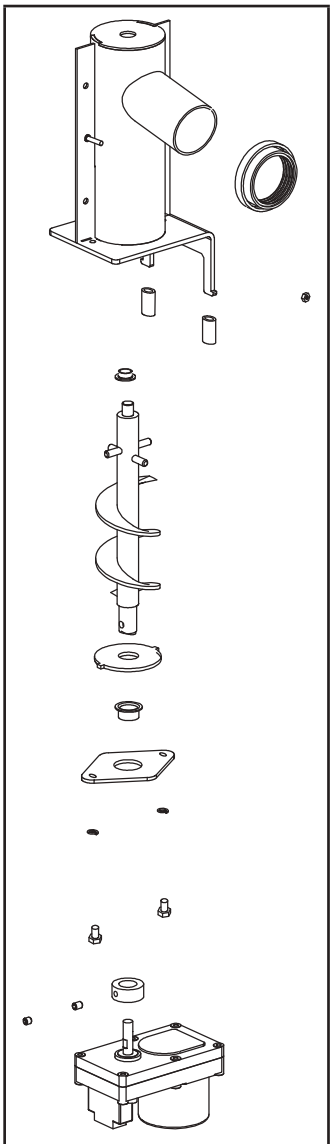


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °C Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (refer to exploded view).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

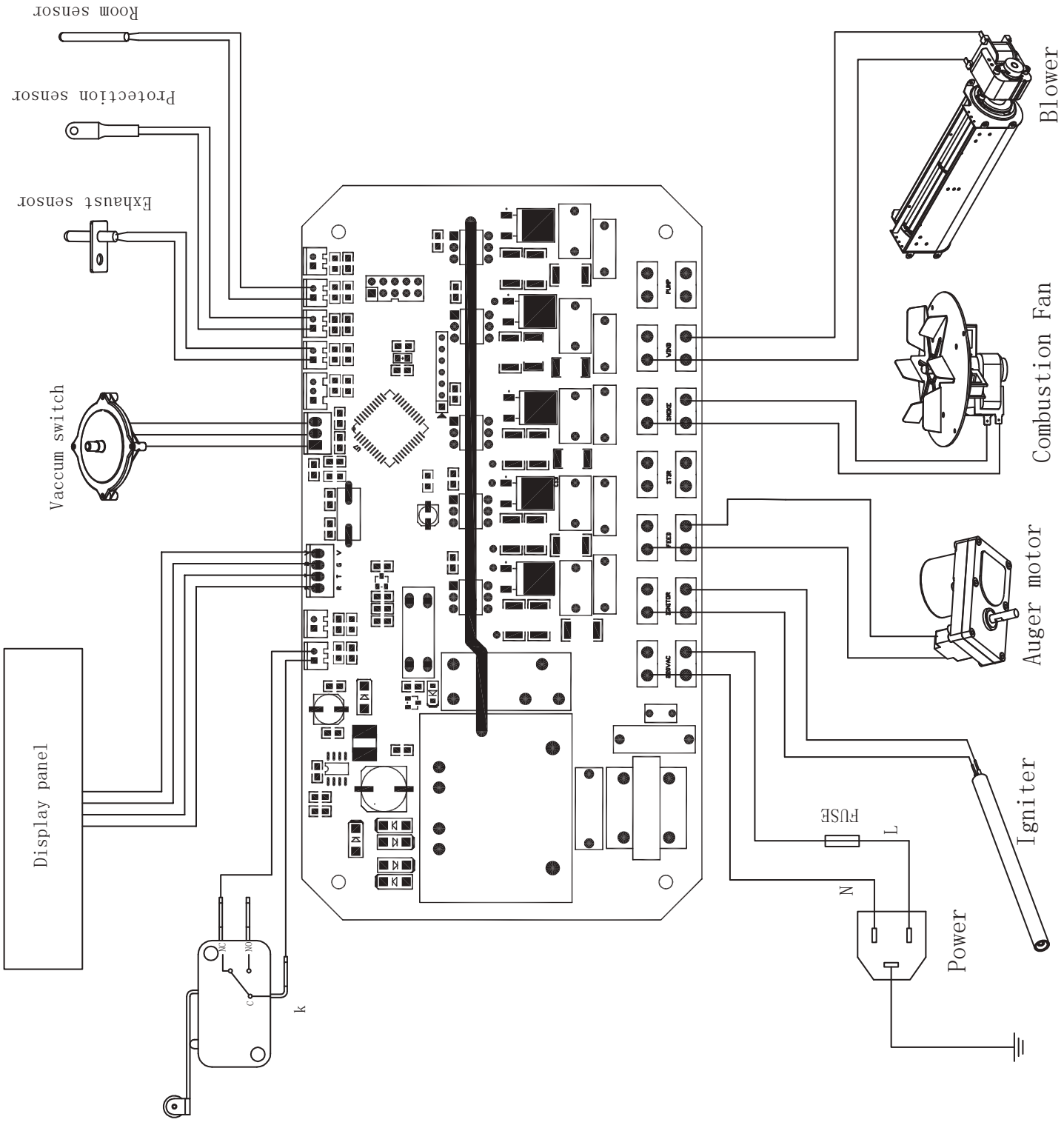
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

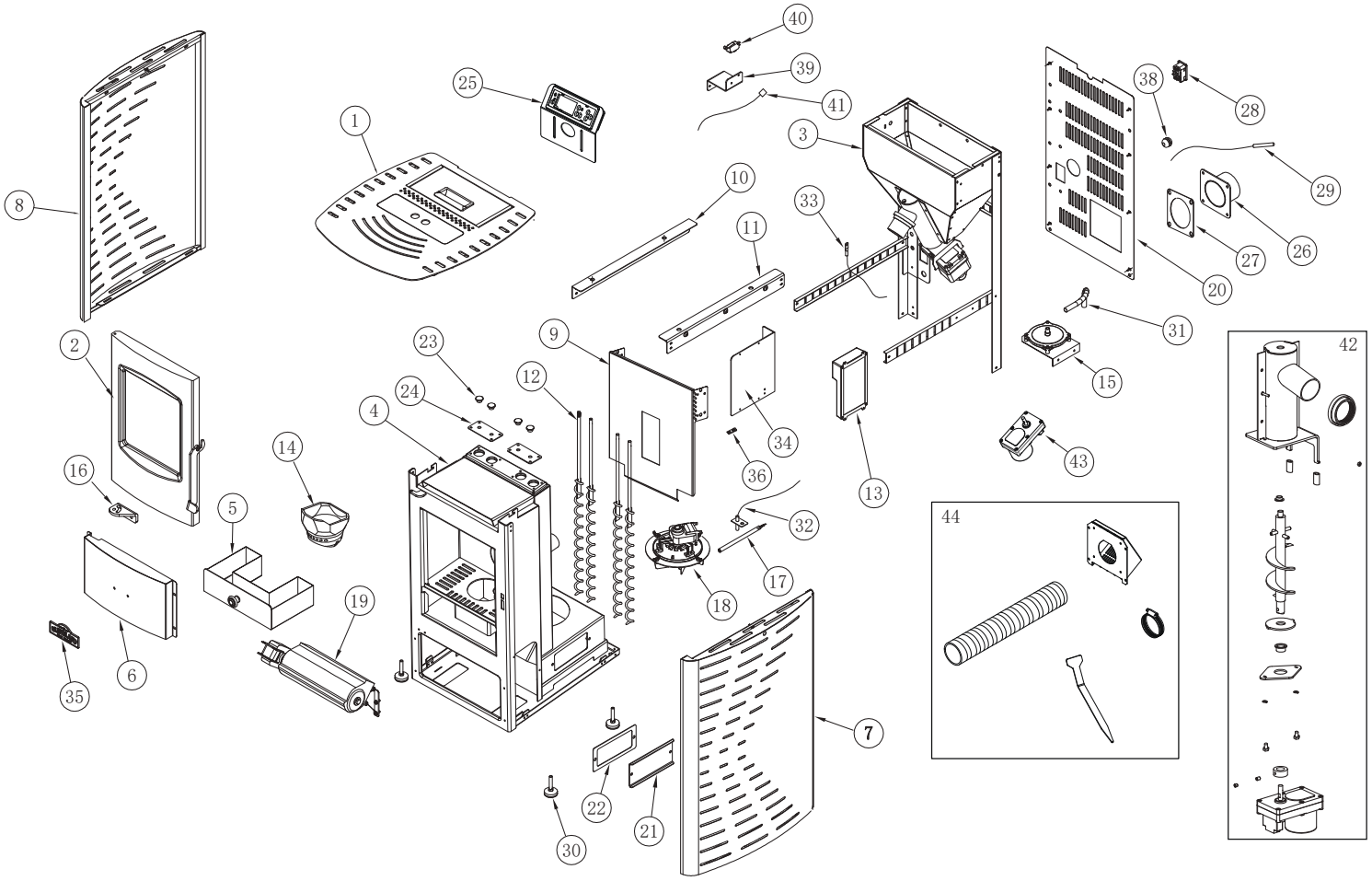
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL N20W

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Hopper Lid Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model #
N20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY.

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

US Patent Pending

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # N20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

N20WTS

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

66905 REV A

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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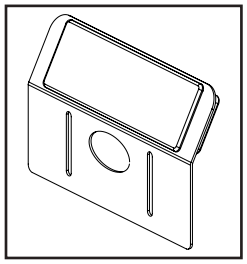
SPECIFICATIONS

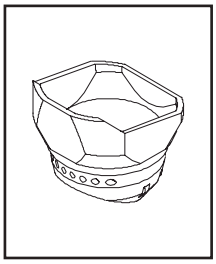
Model #	N20WTS
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	800 (74.3)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70 - Dry)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78 - Dry)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77 - Dry)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

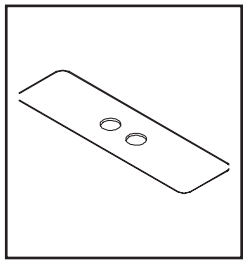
This manual describes the installation and operation of the wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from:
N20WTS: 23,945 to 10,796 Btu/hr

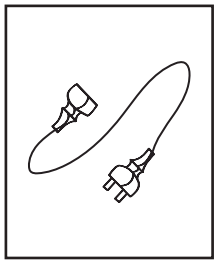
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

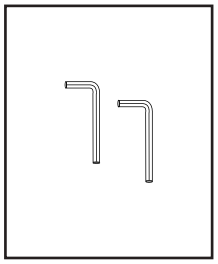
GETTING STARTED

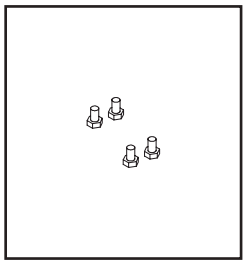

Display Panel

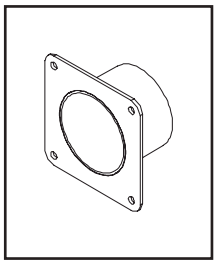

Firepot

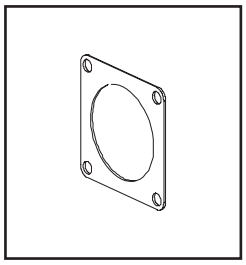

Cover

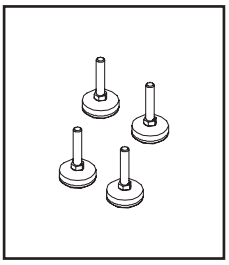

Main Power Cord


Allen Wrenches (x2)

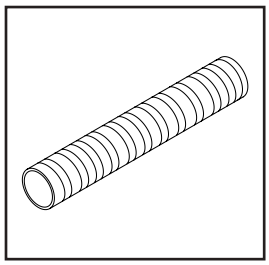

Screws (x4)

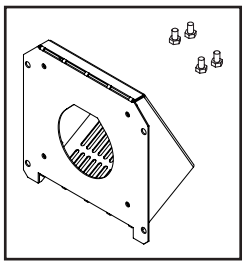

Exhaust Connector

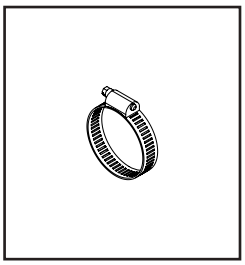

Exhaust Connector Silicon Pad

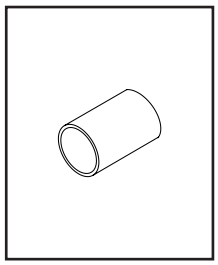

Stove Feet

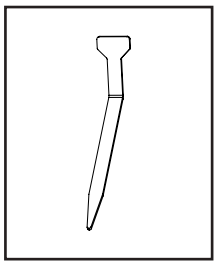
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

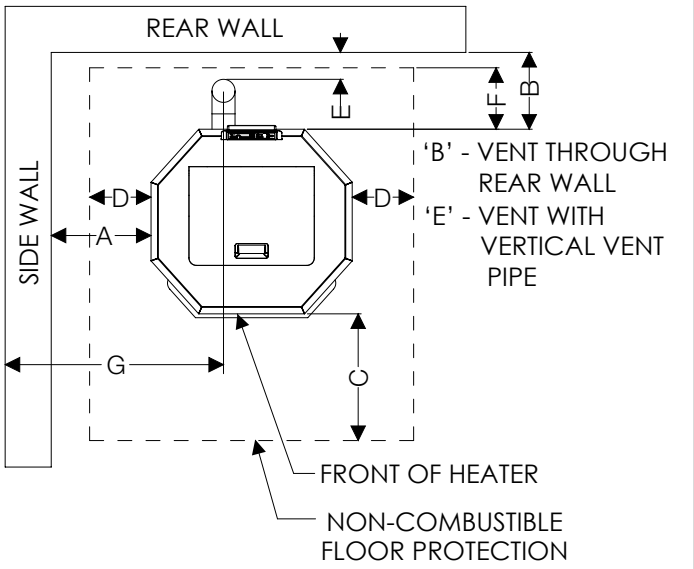


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

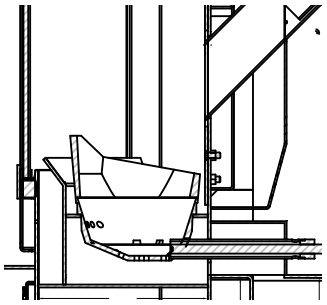


Figure 2: N20WTS Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: N20WTS Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Enerco Group, Inc. at 1-800-251-0001. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Enerco Group, Inc. with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

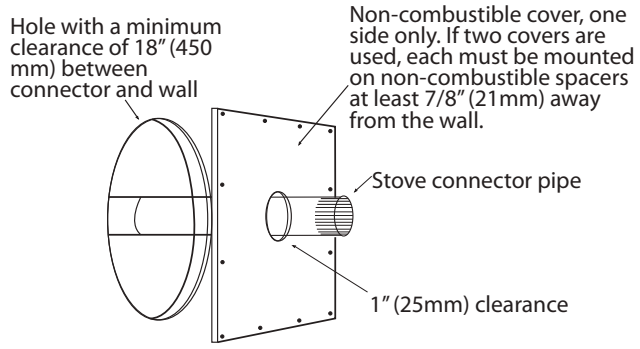


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

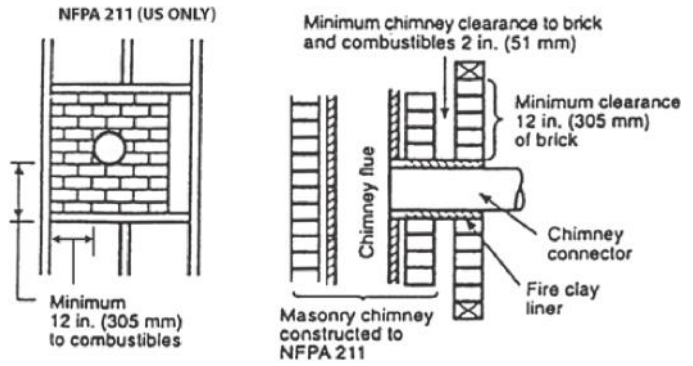


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

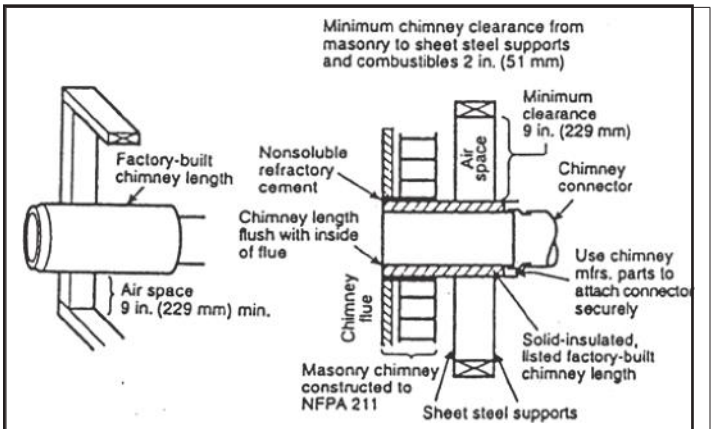


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

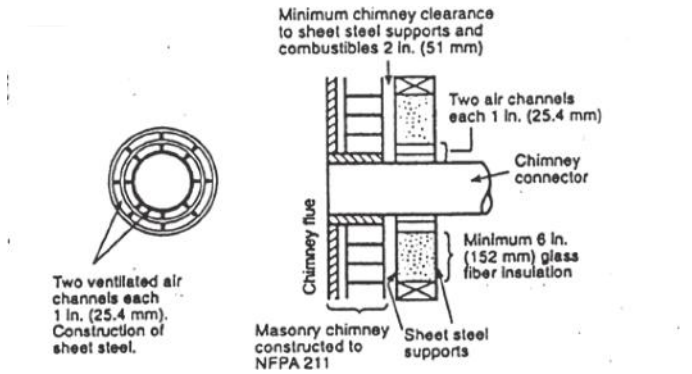


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

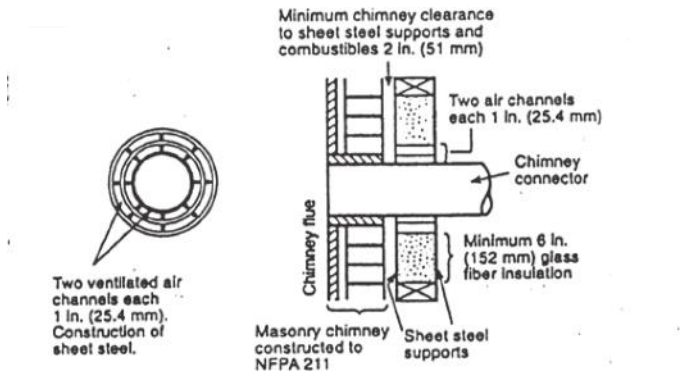


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

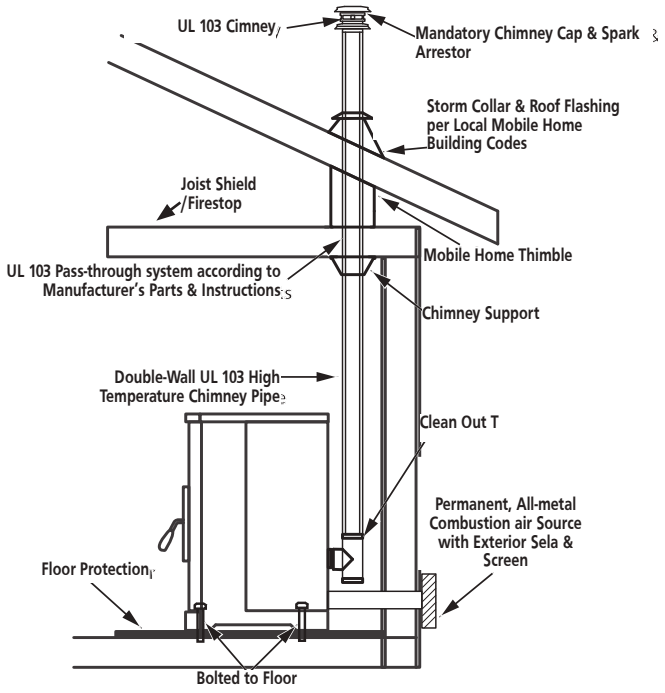


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 10 below illustrates.

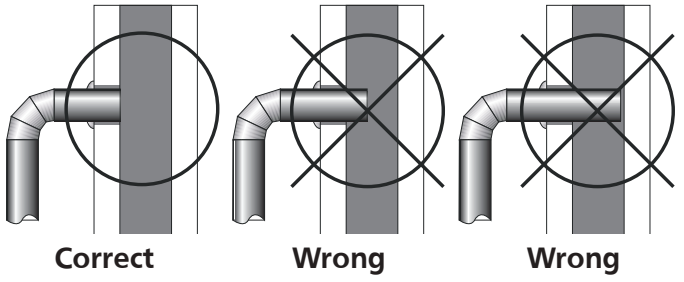


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

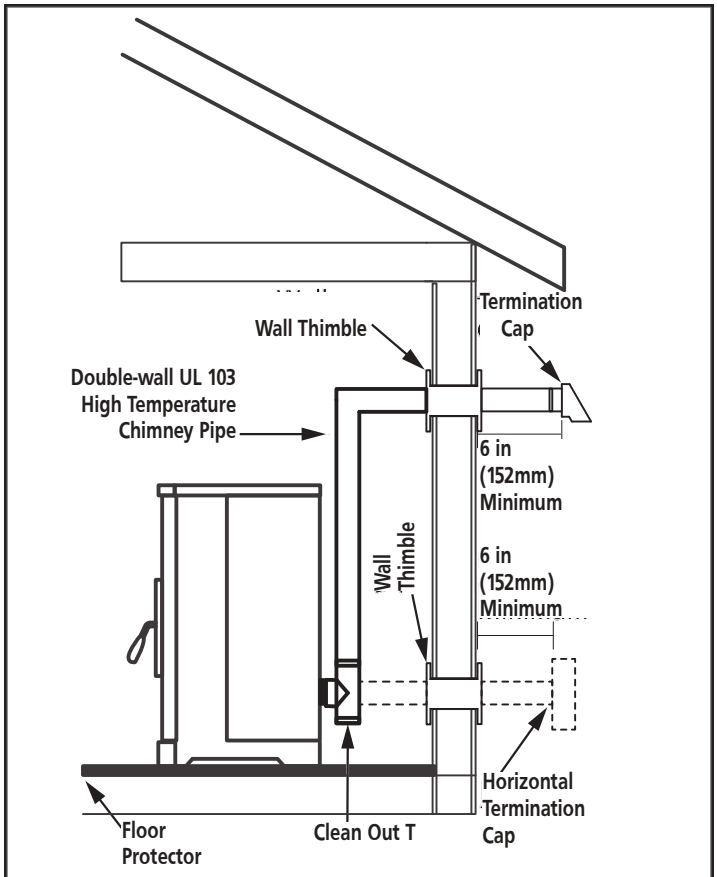


Figure 12 Manufactured Chimney through Wall

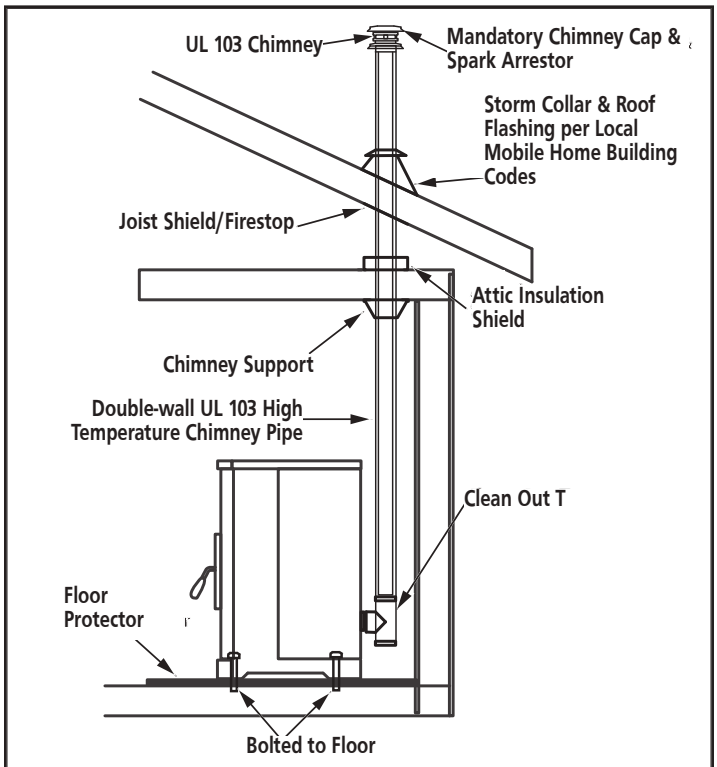


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

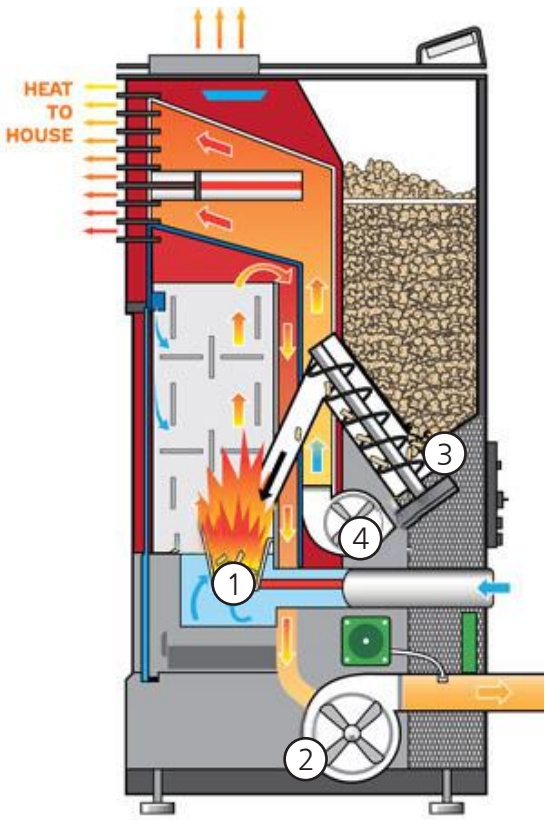


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

⚠ CAUTION: DO NOT store unused pellets in the stove for future use as they may collect moisture. Using wet or damp pellets may result in ignition difficulty, incomplete combustion, and the potential for a hopper fire.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.
3. Press the power button. The stove will begin to automatically progress through the following stages:
   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes
4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Press the power button. The stove will begin to automatically progress through the following stages:
   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.
   - Goodbye: The final message from the display screen to designate that the stove has cooled.
2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 18 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the back bottom of the stove as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

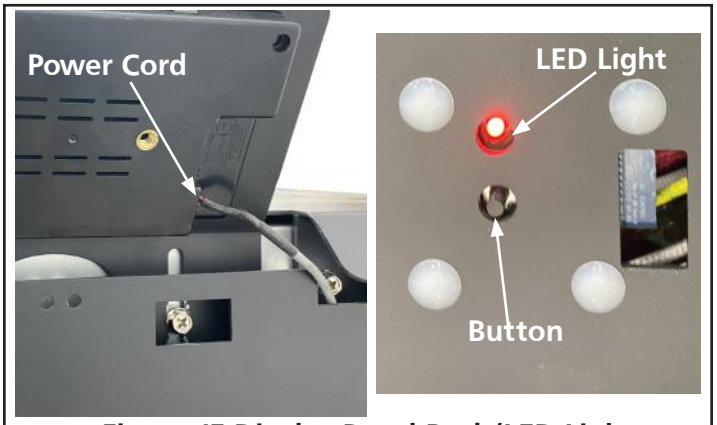


Figure 15 Display Panel Back/LED Light

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings

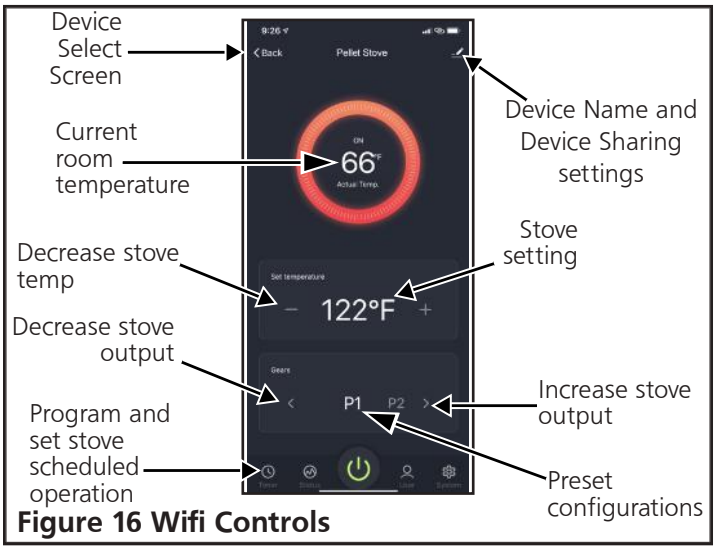


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

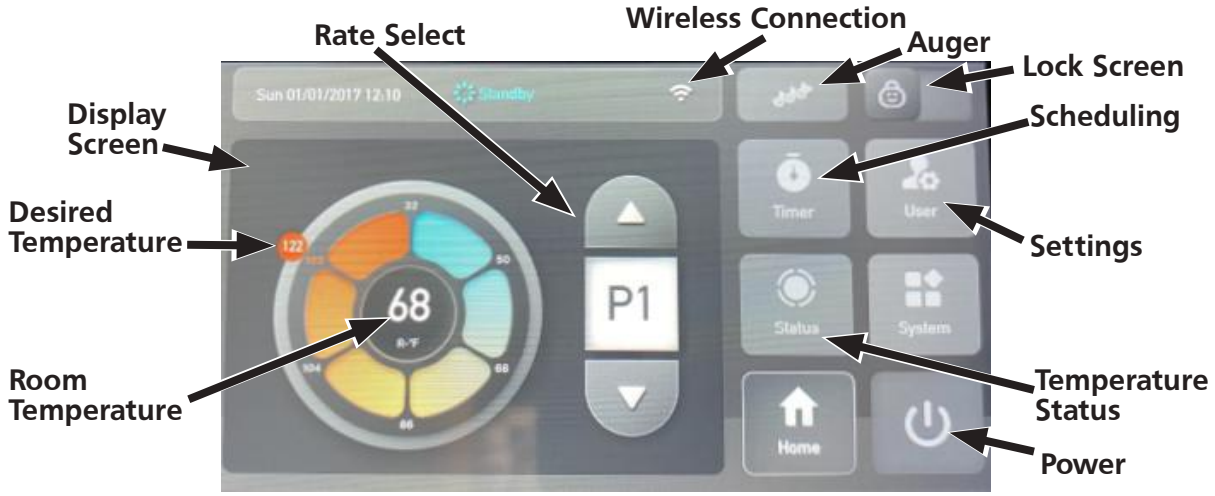


Figure 17a Mounted Multi Function Display Panel

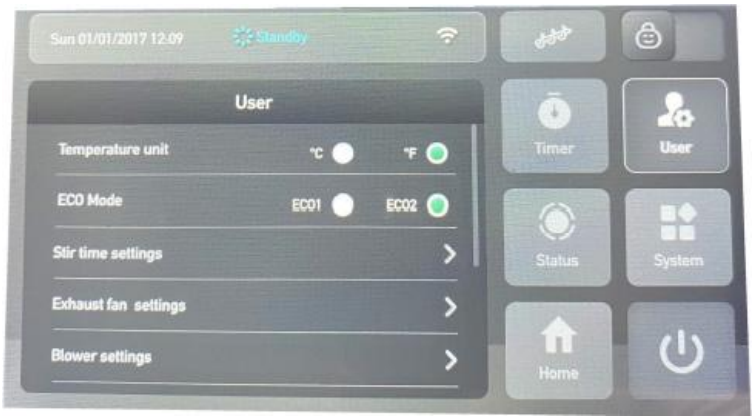


Figure 17b User Menu

Mounted Button Functionality: Normal Operation

Power
- Press to begin stove heating if the stove was off.
- Press to begin stove shut off if the stove was on.

Temperature Status
- Press to see temperature readings of the stove.
- Displays the exhaust pipe temp, the hopper protection temp and number of run hours etc.

Settings
- Press to enter User Settings Menu (Figure 17b).
- On this menu, you may select ˚F or ˚C, ECO Mode (see Wi-Fi controls for explanation), Stir Time/Exhaust Fan/Blower settings, etc.

Scheduling
- Press to enter desired run times.

Lock Screen
- Lock screen will illuminate when screen is locked in a Programmed Mode.

Auger
- Allows user to use/engage the auger directly, prep/pre-feed the firepot, or get pellets into the auger/unit prior to lighting.

Rate Select
- Pressing the rate select arrows will toggle between four configurable heating presets (see Wi-Fi controls for explanation of P#'s). The currently set preset is displayed between the Up and Down arrows.

Desired Temperature
- Using your finger, press down and rotate around the wheel to desired temperature (only applicable when using Thermostat and ECO modes).

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

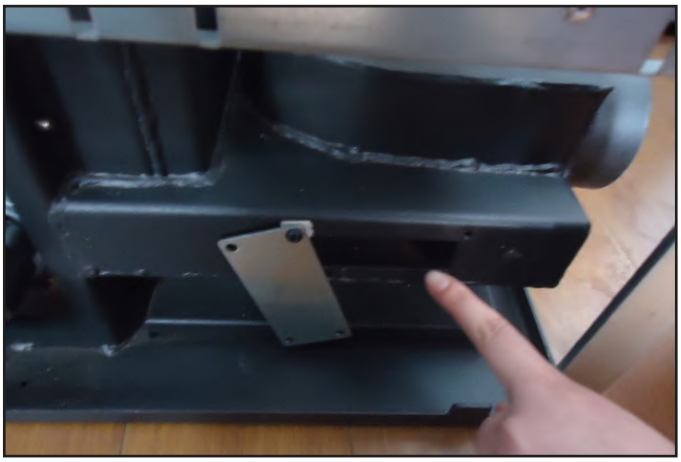


Figure 18 Inlet Duct

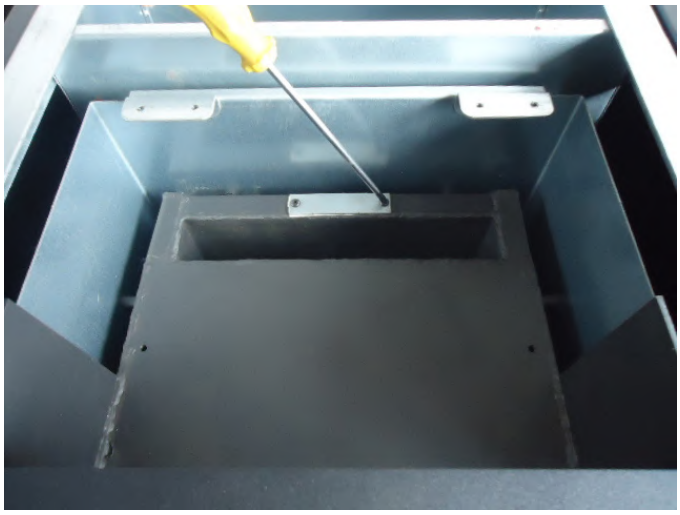


Figure 19 Dutlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 20. This task is to be performed every day, while the stove is cooled down and unplugged.

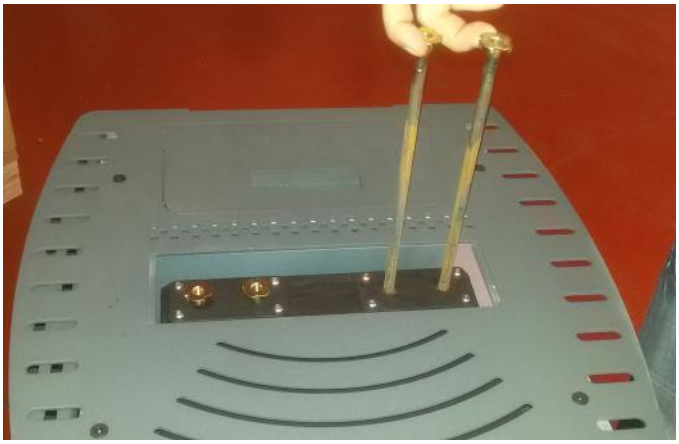


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

> ⚠ **WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.**

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

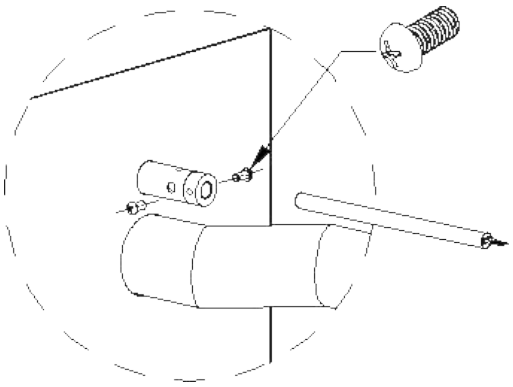


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

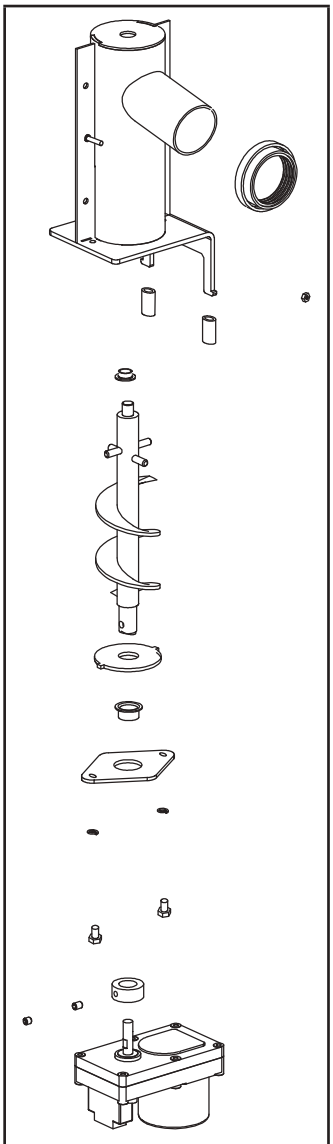


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
E9	Hopper sensor. Hopper low on pellets.	1. Replenish pellets in hopper.
ESC1	Short circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESC2	Short circuit at temperature sensor #2.	1. Check wires and connection points. 2. Replace Motherboard.
ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.

TROUBLESHOOTING CONTINUED

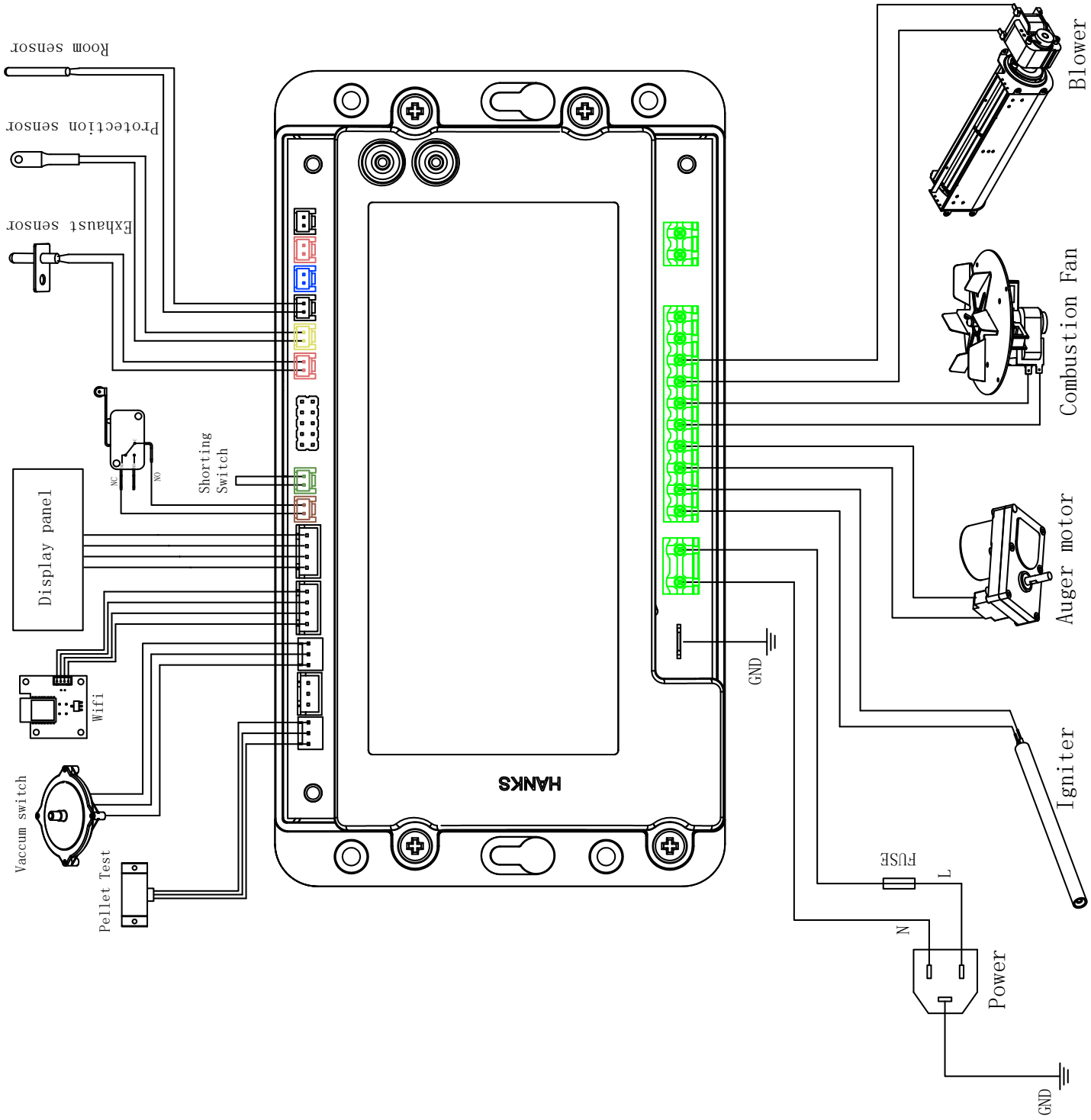
SYMPTOM	CAUSE	SOLUTION
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

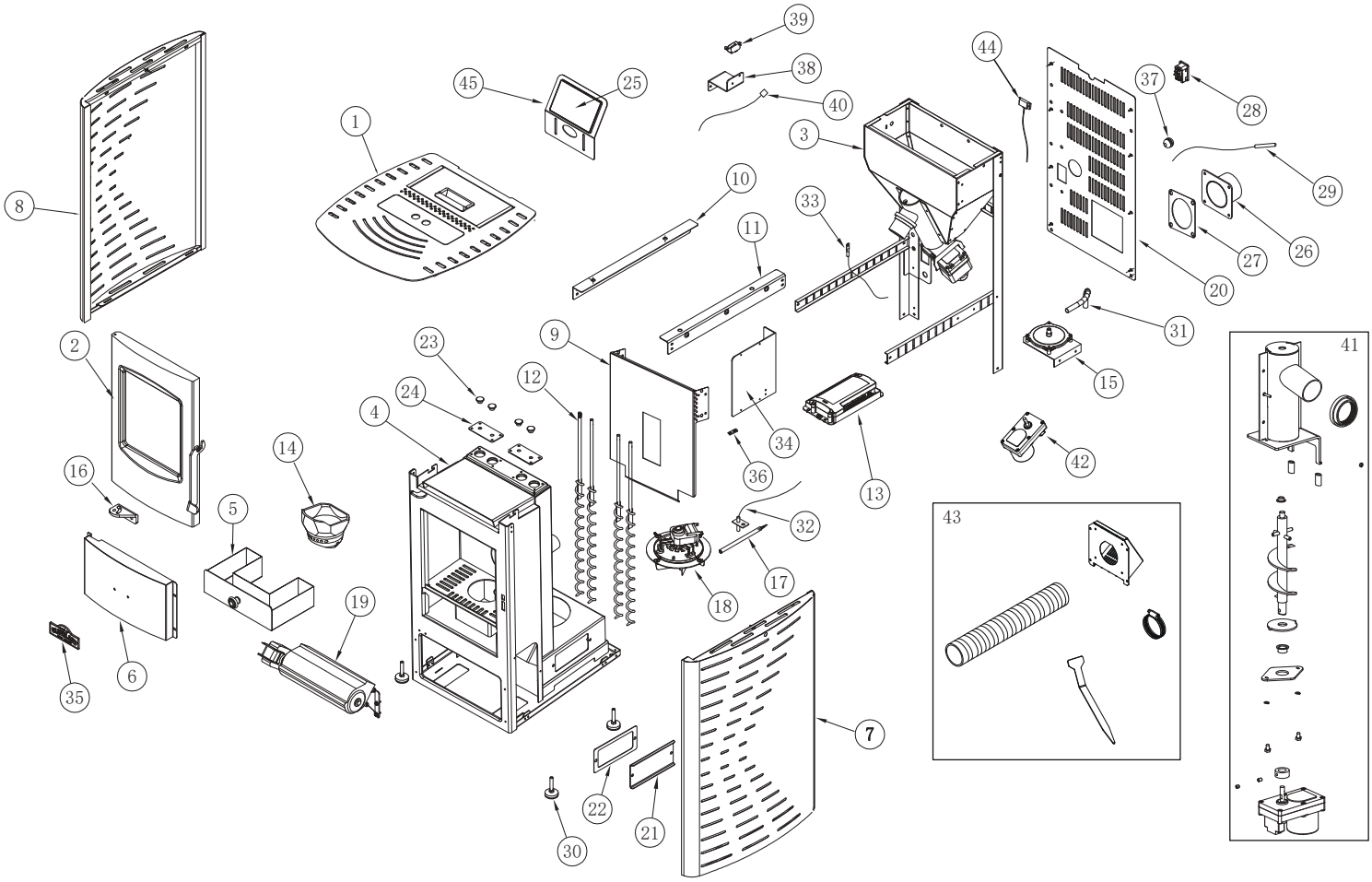
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL N20WTS

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Lower Front Panel
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66664	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge
17	66608	Igniter

NO.	PART NUM.	DESCRIPTION
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66702	Touch Screen
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube
32	66609	Exhaust Sensor
33	66613	Hopper Safety Sensor

NO.	PART NUM.	DESCRIPTION
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	n/a	Wire Grommit
38	n/a	Switch fixing board
39	66617	Hopper Lid Switch
40	66694	Switch Wire
41	66695	Auger Assembly
42	66696	Auger Motor
43	66659	Accessory Kit
44	66701	Hopper Sensor
45	66837	Touch Screen Bracket
N/S	66854	Power Cord
N/S	66856	Data Cable
N/S	66858	Door Pin

N/S - Not Shown

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # N20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

Enerco Group, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135 • 1-800-251-0001
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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

CLEVELAND IRON WORKS

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # PS20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

PS20W

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Cleveland Ironworks a subsidiary of Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-800-251-0001

66727 REV D

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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WIFI CONTROLS 16
MULTI FUNCTION CONTROLS 17
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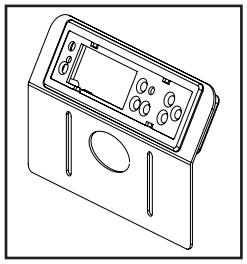
SPECIFICATIONS

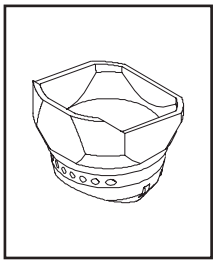
Model #	PS20W
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

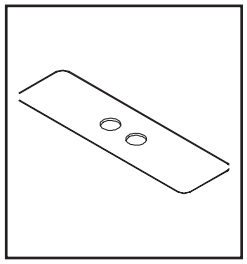
This manual describes the installation and operation of the brand "Cleveland Iron Works" wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from: PS20W: 23,945 to 10,796 Btu/hr

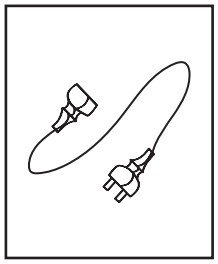
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

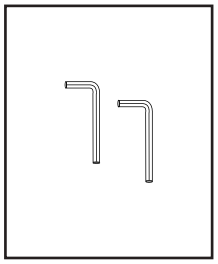
GETTING STARTED

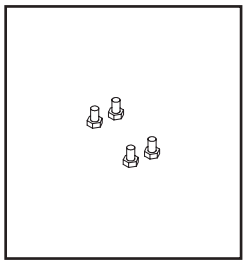

Display Panel

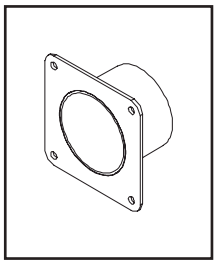

Firepot

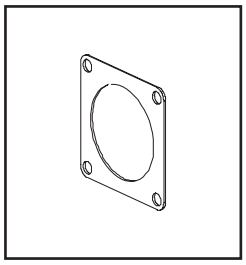

Cover

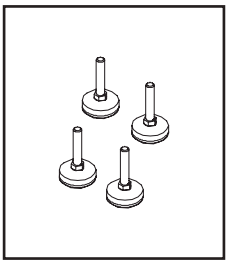

Main Power Cord


Allen Wrenches (x2)

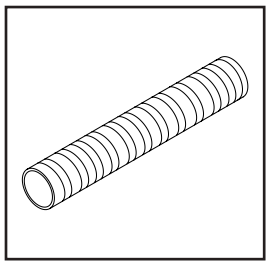

Screws (x4)

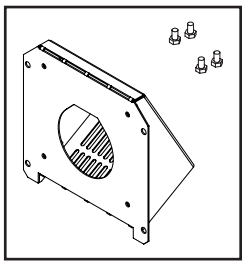

Exhaust Connector

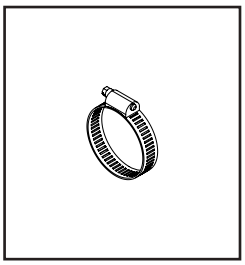

Exhaust Connector Silicon Pad

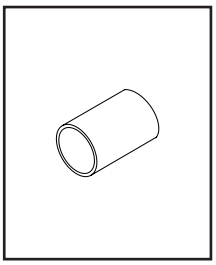

Stove Feet

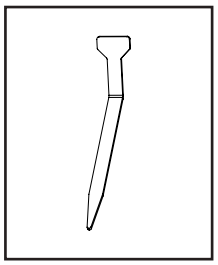
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

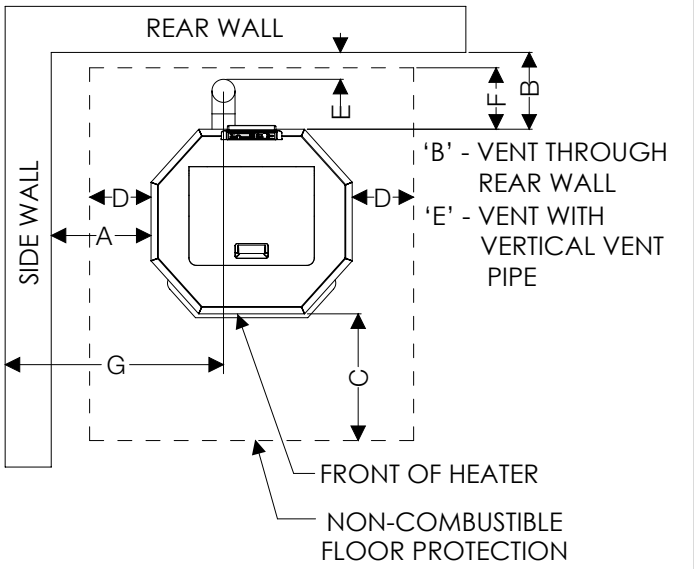


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 800-251-0001.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

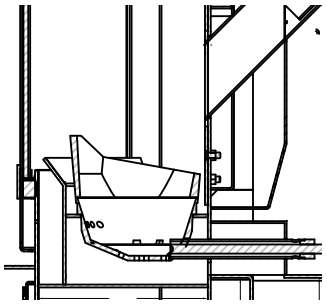


Figure 2: PS20W Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS" on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: PS20W Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Mr. Heater Company at 1-800-251-0001 • CLEVELAND-IRONWORKS.COM Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Cleveland Iron Works with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

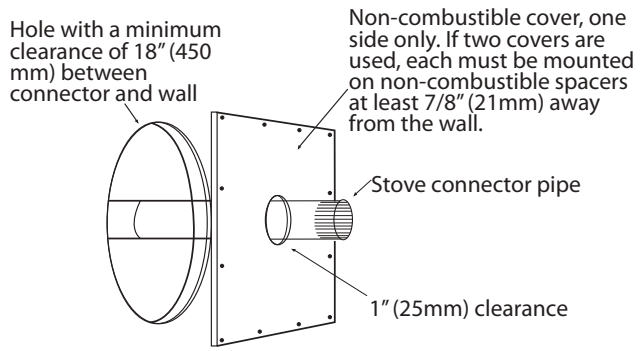


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

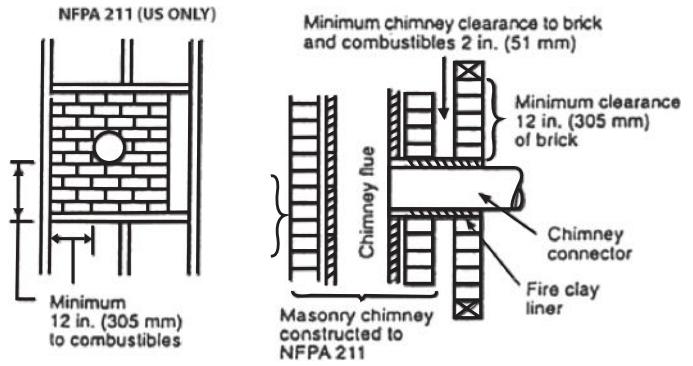


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

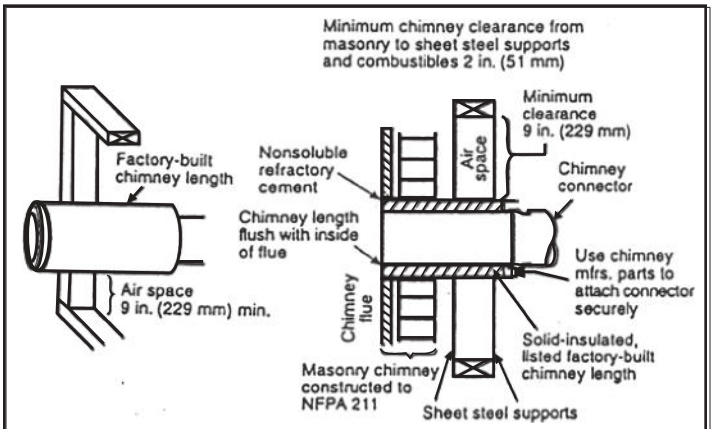


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

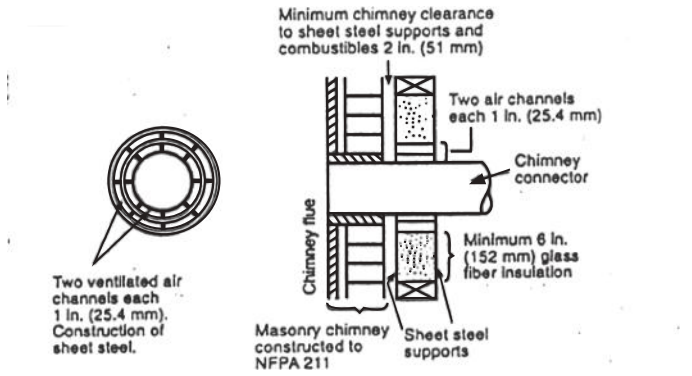


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

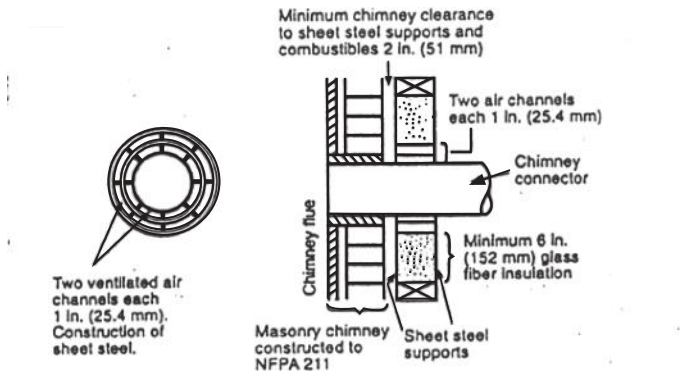


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

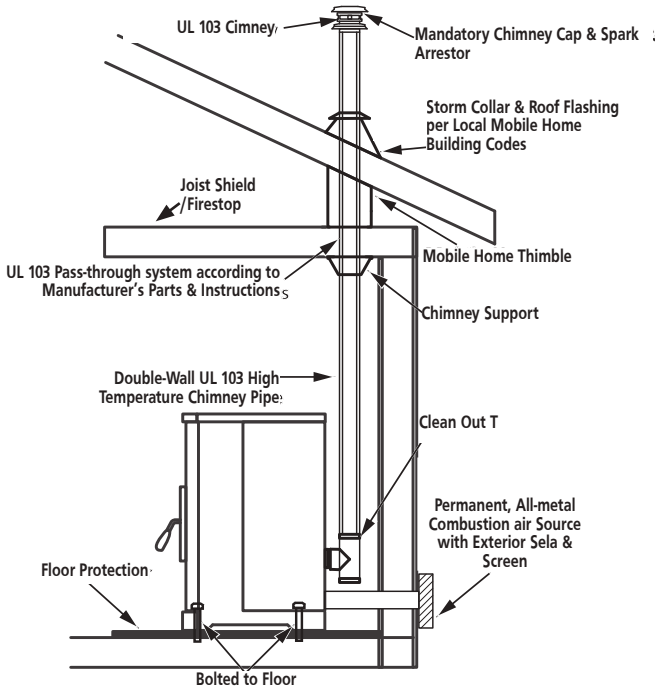


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 11 below illustrates.

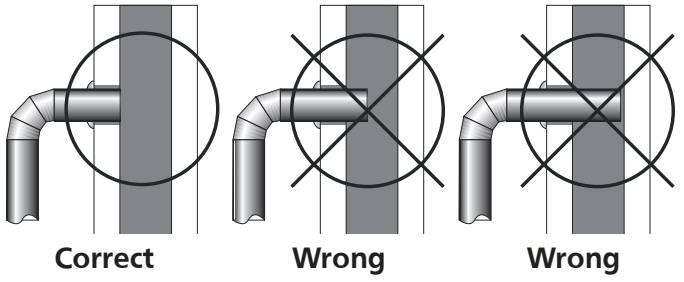


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

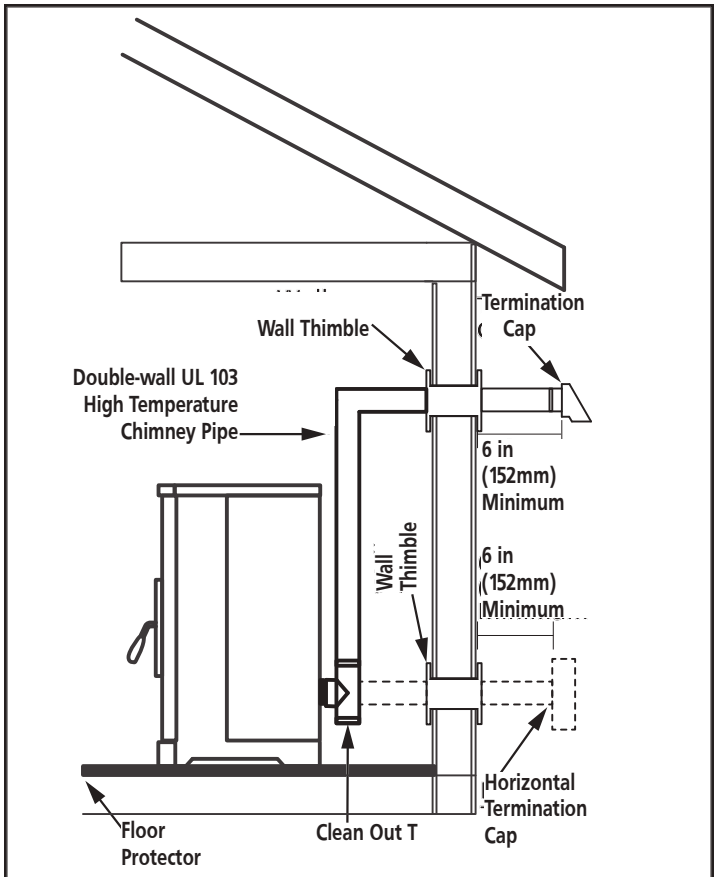


Figure 12 Manufactured Chimney through Wall

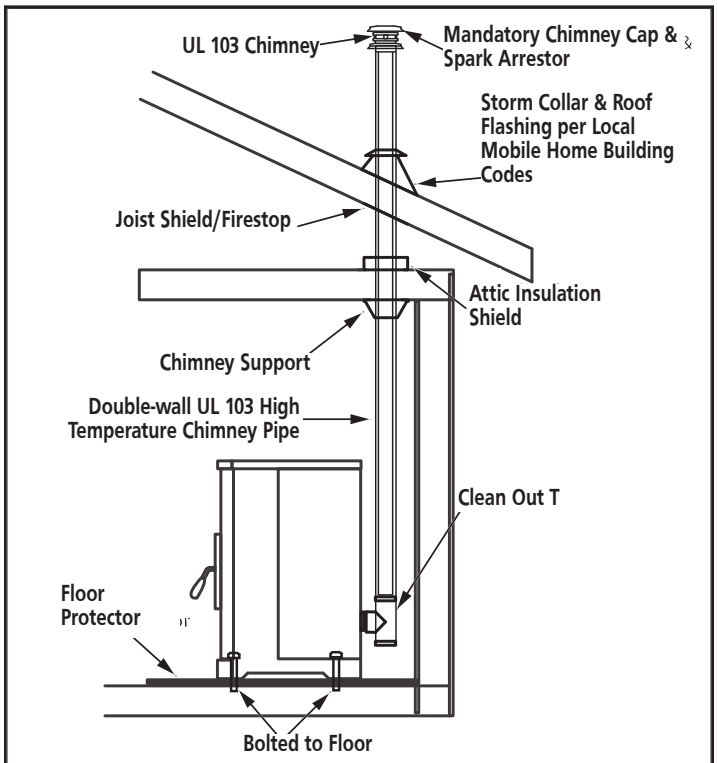


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

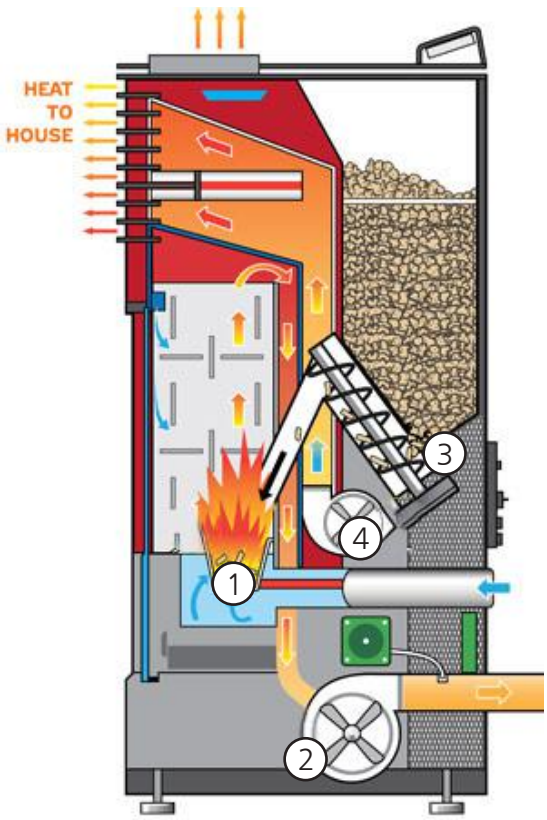


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.

3. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes

4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Depress the power button for 3 seconds. The stove will begin to automatically progress through the following stages:

   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.

   - Goodbye: The final message from the display screen to designate that the stove has cooled.

2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 19 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

Remote Button Functionality:

The buttons on the remote controller affect the stoves operation in the same way that the mounted button do, explained in v:

Remote Controller Button	Mounted Button Counterpart

Note: There are no lights or display screen on the remote controller that can indicate to you that the button presses are being received by the stove. In order to remotely control the stove but also monitor its settings, try installing the Smart Stove app.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the rear of the display panel as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

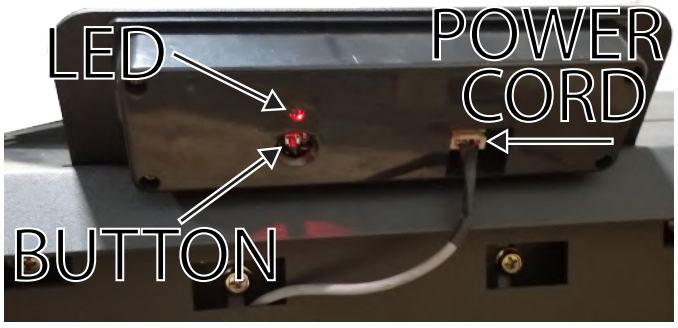


Figure 15 Display Panel Back

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi

network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

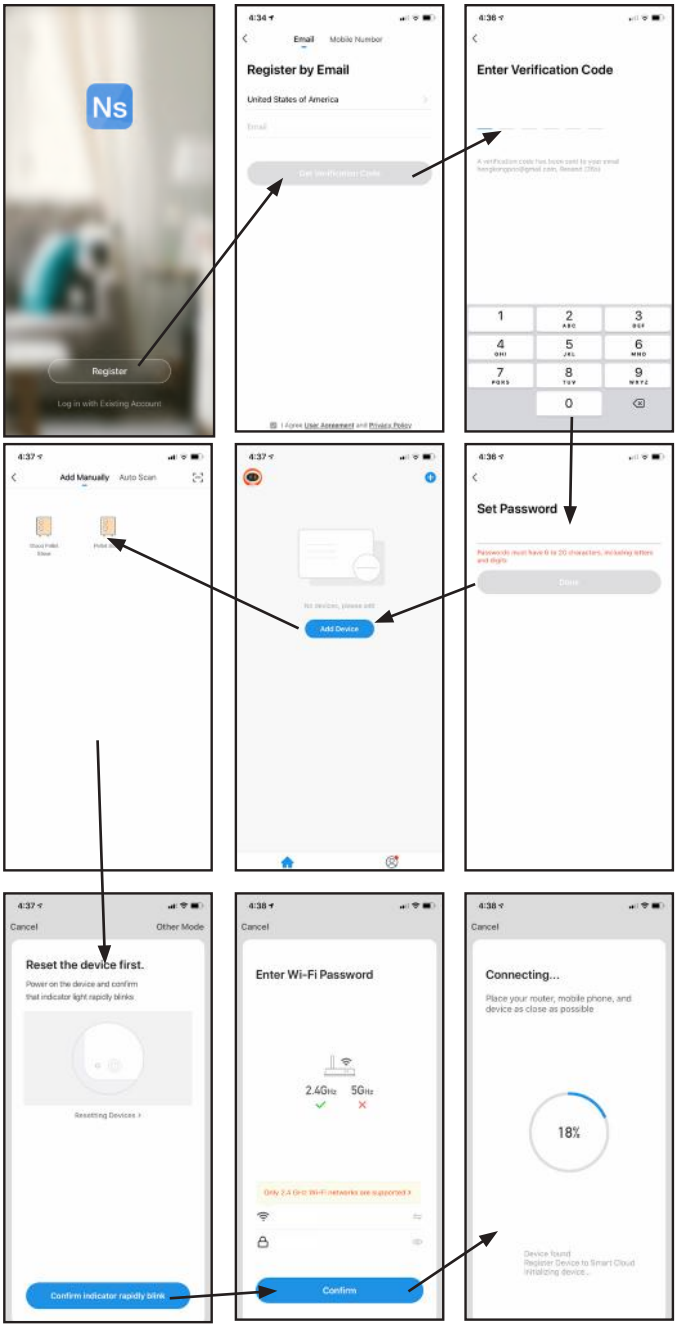
Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings



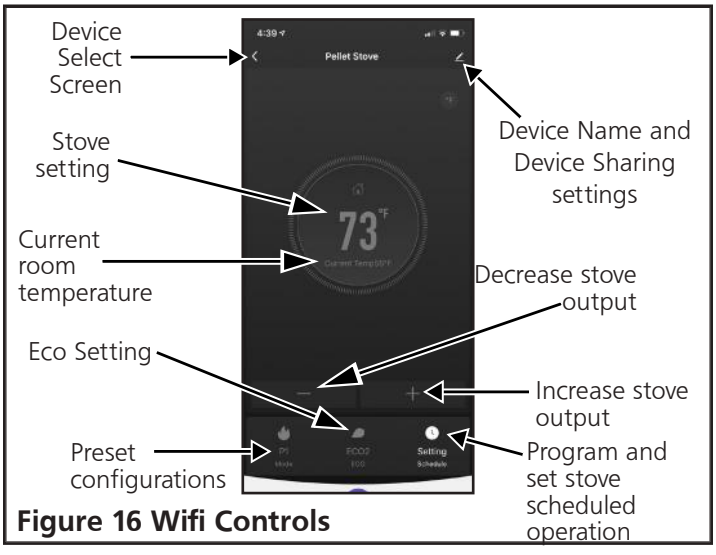


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

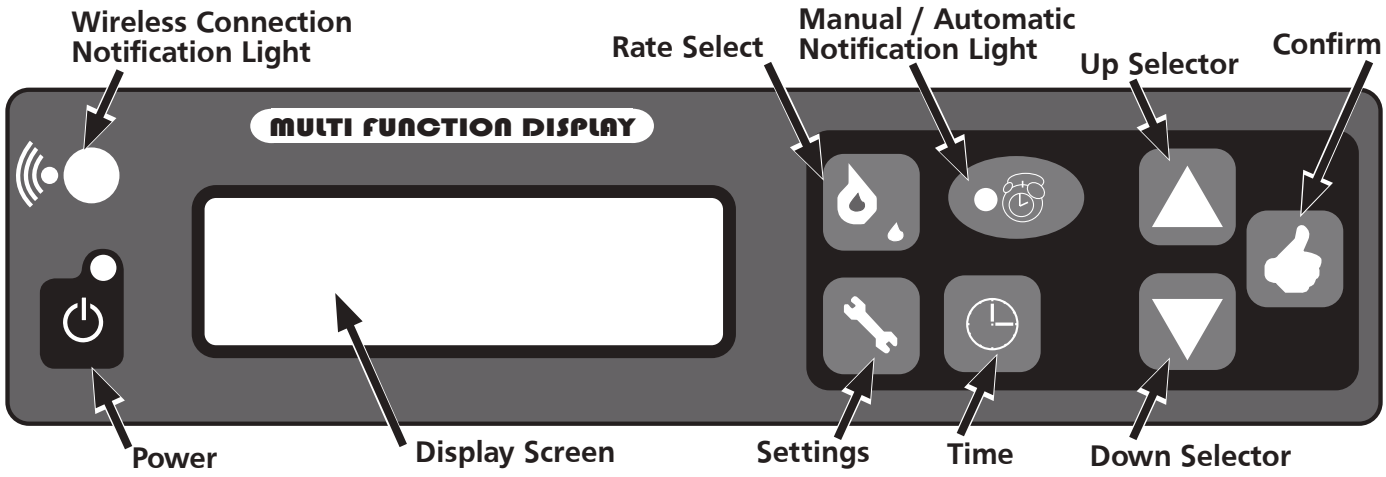


Figure 17a Mounted Multi Function Controls Panel

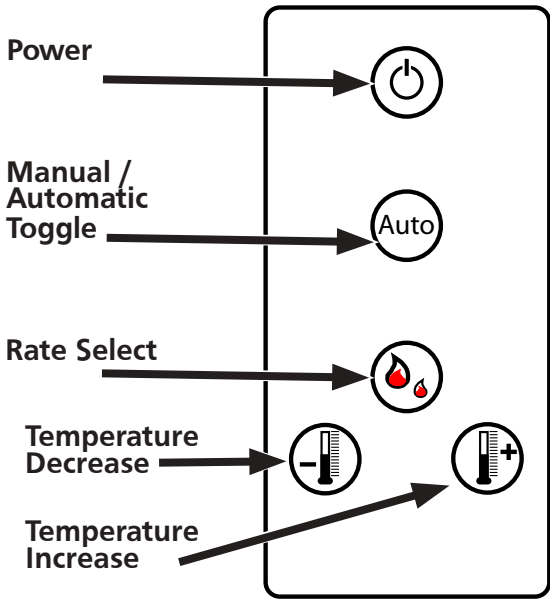


Figure 17b Remote Controller

Mounted Button Functionality: Normal Operation

	• The light illuminates when the stove is plugged into an electrical supply. • Press the power button to turn the display on for the purpose of adjusting settings. The screen will become dim after 10 seconds on inactivity. • Press and hold the power button for 3 seconds to begin stove heating if the stove was off. • Press and hold the power button for 3 seconds to begin stove shut off if the stove was on.

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

	Press to cycle between temperature reports (in Fahrenheit) display in the top right of the multi function display screen: • ##(R): Room temperature • ##(S): Exhaust temperature • ##(P): Protection Temperature Sensor
	Press to increase the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to decrease the temperature which the stove is intended to heat the room to. This value is displayed in the top right of the multi function display screen as ##^{0}F.
	Press to toggle the stove between manual control and programmed control. If the stove is in the program controlled setting then the notification light will be illuminated.
	Pressing the rate select will toggle between four configurable heating presets. The currently set preset is available in the top middle of the multi function display screen as P#. • P1 [High Power] Settings • P2 [Medium-Plus Power] Settings • P3 [Medium Power] Settings • P4 [Low Power] Settings
	• Press and hold the settings button for 2 seconds to enter the set up menu. • Press the settings button at any time to exit the set up menu.

MANUAL STOVE OPERATION

TO ADJUST THE AUGER (PELLET DROP RATE)

1. Cycle using the Rate Select button between settings P1, P2, P3, P4. Rates are outlined below:

P1: [High] pellet drop rate

P2: [Medium-Plus] pellet drop rate

P3: [Medium] pellet drop rate

P4: [Low] pellet drop rate

Note: If necessary, press and hold the "Time" button for 2-5 seconds to get the auger to spin.

TO ADJUST THE FANS

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to each of the Pellet Drop Rate Settings.
3. Adjust the "S" for Venting Fan and "F" for blower fan settings using the Up and Down Selectors buttons.
4. Use the Time button to switch between "S" and "F" Note: the lower the setting, the slower the fan. Only change settings by a few numbers at a time.
5. Press the Settings button to go back to home screen.

TO CHANGE THE TIME (RUNS ON 24-HOUR CLOCK)

1. Press and hold the Settings button for 2 seconds.
2. Press the Confirm button to cycle to Modify Clock.
3. Use the Time button to switch between hours and minutes.
4. Use the Up and Down Selector buttons to change the current selection.
5. Press the Settings button to go back to home.

TO PROGRAM AUTOMATIC ON/OFF

1. Press and hold the Settings button for 2 seconds.
2. Cycle through the settings using the Confirm button until days of the week are visible.
3. Use the Time button to change between days.
4. Use the Up and Down Selector buttons to adjust if you want the stove ON/OFF each day.

Note: Tall box is for ON; Short box is for OFF.

Note: Each box represents an hour of the day over a 24 hour period. The first box is 00:00 (Midnight) and the last box is 23:00 (11 PM).

5. Press the Settings button to go back to home.

CHANGING ECO MODES

1. Press and hold the Settings button until stove beeps.
2. Press (do not hold) the Confirm button seven times to cycle to the screen that reads "Eco Mode."
3. Press the Time button to swtich between the selected Eco Modes.
4. Press the Settings button to go back to home screen.

ECO 1 MODE

ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back on once the room cools to a factory set temperature.

ECO 2 MODE

ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.

CONTROL KEY

	CONFIRM
	UP SELECTOR
	DOWN SELECTOR
	TIME
	RATE SELECT
	SETTINGS

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

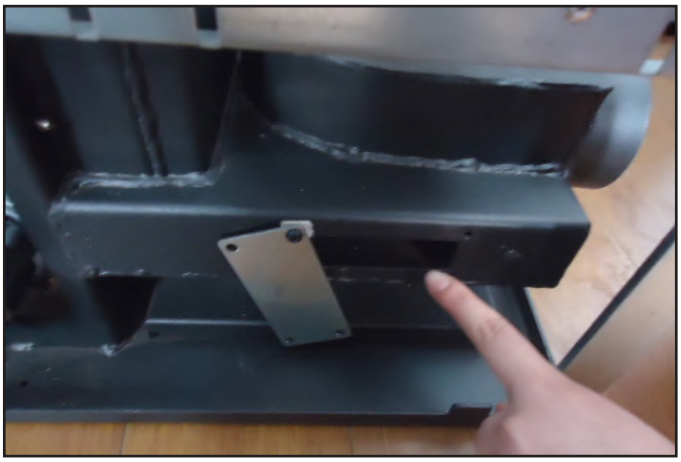


Figure 18 Inlet Duct

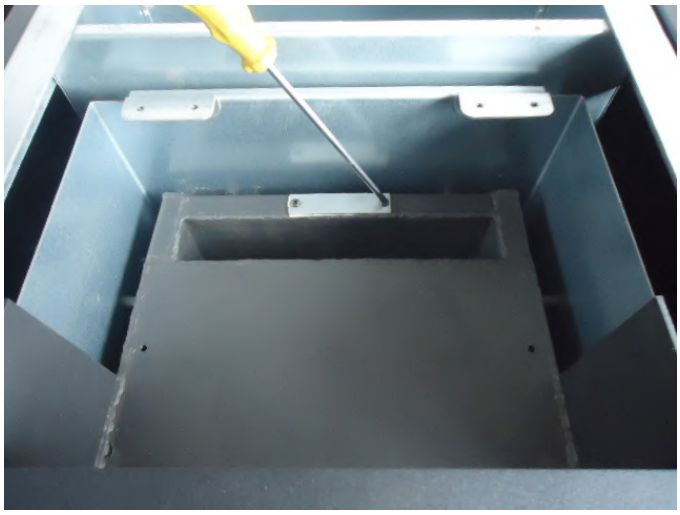


Figure 19 Outlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 19. This task is to be performed every day, while the stove is cooled down and unplugged.

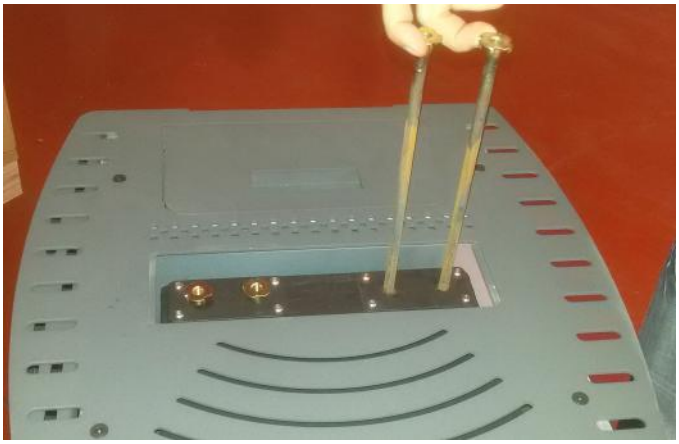


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

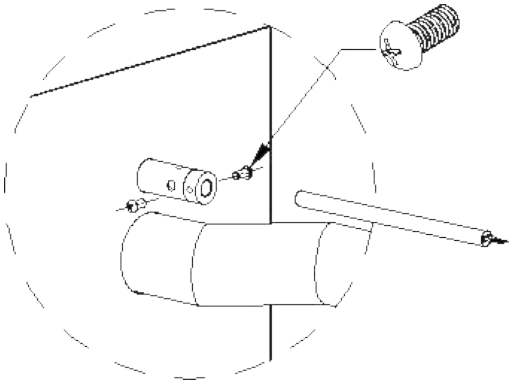


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

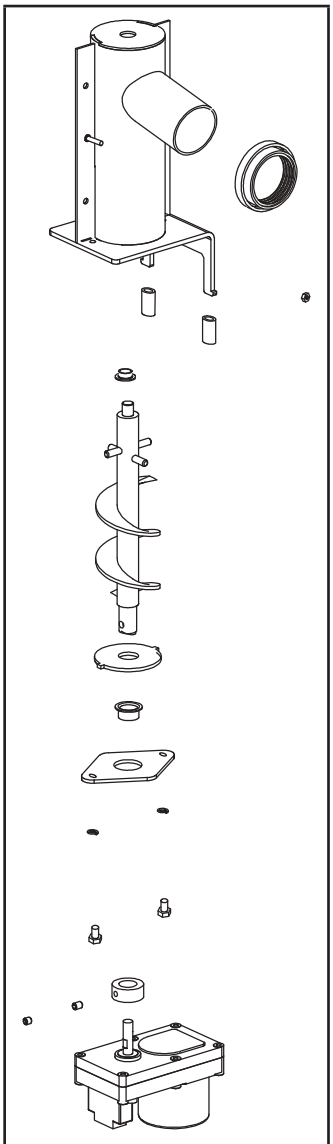


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
ESC1	Short circuit at temperature sensor #1 (Exhaust)	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESC2	Short circuit at sensor #2, hopper temperature	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at room temperature sensor (#3)	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.

TROUBLESHOOTING CONTINUED

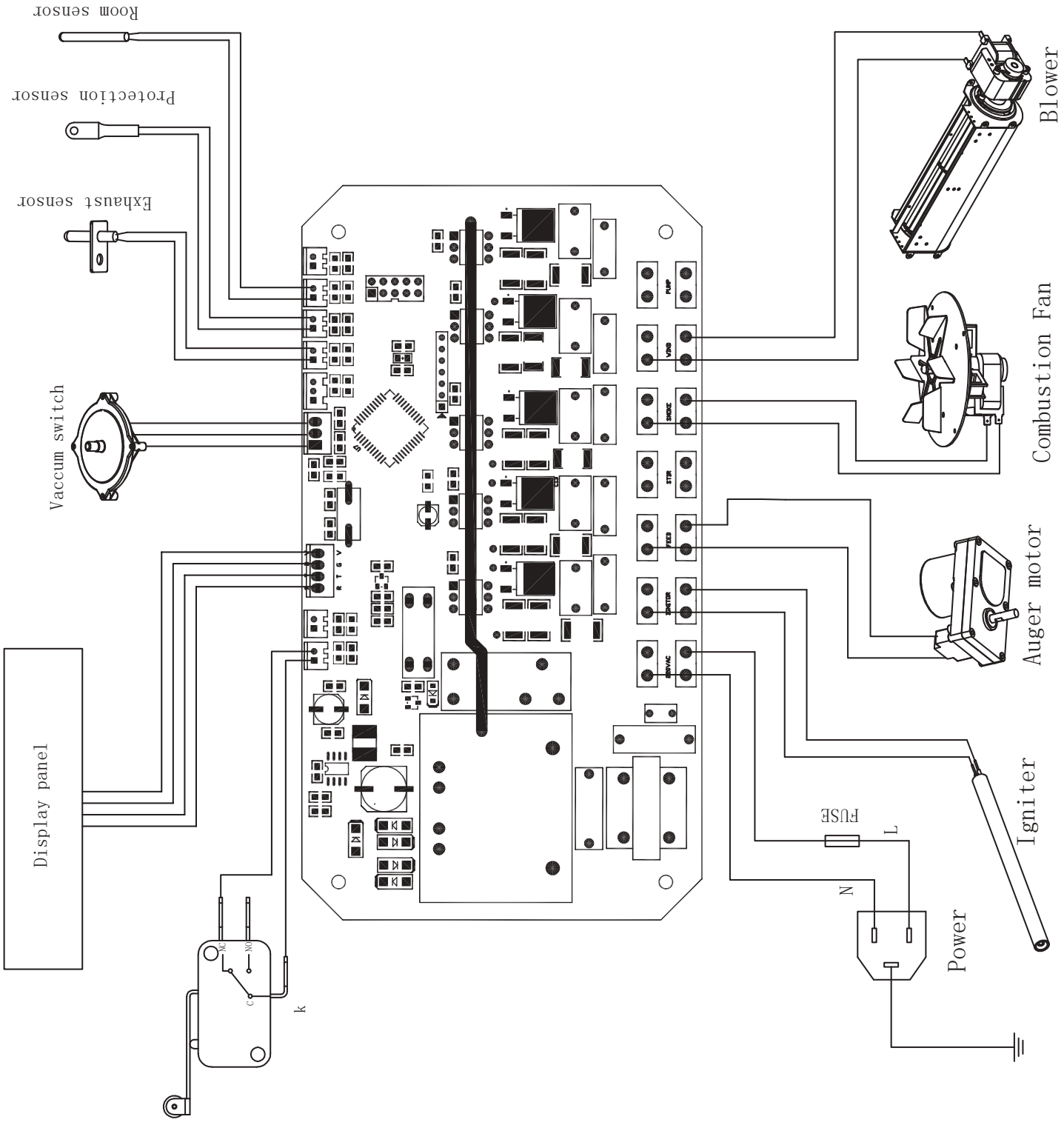
SYMPTOM	CAUSE	SOLUTION
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

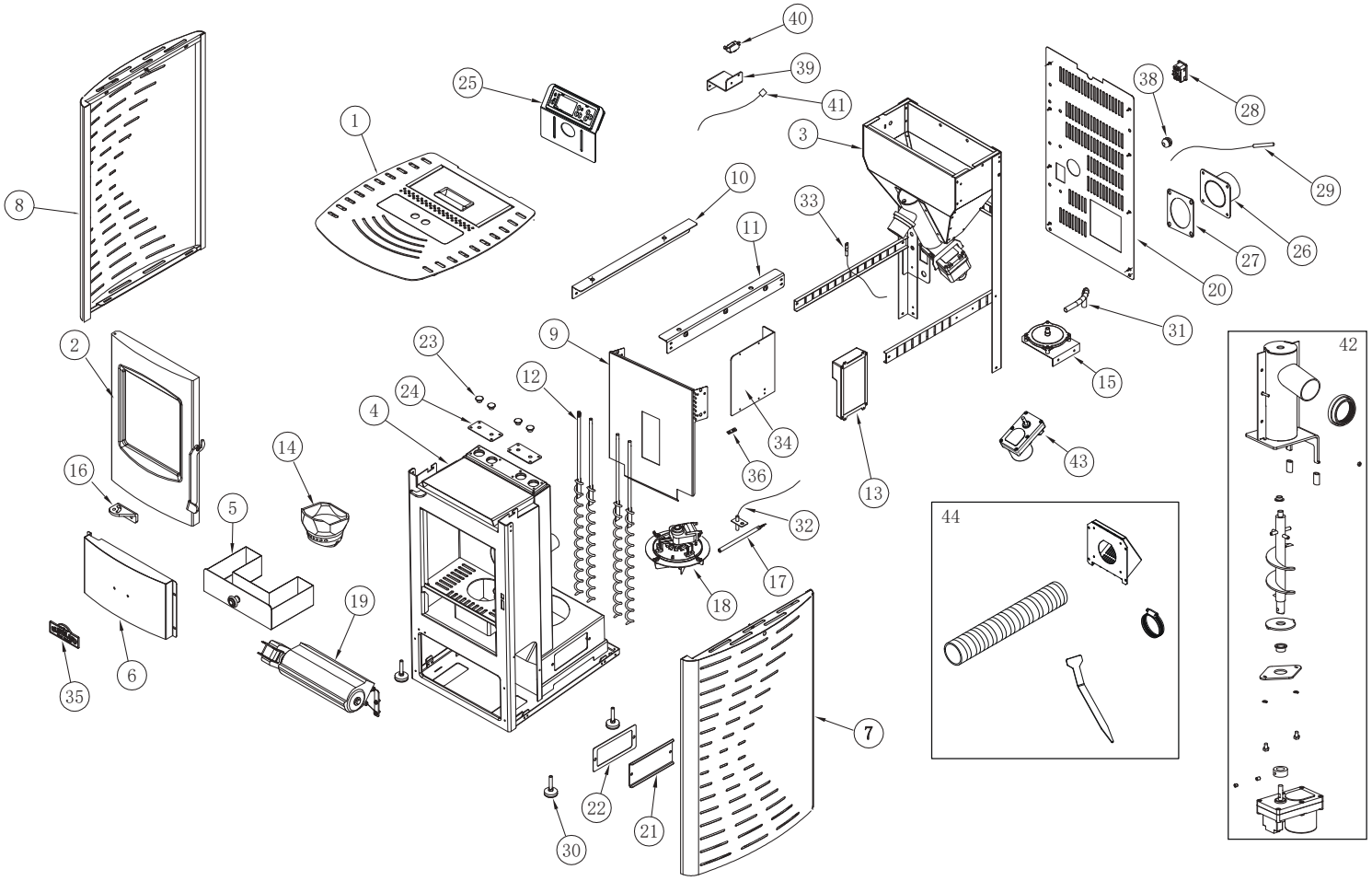
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL PS20W

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Drawer Cover
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66672	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Temperature Sensor
33	66613	Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	66658	Remote (not shown)
38	n/a	Wire Grommit
39	n/a	Switch fixing board
40	66617	Door Switch
41	66694	Switch Wire
42	66695	Auger Assembly
43	66696	Auger Motor
44	66659	Accessory Kit

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OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # PS20W

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY CLEVELAND IRON WORKS LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-800-251-0001 • CLEVELAND-IRONWORKS.COM
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Cleveland Iron Works Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-800-251-0001.

Address any Warranty Claims to the Service Department, Cleveland Ironworks, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Cleveland Ironworks Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

INSTALLER: Leave this manual with the appliance. CONSUMER: Save these Instructions for future reference.

Grand Teton COLLECTION™ By Mr. Heater

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # PS20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WOOD PELLET FIRE STOVE

PS20WTS

Apple Store

Google Play Store

THE AUTHORITY HAVING JURISDICTION (SUCH AS MUNICIPAL BUILDING DEPARTMENT, FIRE DEPARTMENT, FIRE PREVENTION BUREAU, ETC.) SHOULD BE CONSULTED BEFORE INSTALLATION TO DETERMINE ANY NEED TO OBTAIN A PERMIT. OBSERVE ALL LOCAL BUILDING CODES.

Mr. Heater a subsidiary of Enerco Group Inc.
4560 West 160th st Cleveland, Ohio 44135 1-866-740-2497

66700 REV C

GENERAL HAZARD WARNING:

⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS STOVE CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS STOVE.

⚠ IF YOU NEED ASSISTANCE OR STOVE INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE STOVE AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE STOVE IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

⚠**WARNING:** This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information visit www.P65Warnings.ca.gov

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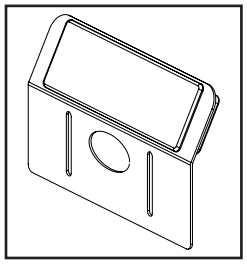
SPECIFICATIONS

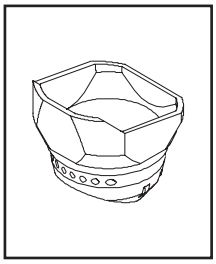
Model #	PS20WTS
DIMENSIONS	
Stove Weight [LBS (kg)]	143.3 (65)
Stove Dimenions LxWxH [in. (cm)]	18.25" x 20" x 28.5" (46.36 x 50.8 x 72.4)
Air Inlet Pipe Diameter [in. (mm)]	1.25" (32)
Air Outlet Pipe Diameter [in. (mm)]	3" (80)
Pellet Hopper Capacity [LBS (kg)]	17.6 (8)
OPERATION SPECIFICATIONS	
Fuel	Wood Pellet
Heats approximately [ft^2 (m^2)]**	431-646 (40-60)
Carbon Monoxide Produced (g/hr)	0.00
Pellet Consumption Rate High [LBS/HR (kg/HR)]	3.75 (1.70)
Pellet Consumption Rate Medium [LBS/HR (kg/HR)]	1.72 (0.78)
Pellet Consumption Rate Low [LBS/HR (kg/HR)]	1.70 (0.77)
Stove Efficiency	76%
Heat Output Rate [BTU/HR (kW)] - HIGH	23,945 (7.02)
Heat Output Rate [BTU/HR (kW)] - MED	10,965 (3.21)
Heat Output Rate [BTU/HR (kW)] - LOW	10,796 (3.16)
ELECTRICAL SPECIFICATIONS	
Electrical Supply Requirements [Voltage / Frequency / Phase]	120V / 60 Hz / Single
Electric Current During Lighting Phase [Amperes]	3.3
Auger Motor R.P.M.	2.4

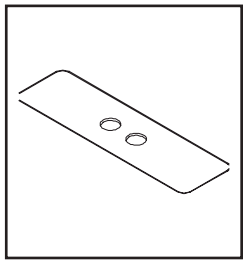
This manual describes the installation and operation of the brand "Grand Teton" wood pellet fire stove. This stove meets the applicable U.S. Environmental Protection Agency's emission limits for pellet fired heaters sold after 2020. Under specific test conditions these stoves have been shown to deliver heat at rates ranging from: PS20WTS: 23,945 to 10,796 Btu/hr

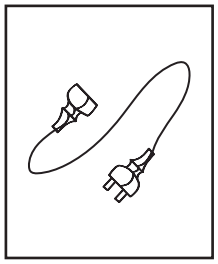
*BTU input/output will vary, depending on the brand of fuel you use in your Stove
** Depending on climate zone. Variations in climate and location affect attributes such as stove efficiency and CO produced.

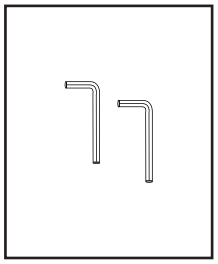
GETTING STARTED

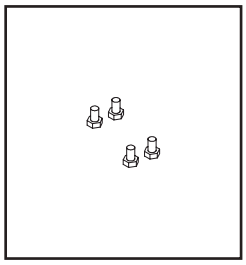

Display Panel

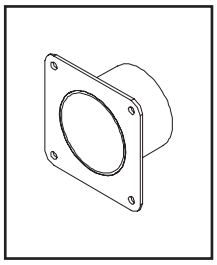

Firepot

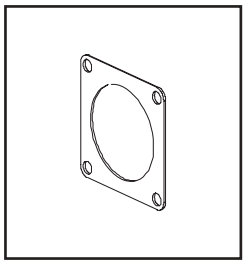

Cover

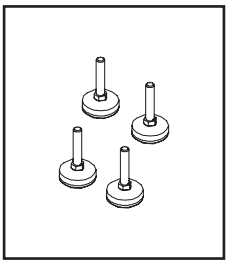

Main Power Cord


Allen Wrenches (x2)

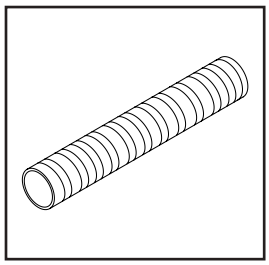

Screws (x4)

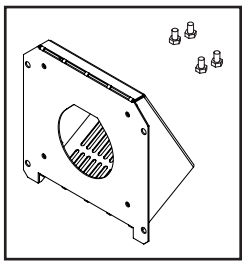

Exhaust Connector

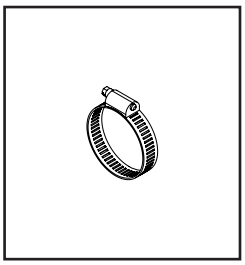

Exhaust Connector Silicon Pad

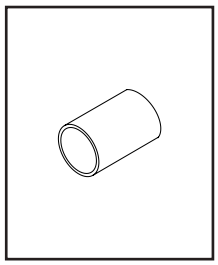

Stove Feet

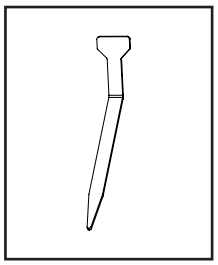
ACCESSORY KIT


Flex Hose


Termination Cap and Screws (x4)


Hose Clamp


Fresh Air Adapter


Cleaning Tool

WHAT YOU'LL NEED (NOT SUPPLIED)

TOOLS REQUIRED

- Tape Measure
- Phillips Screwdriver or Comparable Electric Screw Driver & Drill Bit.
- Stud Finder
- Plumb Bob
- Reciprocating Saw
- High Temperature Silicone or High Temperature Sealant or High Temparture Flue Tape
- Floor Protection (see "FLOORING SPACE" and "FLOORING MATERIAL" on page 6)
- Manufactured venting of 3" (80mm) in diameter of type "L" or "PL" which is listed to UL 641, ULC S609 (Standard for 650 C Factory-Built Chimneys), or ULC/ORD C441. Install per chimney manufacturer's instructions (see page 9)

SAFETY EQUIPMENT (RECOMMENDED)

- Safety Glasses
- Gloves
- Closed-toed Shoes
- A friend (the stove is heavy, do not attempt to move the stove without assistance)

SAFETY PRECAUTIONS

HAVE AN ESTABLISHED PLAN FOR WHAT TO DO IN THE EVENT OF A FIRE. CONTACT YOUR LOCAL FIRE AUTHORITY TO ACQUIRE INFORMATION AND A PLAN FOR WHAT TO DO IN THE EVENT OF A CHIMNEY FIRE.

⚠ **WARNING: DO NOT INSTALL IN SLEEPING ROOM.**

⚠ **CAUTION: HANDLE STOVE WITH CARE. AVOID STRIKING, SCRATCHING OR SLAMMING GLASS ASSEMBLIES. DO NOT OPERATE WITH CRACKED, BROKEN OR SCRATCHED GLASS.**

⚠ **WARNING: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.**

⚠ **WARNING: NEVER LEAVE CHILDREN NEAR THE STOVE UNATTENDED WHILE THE STOVE IS OPERATING.**

⚠ **WARNING: DO NOT OVERFIRE. OVERFIRING THE APPLIANCE MAY CAUSE A FIRE. IF THE UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.**

⚠ **WARNING: THIS WOOD HEATER HAS A MANUFACTURER-SET MINIMUM LOW BURN RATE THAT MUST NOT BE ALTERED. IT IS AGAINST FEDERAL REGULATIONS TO ALTER THIS SETTING OR OTHERWISE OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN THIS MANUAL.**

CARBON MONOXIDE

WARNING:

⚠ WHEN USED WITHOUT ADEQUATE COMBUSTION AND VENTILATION AIR, THIS STOVE MAY GIVE OFF EXCESSIVE CARBON MONOXIDE, AN ODORLESS, POISONOUS GAS.

WARNING:

⚠ EARLY SIGNS OF CARBON MONOXIDE POISONING RESEMBLE THE FLU, WITH HEADACHE, DIZZINESS AND/OR NAUSEA. IF YOU HAVE THESE SIGNS, STOVE MAY NOT BE WORKING PROPERLY. GET FRESH AIR AT ONCE! HAVE STOVE SERVICED.

SOME PEOPLE - PREGNANT WOMEN, PERSONS WITH HEART OR LUNG DISEASE, ANEMIA, THOSE UNDER THE INFLUENCE OF ALCOHOL, THOSE AT HIGH ALTITUDES - ARE MORE AFFECTED BY CARBON MONOXIDE THAN OTHERS.

Regardless of how safe this stove is, every fuel burning appliance creates Carbon Monoxide. It is always a good plan to reduce risk to you and your loved ones as much as possible by installing a Carbon Monoxide detector. It is recommended to install monitors in areas that are expected to generate carbon monoxide such as heater fueling areas, pellet fuel bulk storage areas, or sheds containing hydronic heaters. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector.

SMOKE DETECTORS

Have at least 1 smoke detector on each floor of your building. Follow the installation, operation, & maintenance instructions provided by the manufacturer of your detector. Avoid false alarms by placing the detector outside the immediate vicinity of the stove. Typically a good installation location for smoke detectors is near bedrooms.

FOR MORE SAFETY INFORMATION

For auxiliary information regarding pellet stove safety and operation information contact the National Fire Protection Association (NFPA) by mail at:
NFPA, Batterymarch Park, Quincy, MA 02269
or visit the NFPA website:
https://www.nfpa.org/

CLEARANCE TO COMBUSTIBLES

The following stated clearances represent the minimum distances between the stove and any other object. No objects should encroach into this space. This includes but is not limited to carpet, furniture, children, pets, clothing, fuel, or any other object. These clearances may only be reduced by means approved by the regulatory authority having jurisdiction.

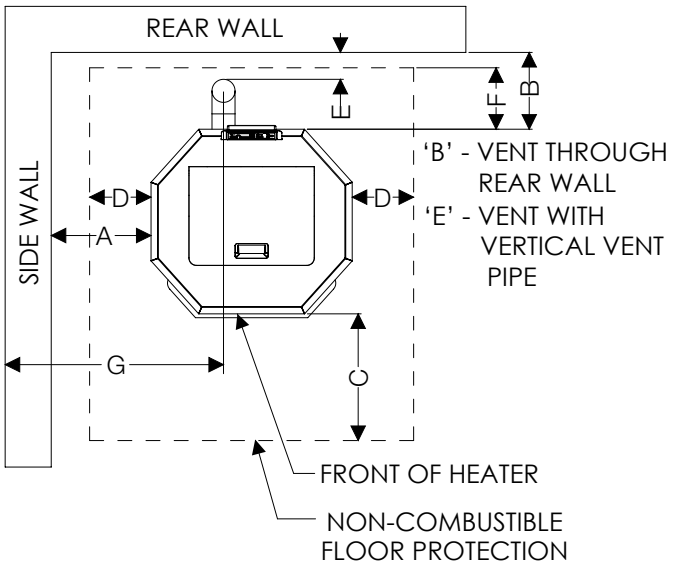


Figure 1 Clearance to Combustibles

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150mm)	5.9" (150mm)
G	19" (483mm)	19" (483mm)

FLOORING SPACE & CLEARANCES

When installed on a combustible floor, non-combustible floor protection is required to:

- Cover the area beneath the stove and extend at least 15.9 inches (404 mm) to the front
- Cover the area at least 7.9 inches (201 mm) beyond each side and 5.9 inches (150mm) beyond rear of the room heater.
- Cover the area under the exhaust venting and 2 inches (50.8 mm) beyond each side.

Additionally, the wood pellet fire stove shall be positioned such that:

- It has at least 9" (229 mm) of clearance from the each side to the nearest body.
- It has at least 9.4" (239 mm) of clearance from the rear to the nearest body.
- Vertical runs of vent pipe must be at least 3" (77 mm) from any wall.

Finally, the area which the wood pellet fire stove is installed shall have a floor-to-ceiling distance of at least 84" (2134 mm).

FLOORING MATERIAL

Floor protection must be all of the following:

- Listed to UL 1618.
- At least 0.5" (13 mm) thick
- Constructed of non-combustible material.
- Have either:

  Thermal resistance value R of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$

  Thermal conductivity value k of 0.84 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$

For assistance evaluating the suitability of substitute materials, the following equivalences of specifications and example below have been provided.

Thermal conductivity $k = \frac{thickness}{R}$ (Imperial or SI units) $(\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m)(^0K)})$

Thermal conductance $C = \frac{1}{R}$ $(\frac{(Btu)}{(ft^2)(hr)(^0F)}$ or $\frac{W}{(m^2)(^0K)})$

Example: Required to protect floor with R value of 1.19 $\frac{(ft^2)(hr)(^0F)}{Btu}$.

Evaluating merit of 2 inch (57 mm) thick brick with thermal conductivity k = 4.16 $\frac{(Btu)\ (inch)}{(ft^2)(hr)(^0F)}$ on top of inch (6.3 mm) thick mineral board that has C value of 2.3 $\frac{(Btu)}{(ft^2)(hr)(^0F)}$.

Step 1. Calculate the R value of each floor material

$$R_{BRICK} = \frac{thickness}{k} = \frac{2.25}{4.16} = 0.54$$

$$R_{BOARD} = \frac{1}{C} = \frac{1}{2.3} = 0.434$$

Step 2. Add the equivalent R values for each floor material

$$R_{BRICK} + R_{BOARD} = 0.54 + 0.434 = 0.974$$

Step 3. This combined R value is **insufficient** and so more protection must be provided. For example, by using 2 layers of bricks:

$$R_{BRICK} + R_{BRICK} + R_{BOARD} = 0.54 + 0.54 + 0.434 = 1.514$$

Step 4. Because this combined R value is larger than the specification, this is a sufficient method for protecting the floor area underneath the stove.

UNPACKING

1. Remove heater from carton.
2. Remove all protective packaging applied to heater for shipment.
3. Check heater for any shipping damage. If any damage is found immediately contact the manufacturer at 866-740-2497.

⚠ CAUTION: DAMAGED PARTS MAY COMPROMISE SAFE OPERATION.
- **DO NOT INSTALL INCOMPLETE COMPONENTS.**
- **DO NOT INSTALL SUBSTITUTE COMPONENTS.**
- **DO NOT INSTALL DAMAGED COMPONENTS.**

4. Some components are packaged unattached from the stove in order to ensure their safety during shipping. Please find the protective packaging, likely inside the stove door, to proceed with assembly.

ASSEMBLY

STEP 1 - Display Panel

Insert the display panel into the top and rear of the stove. Be sure that the display panel screen is facing towards the front of the stove. Secure the screen using two of the provided screws.

STEP 2 - Display Panel Power Cord

This cord should be wrapped up near the top of the stove. Insert free end into the back of the display panel (see figure 15 on page 15). This wire should already be connected to the stove's power board. This connection can be checked behind the access plate at the bottom and rear of stove.

STEP 3 - Main Power Cord

The main power cord attaches to the stove at the exposed socket in the rear of the stove. Once any necessary assembly of the display panel screen is complete you may briefly plug your stove in to make sure that it functions properly before proceeding with installation. Unplug the stove once you confirm that the display panel works.

⚠ CAUTION: DO NOT LEAVE THE STOVE PLUGGED INTO ANY ELECTRICAL SUPPLY DURING ASSEMBLY OR INSTALLATION.

STEP 4 - Firepot

With the stove unplugged from any power supply, the firepot should be inserted into the stove so that it is securely positioned and also the hot surface igniter should be able to make physical contact with pellets that would be held in the firepot. See Figure 2.

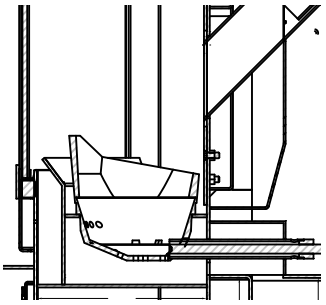


Figure 2: PS20WTS Firepot

A cleaning tool is also packaged which facilitates safely cleaning the firepot perforations of debris.

Step 5 - Air Intake Kit

Locate the air intake kit packaged with the stove. See Figure 3. Take measurements of your space and plan for the installation of horizontal venting to the outside as may be required per recommendations in "FRESH AIR AND VENTILATION REQUIREMENTS on page 8. Follow all ventilation requirements and guidelines specified in "INSTALLATION" on page 8.

Figure 3 Intake Kit

Step 6 - Exhaust Duct Adapter

Locate the exhaust outlet pipe for your model of stove. During assembly of the exhaust duct adapter be sure to sandwich the sealing gasket between the duct adapter and the stove. Use four of the provided screws to complete the assembly. See Figure 4.

Figure 4: PS20WTS Exhaust Duct Adapter & Gasket

INSTALLATION

CONTACT INFORMATION

If you have any questions regarding ventilation options of your stove, contact either:

The manufacturer Mr. Heater Company at 1-866-740-2497 • Weekends/After Hours 423-488-6316 • grandtetoncollection.com. Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.

The National Fire Protection Association (NFPA) and request a copy of the latest editions of NFPA Standard 211. The mailing address of the NFPA is Batterymarch Park, Quincy, MA 02269.

⚠ WARNING: WHEN THIS STOVE IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

⚠ CAUTION: ANY DEVIATION OR ALTERATION FROM THESE INSTALLATION INSTRUCTIONS MAY RESULT IN DAMAGE TO YOU, THE STOVE, YOUR CHIMNEY, AND YOUR HOME. YOUR WARRANTY MAY BECOME VOID. READ AND FOLLOW ALL INSTRUCTIONS. Contact Mr. Heater with any comments, concerns, or questions.

⚠ CAUTION: CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

PLANNING

Make sure that you have selected the correct stove for your heating requirements by checking the specifications table on page 3.

Take measurements of your space and plan for your chimney system as detailed in the following instructions.

This stove may be installed for use in a mobile home. In addition to the following instructions, review and adhere to the mandatory requirements on page 11.

ELECTRICAL CONSIDERATIONS

The rear of the stove will need to be within power cord distance, which is roughly 80 inches (203 cm), of an electrical outlet. Lay the power cord out such that it will not come into contact with the stove's surface.

FRESH AIR AND VENTILATION REQUIREMENTS

When deciding the location of the stove ensure that the space will always have a source of fresh air available. Failure to do so may result in air starvation of other fuel burning appliances and the possible development of hazardous conditions.

Provision for outside combustion air may be necessary to ensure that fuel-burning appliances do not discharge products of combustion into the house. Guidelines to determine the need for additional combustion air may not be adequate for every situation. If in doubt, it is advisable to provide additional air. Outside combustion air may be required if these or other indications suggest that infiltration air is inadequate:

- The wood pellet fired stove does not draw steadily, experiences smoke roll-out, burns poorly, or back-drafts, whether or not there is combustion present.
- Existing fuel-fired equipment in the house, such as fireplaces or other heating appliances, smell, do not operate properly, suffer smoke roll-out when opened, or back-draft, whether or not there is combustion present.
- Any of the above symtoms are alleviated by opening a window slightly on a calm (windless) day.
- The house is equipped with a well-sealed vapour barrier and tight fitting windows and/or has any powered devices which exhaust house air.
- There is excessive condensation on windows in the winter.
- A ventilation system is installed in the house.

Additional combustion air may be directly provided from the outdoors to the wood pellet fired stove by using the included air intake kit to connect to the inlet at the bottom and rear of the stove. Any such installation must satisfy Clause 4 of CSA Standard B365.

⚠ CAUTION: NEVER DRAW OUTSIDE COMBUSTION AIR FROM:

- A WALL, FLOOR OR CEILING CAVITY.
- AN ENCLOSED SPACE SUCH AS AN ATTIC, GARAGE OR CRAWL SPACE.

⚠ CAUTION: IF USING AN AIR INTAKE CONNECTION THEN THE STOVE MUST BE INSTALLED SUCH THAT IT IS ATTACHED TO THE STRUCTURE.

CONNECTOR REQUIREMENTS AND ASSEMBLY

⚠ CAUTION: A CHIMNEY CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. WHERE PASSAGE THROUGH A WALL, OR PARTITION OF COMBUSTIBLE CONSTRUCTION IS DESIRED, THE INSTALLATION SHALL CONFORM TO CAN/CSA-B365, INSTALLATION CODE FOR SOLID-FUEL-BURNING APPLIANCES AND EQUIPMENT

Any connector pipes or elbows should be installed with the crimped end on the stove end of the path (not the chimney cap end) and should be secured with three evenly spaced sheet metal screws.

Connectors, elbows, and chimneys should be type 'L' or 'PL' and have a 80mm, or 3 inch diameter, diameter as the flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

It is recommended that connectors, elbows, and chimneys be at least 24 gauge, double walled, type B ventilation.

Note that bends in the exhaust path restricts air flow, reducing performance and provides a collection point for ash deposits requiring more frequent cleaning.

⚠ CAUTION: THE JOINTS OF ANY AND ALL CONNECTIONS FOR ANY VENTILATION SYSTEMS (COMBUSTION EXHAUST AND OPTIONAL INLET AIR DUCT) MUST BE SEALED WITH HIGH TEMPERATURE SILICONE.

GENERAL VENTING REQUIREMENTS

⚠ CAUTION: DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.

⚠ CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

⚠ CAUTION: DO NOT INSTALL A FLUE DAMPER IN THE EXHAUST VENTING SYSTEM OF THIS WOOD PELLET FIRED STOVE.

This wood pellet fire stove must be connected to either of the following:

- Class A listed chimney complying with the requirements for Type HT chimneys in the Standard for Chimneys, Factory-Built, Residential Type and Building Heating Appliance, UL 103.
- A International Conference of Building Officials (ICBO) standards for solid fuel Stoves code-approved masonry chimney.

VENT TERMINATION

- Install exhaust vent at clearances specified by the vent manufacturer.
- Install exhaust vent terminations at clearances specified by the vent manufacturer.
- If using the air intake kit, ensure that there is at least 12 inches clearance between the exhaust vent termination and the intake air inlet.
- It is recommened to keep at least 12" (30.5 cm) of clearance between any vent termination and windows, doors, or outside corners.
- Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
- For additional requirements check local codes.

Any vertically terminated chimney systems must meet the following minimum requirements:

- Must be at least 15 feet (4.6 m) tall, measured from the top of the stove to the tip of the chimney cap.
- Must be at least 3 feet above the roof, measured from the highest point of contact with the roof and the tip of the chimney cap.
- Must be at least 2 feet (61 cm) above the highest point of the slope of the roof within 10 feet (305 cm) horizontally.

Any horizontally terminated chimney systems must meet the following minimum requirements:

- Must have at least 12" (30.5 cm) clearance above grade, veranda porch, deck or balcony (Including vegetation and mulch).

PASSING THROUGH A WALL

Where passage through a wall or partition of combustible construction is desired, the installation shall conform to chimney manufacturer's instructions. NOTE: In Canada, installation must conform to CAN/CSA-B365 when passing through combustible construction.

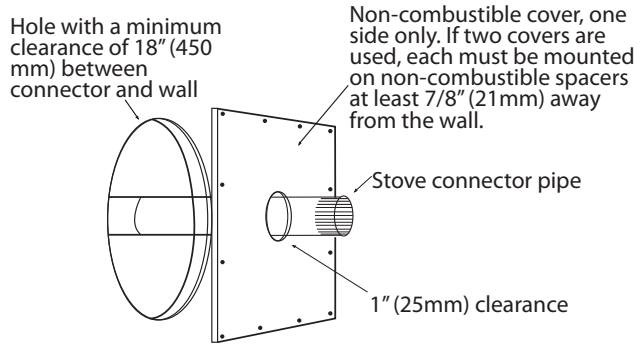


Figure 5
ONLY APPROVED CANADIAN WALL PASS THROUGH

NFPA 211 (US ONLY) APPROVED WALL PASS THROUGH TECHNIQUES

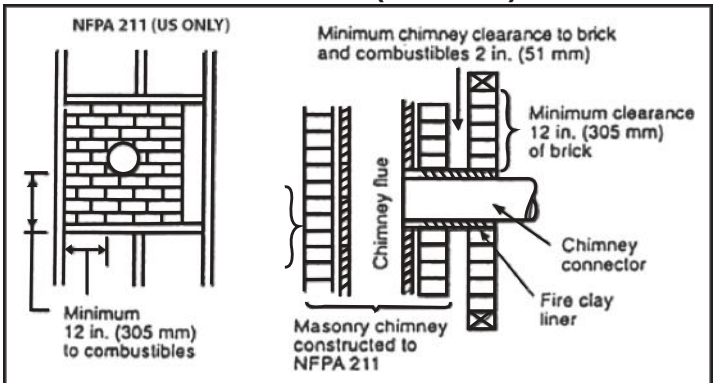


Figure 6 (US ONLY)

Brick Masonry: Minimum 3.5 inch (89 mm)thick brick masonry all framed into combustible wall with a minimum of 12 inch (305 mm) brick separation from clay liner to combustibles. The fireclay liner shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.

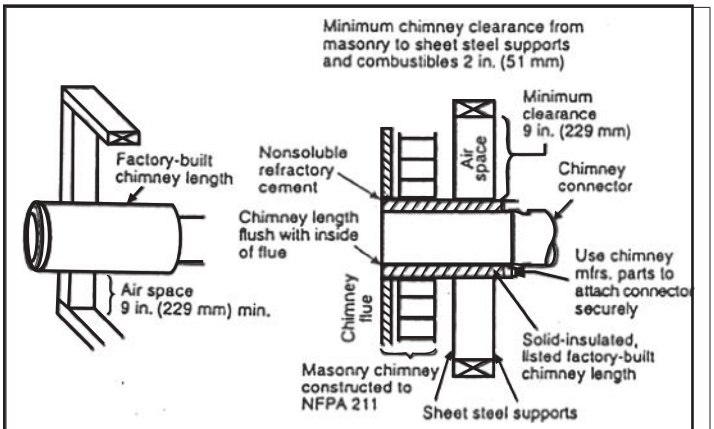


Figure 7 (US ONLY)

Insulated Sleeve: Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 inch (25.4 cm) or more of insulation with a minimum 9 inch (229 mm) air space between the outer wall of the chimney length and combustibles.

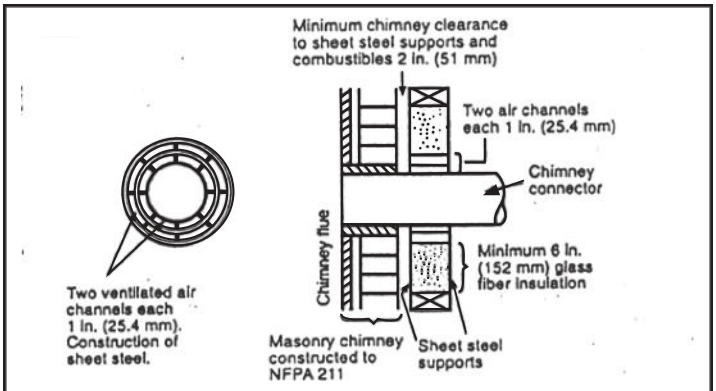


Figure 8 (US ONLY)

Ventilated Thimble: Sheet steel chimney connector, minimum 24 gauge in thickness, with a ventilated thimble, minimum 24 gauge in thickness, having two 1 inch (25.4 mm) air channels, separated from combustibles by a minimum of 6 inches (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge in thickness.

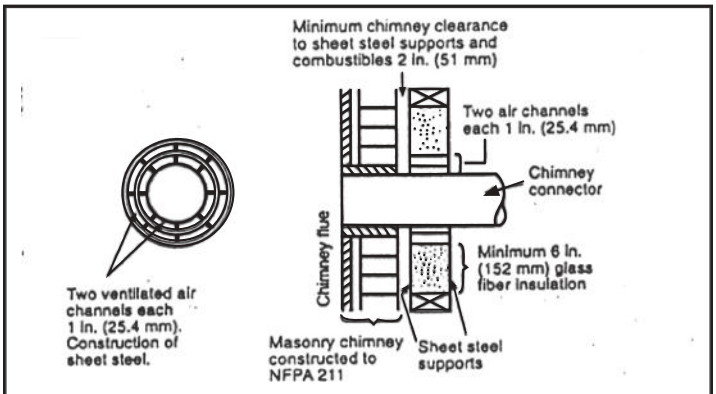


Figure 9 (US ONLY)

Chimney Section Pass-through: Solid insulated, listed factory-built chimney length with an inside diameter 2 inches (51 mm) larger than the chimney connector and having 1 inch (25.4 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge thickness, with a minimum 2 inches (51 mm) of air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 inches (305 mm) chimney section spaced 1 inch (25.4 mm) away from connector using sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel support securely fastened to wall surfaces of minimum 24 gauge thickness. Fasteners used to secure chimney section shall not penetrate chimney flue liner.

ADDITIONAL MOBILE HOME REQUIREMENTS

⚠ WARNING: DO NOT INSTALL IN SLEEPING ROOM.

PARTS & MATERIALS REQUIRED (NOT SUPPLIED)

- A 80mm diameter chimney which complies to UL 103, Standard for Factory-Built Chimneys for Residential Type and Building Heating Appliances.
- Ceiling thimble suitable for use in mobile home.
- Roof thimble suitable for use in mobile home.
- Spark arrestor suitable for use in mobile home.
- Roof flashing suitable for use in mobile home.

ADDITIONAL INSTALLATION REQUIREMENTS

- The chimney shall attach directly to the room heater and shall extend at least 3 feet (0.9 m) above the part of the roof through which it passes.
- The top of the chimney is to be at least 2 feet (0.6 m) above the highest required elevation of any part of the mobile home within 10 feet (3 m) of the chimney.
- All roof-chimney terminations shall be able to be readily removed at or below an elevation of 13½ feet (4.1 m) above ground level and reinstalled without the use of special tools or instructions.
- The chimney assembly shall be provided with a mechanical securement means to secure the chimney to the ceiling support box.
- Chimney Guard Requirements:
  - — When the chimney exits the mobile home at a location other than through the roof, and exits at a point 7 feet (2.1 m) or less above the ground level on which the mobile home is positioned, a guard or method of enclosing the chimney shall be provided at the point of exit for a height up to 7 feet.
  - — The chimney guard shall not have any openings large enough that a 3/4 inch diameter rod can enter.
  - — The chimney guard shall not have any openings large enough that a 1/2 inch diameter rod can enter beyond 4 inches
- The stove must be on installed on a level surface which can support the weight of the stove.
- The stove must be bolted to the level surface so that it permanently secured and can not be moved, tipped, or have ventilation seals compromised.
- The stove must be provided a permanently ducted source of outside air to support combustion which meets the following requirements:
  - — The duct must be made of metal exclusively, not other materials such as plastic.
  - — The end of this duct must be equipped with a screen which prevents rodents from infiltrating.
  - — The end of this duct must be kept free of leaves, snow, ice, or other debris that could restrict air supply when the appliance is in operation.
- The joints of any and all connections for both of ventilation systems (the inlet air and the combustion exhaust) must be sealed with high temperature silicone.
- The chimney must comply with all applicable codes and requirements of the authority having jurisdiction.
- The chimney must be removed for any mobile home transportation, and reinstalled abiding all requirements after transportation.

The flue system is based on negative pressure in the combustion chamber and a slight overpressure on the flue gas outlet. It is therefore important that the flue gas connection is fitted correctly and is airtight.

⚠ CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, CEILING, AND ROOF MUST BE MAINTAINED.

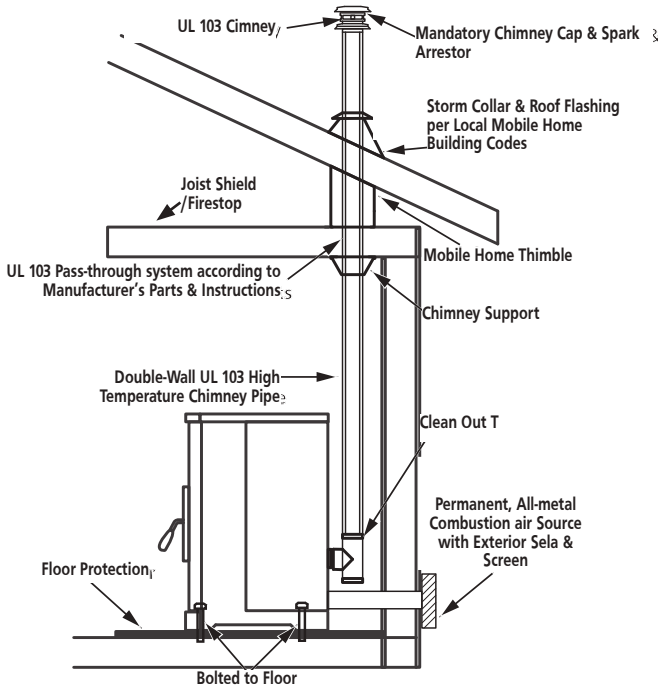


Figure 10 Mobile Home Vertical Chimney

LINED MASONRY CHIMNEY INSTRUCTIONS & DIAGRAM

This stove is designed to be vented through a masonry chimney which conforms to local building codes, fire codes, and latest edition of NFPA 211 US or CAN/ CSA-B365.

1. If the connection piping from the stove to a masonry chimney is made through a combustible wall, consult a qualified mason or chimney dealer for consultation. To ensure safety, the installation should only be done by a qualified installer. The installation must conform to the regulations established by local fire codes and building codes
2. The chimney connection must not be obstructed by the chimney connector pipes, such as the figure 10 below illustrates.

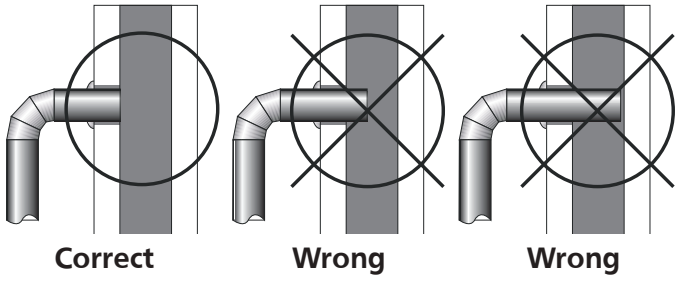


Figure 11 Connection Pipe & Chimney Connection

3. If there is an opening at the base of the chimney it must be closed tightly.

MANUFACTURED CHIMNEY INSTRUCTIONS & DIAGRAM

⚠ WARNING: DO NOT USE SINGLE-WALL CONNECTION PIPE AS A CHIMNEY.

This stove is designed to be used with either a UL 103HT (US)/ULC-S629 (CAN) listed manufactured chimney or an approved lined masonry chimney. Not all manufactured chimney are UL103 HT/ULC-S629 listed. Home centers, hardware stores, HVAC supply stores, and the Online websites of chimney manufacturers will be able to provide stove pipe that is rated to these standards.

This listing indicates that the Chimney is rated for high temperatures up to 2100 F (1149 C)

Only use components that all come from the same manufacturer. Do not mix brands of components for the same ventilation system.

The following figures illustrate various methods and requirements of using a manufactured chimney and connection pipes to vent the stove.

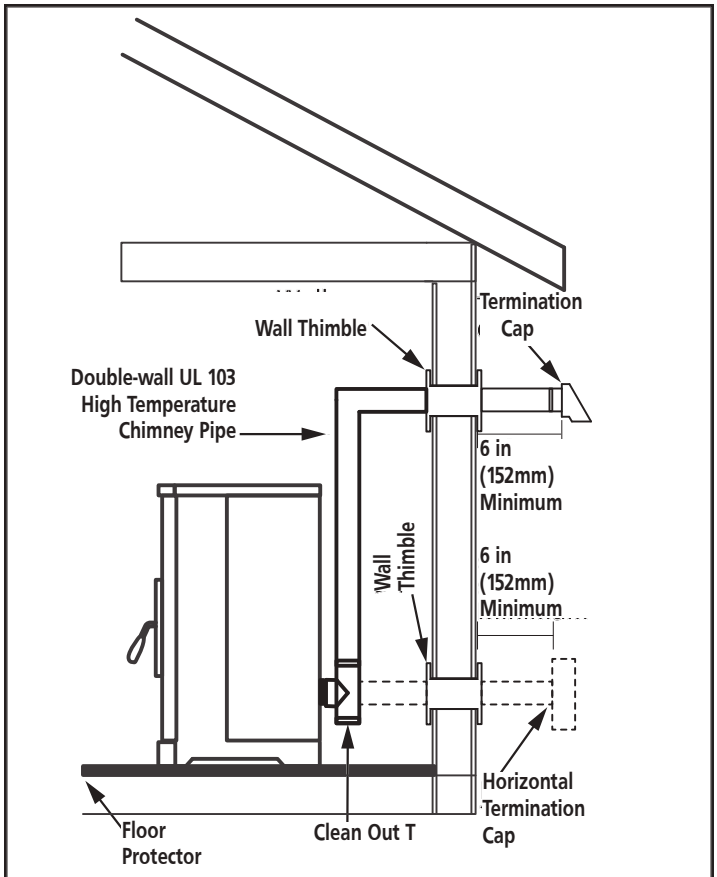


Figure 12 Manufactured Chimney through Wall

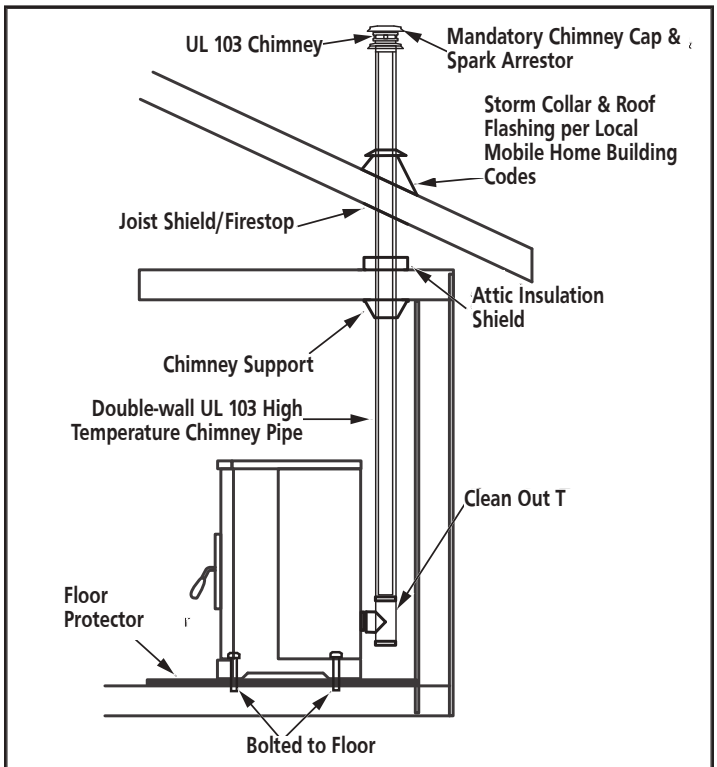


Figure 13 Manufactured Chimney through Attic

OPERATION

THEORY OF OPERATION

1. Combustion occurs in the fire pot, supported by air introduced to and under the fire pot. Note that some air blows in from the top of the combustion chamber; this helps keep ash and debris from accumulating on the door.
2. The exhaust blower draws combustion products from the stove and directs it out user-installed venting.
3. The auger transfers pellets from the hopper to the fire pot to sustain the fire.
4. A convection blower propagates air along the outside of the fire box, circulating warm and clean air into the room.

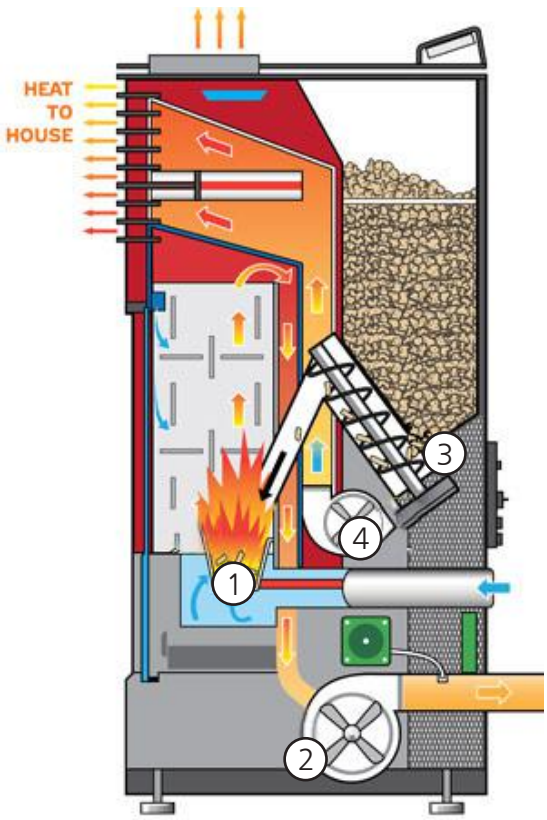


Figure 14 Stove Operation Process

APPROVED FUEL:

Do not use less than PFI premium-grade pellets. Use 100% natural wood pellets, untreated and without bonding agents added (max bark porportion of 5%) are the only fuel approved for use with this pellet stove. For best results see the specifications below:

- Calorific Value of 5.3 kWh/kg
- Density of 700 kg/m^3
- The pellets should be low ash (less than 1 % ash)
- The pellets should be less then 30mm long, with a diameter between 5 and 6.5 mm.
- Do not use the pellet sediment & debris at the bottom of the pellet container.
- Store pellets in sacks, made of environmentally neutral or biologically degradable plastic or from paper (2-3 layers / similar to cement packaging).

Use of wood pellets that do not meet these specifications may result in ignition difficulty, accelerated creosote or flyash build up, incomplete combustion, low heat yield, and blackening of the glass in the door.

⚠ CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START THE FIRE.

⚠ CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL.

⚠ CAUTION: NEVER ATTEMPT TO USE ANY OF THE FOLLOWING MATERIALS AS FUEL:

- Paper products, cardboard, or particleboard;
- Garbage;
- Animal remains or manure;
- Lawn clippings or yard waste;
- Waste petroleum products;
- Coal;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood;
- Materials containing
  - —asbestos
  - —plastic
  - —rubber (including tires)
- Petroleum products such as
  - —paints
  - —paint thinners
  - —asphalt products

BURNING THESE MATERIALS MAY RESULT IN RELEASE OF TOXIC FUMES OR RENDER THE HEATER INEFFECTIVE AND CAUSE SMOKE

Do not store wood pellet fuel or other fire starting materials on floor protector, underneath stovepipe, or anywhere within minimum clearances from combustible surfaces specified on page 6.

Wood pellet fuel should be stored in a dry, well ventilated area.

OPERATING PRECAUTIONS

⚠ WARNING: HOT WHILE IN OPERATION. DO NOT TOUCH THE STOVE. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

⚠ CAUTION: ENSURE THAT THE FIREPOT AND THE PAN UNDERNEATH ARE CLEAN AND IN THE PROPER OPERATING POSITION BEFORE USING THE STOVE.

⚠ WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR 'FRESHEN UP' A FIRE IN THIS HEATER. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE.

PAINT CURING

To allow the paint to bond durably to the stove, start by running the stove on P1 Maximum Power for at least 30 minutes. Provide cross ventilation to eliminate odors or smoke cause by this curing process.

OPERATING PROCEDURE: TURN ON STOVE

NOTE: If the display screen indicates that the stove is "Switching Off" the stove can not be interrupted. The Display Message will highlight to indicate that the state will not be changed. Only once the "Switching Off" cycle has finished and the exchanger has cooled can the stove be turned back on again.

1. Make sure that seals on the ash drawer and door are in good condition. If the stove has never been run before, add a handful of pellets directly to the firepot. Close the ash drawer and doors securely, and check that all side panels are all properly installed.

NOTE: DO NOT USE GRATES, IRONS, OR ANY OTHER METHODS OF SUPPORTING WOOD PELLET FUEL. ONLY THE FIREPOT SPECIFIC TO YOUR MODEL OF STOVE MAY BE USED.

2. Open the hopper. Ensure that there are a sufficient number of pellets to satisfy your heating requirements. Close the hopper.
3. Press the power button. The stove will begin to automatically progress through the following stages:
   - Cleaning Cycle: The firepot draws dust, ash, & remenants out.
   - Feeding Cycle: Pellets will be transported from the Pellet Hopper into the fire pot by the auger. This can take 5 to 15 minutes depending on the model of stove.
   - Lighting Cycle: The electrically powered hot surface igniter will power on for 8 minutes and begin combustion of the pellets in the firepot. The heater will remain in the Lighting Cycle until the exhaust smoke reaches a designated temperature.
   - Stabilization Cycle: The heater adjusts to fine tune the stove output to the desired temperature. This can take a few minutes
4. The stove has been successfully turned on.

OPERATING PROCEDURE: TURN OFF STOVE

NOTE: THE STOVE MAY BE TURNED OFF, REGARDLESS OF WHAT CYCLE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN, BY DEPRESSING AND HOLDING THE POWER BUTTON FOR TWO SECONDS. ONCE THE DISPLAY SCREEN INDICATES THAT THE STOVE IS IN THE STABILIZATION CYCLE PRESS THE POWER BUTTON AGAIN. THE STOVE WILL ENTER THE COOLING CYCLE, STATED ON THE DISPLAY SCREEN.

⚠ CAUTION: AFTER THE COOLING CYCLE THE STOVE AUTOMATICALLY BEGINS THE PROCESS OF CYCLING ON.

1. Press the power button. The stove will begin to automatically progress through the following stages:
   - Switching Off: Any remaining fuel in the firepot will continue to burn and produce heat and flame. After 5 to 8 minutes the firepot ought to be devoid of fuel. The heat exchanger may then begin to cool off.
   - Goodbye: The final message from the display screen to designate that the stove has cooled.
2. The stove has been successfully turned off.

OPERATION WITH AN ELECTRICAL GENERATOR

This stove is designed to have the option of being powered by an electrical generator, though not all electrical generator's may be compatible with this stove. Consult the information regarding your generator's electrical regulator and make sure that it meets the electrical requirements of this stove, as stated on page 3.

MINIMIZING CREOSOTE FORMATION

See "MAINTENANCE" on page 18 for an explanation of Creosote formation and removal. To slow the build up of creosote within your chimney burn only the recommended fuel, see page 13.

DISPOSAL OF ASHES

> ⚠ **CAUTION:** EMBERS MAY BE OBSCURED BY ASH. HANDLE ASH WITH TOOLS SUFFICIENT FOR FIRE TENDING, NEVER DIRECTLY WITH YOUR HANDS. WEAR FIRE RETARDANT CLOTHING AND PROTECTIVE EYEWARE.

Ashes should be placed in a metal container with a tight fitting lid.

1. Other waste shall not be placed in ash containers.
2. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal.
3. Wood mineral residue (approximately 1-2%) remains in the ash and is an excellent natural fertilizer product for all garden plants. Before disposing ashes of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all any and all cinders have thoroughly cooled and should also be "quenched" with water.

SMART STOVE WIFI CONNECTION

This stove can be monitored, controlled, and programmed by using the smart stove app by NHHATC which is available for iOS or android device through the app store.

Step 1. Download the Smart Stove app by NHHATC.

Step 2. Open the Smart Stove app. The app opens, by default, to the "Register" screen. Click on the "Register" button.

Step 3. Enter your email address in the "Email" field and click the "Get Verification Code" button.

Step 4. Enter the verification code that was emailed to you in the "Enter Verification Code" field.

Step 5. Now you can set a unique password for your device in the "Set Password" field and hit the "Done" button.

Step 6. If you have no other wifi enabled devices already added to this app there will be a large "Add Device" button in the center of the screen which you can select. Otherwise, select the + symbol in the top right of the screen.

Step 7. Make sure that your device is connected to the wifi network which you want the stove to be connected to.

Step 8. Make sure that the wood pellet fire stove is plugged into an electrical outlet and can be powered on.

Step 9. Follow the directions on the screen by pressing and holding the connection button for 3 seconds on the back bottom of the stove as illustrated in the figure below. Once you observe the desired blinking pattern on the indicator light, press the confirmation button at the bottom of the screen.

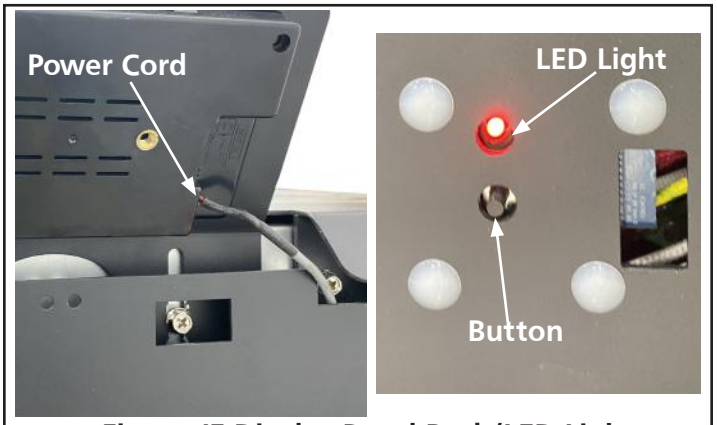


Figure 15 Display Panel Back/LED Light

Step 10. Enter the password for the wifi network so that the stove can connect to the wifi network.

Step 11. The stove will begin pairing with the device running the application through the wifi network. This process may take a few minutes.

Step 12. After the device and stove are paired, you will be able to see the pellet stove as a connection option on the "Devices" tab at the bottom of the app screen.

Step 13. On your device, go to your device's wifi settings which will now include the stove as an option. Select the stove as your wifi connection.

Step 14. Open the Smart Stove phone app again.

Step 15. You may now select this stove from this added devices list in order to monitor, control, and program the stoves operation.

WIFI CONTROLS

Once connected to the stove (See step 11 of Wifi Connection) you an remotely monitor and adjust the operation of the stove. See below for explanation:

- Device Name: it is possible to rename the stove, so that if you have multiple stoves set up for operation you can more easily differentiate between while using the smart stove application.
- Device Sharing: it is possible to share connection to the stove with other devices via SMS or email.
- Eco Mode: There are two ECO settings which can be selected which will conserve wood pellets while maintaining the desired temperature. Pressing the ECO button will allow you to toggle whether a specific eco setting is enabled, or to turn off the feature entirely.
    - ECO 1: The stove shuts off when the desired temperature has been reached. The stove will turn back once the room cools to a factory set temperature.
    - ECO 2: The stove turns to minimum power preset P4 when the desired temperature has been reached. The stove will turn on to higher power settings once the room cools to a factory set temperature.
- Preset configurations: There are four selectable configurations which adjust the speeds of the combustion fan and the room air circulation fan. Pressing the preset configuration button will allow you to toggle whether a specific preset configuration is enabled, or to turn off the feature entirely.
    - P1 [High Power] Settings
    - P2 [Medium-Plus Power] Settings
    - P3 [Medium Power] Settings
    - P4 [Low Power] Settings

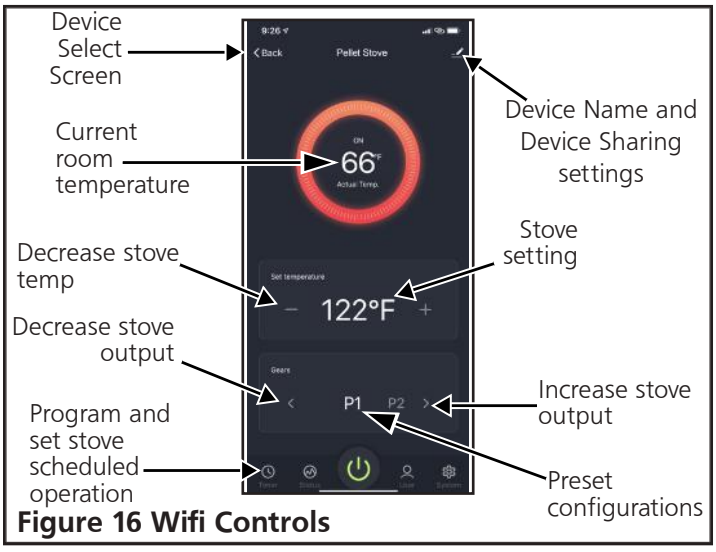


Figure 16 Wifi Controls

MULTI FUNCTION CONTROLS

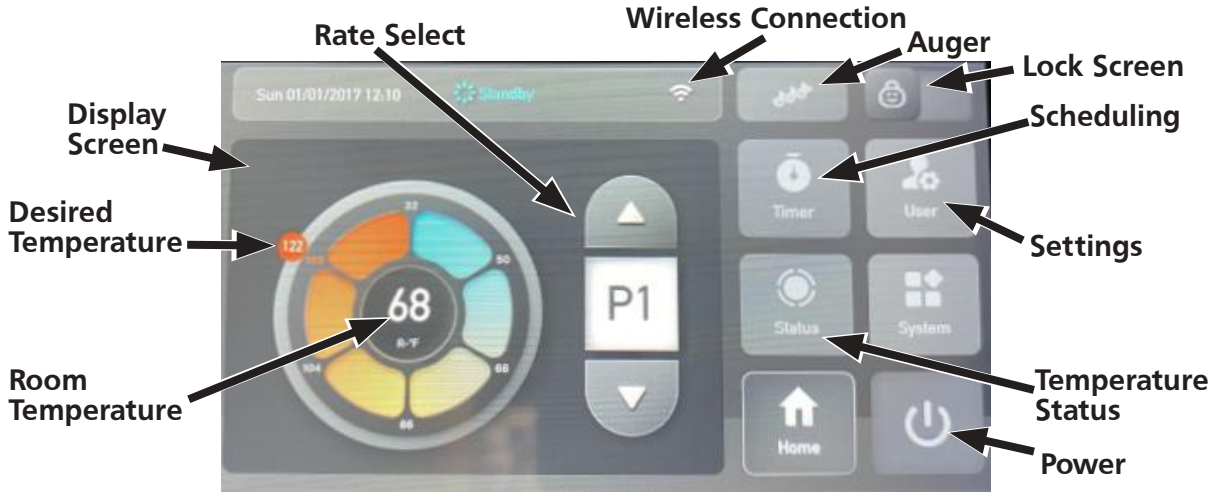


Figure 17a Mounted Multi Function Display Panel

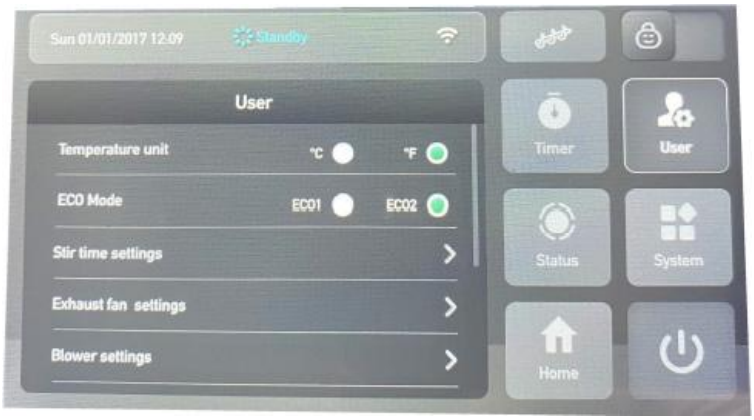


Figure 17b User Menu

Mounted Button Functionality: Normal Operation

Power
- Press to begin stove heating if the stove was off.
- Press to begin stove shut off if the stove was on.

Temperature Status
- Press to see temperature readings of the stove.
- Displays the exhaust pipe temp, the hopper protection temp and number of run hours etc.

Settings
- Press to enter User Settings Menu (Figure 17b).
- On this menu, you may select ˚F or ˚C, ECO Mode (see Wi-Fi controls for explanation), Stir Time/Exhaust Fan/Blower settings, etc.

Scheduling
- Press to enter desired run times.

Lock Screen
- Lock screen will illuminate when screen is locked in a Programmed Mode.

Auger
- Allows user to use/engage the auger directly, prep/pre-feed the firepot, or get pellets into the auger/unit prior to lighting.

Rate Select
- Pressing the rate select arrows will toggle between four configurable heating presets (see Wi-Fi controls for explanation of P#'s). The currently set preset is displayed between the Up and Down arrows.

Desired Temperature
- Using your finger, press down and rotate around the wheel to desired temperature (only applicable when using Thermostat and ECO modes).

⚠ **CAUTION:** The manufacturer has programmed preset rates to ensure proper operation. It is not advised to reprogram rate settings.

MAINTENANCE

This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.

⚠ CAUTION: TURN OFF AND UNPLUG THE STOVE FROM ANY SOURCE OF ELECTRICAL POWER TO UNIT BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: ALLOW STOVE TO COOL DOWN BEFORE PERFORMING ANY MAINTENANCE OR SERVICE OPERATIONS.

⚠ CAUTION: DURING ANY ASSEMBLY OR DISASSEMBLY, BE WARY TO NOT DROP ANY ITEMS (SCREWS, ETC.) INTO THE PELLET HOPPER. DEBRIS CAN JAM THE AUGER AND DAMAGE THE STOVE.

The frequency which your stove's requires cleaning and maintenance depends on the fuel that you use. High moisture, ash, dust, and chips can more than double the necessary maintenance. Use only the tested and recommended wooden pellets fuel.

Clean the fire pot and fire pan every day, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Use a vacuum cleaner to remove ash and debris from the fire pot, and then lift the fire pot to also clean the fire pan. It is important that ash or debris does not block any air openings.

A general cleaning schedule is as follows:

- Fire Pot: After 10 bags of wood pellets, or every day. Whichever is more frequent.
- Ash Drawer: After 50 bags of wood pellets
- Passageways: After 100 bags of wood pellets
- Blower: After 100 bags of wood pellets

CLEANING: FIRE POT & PAN

⚠ CAUTION: IF STOVE IS INTENDED TO OPERATE CONTINUOUSLY, IT MUST BE TURNED OFF TWICE WITHIN EACH 24 HOUR PERIOD IN ORDER TO CLEAN THE FIRE POT AND FIRE PAN. ALWAYS ALLOW THE STOVE TO COOL DOWN AND ANY EMBERS TO EXTINGUISH BEFORE CLEANING THE FIRE POT AND FIRE PAN.

Make sure that you put the fire pot back onto the fire pan in the correct orientation, so that pellets can be added to the pot and successfully ignited for the next operation of the stove.

CLEANING: GLASS

⚠ WARNING: DO NOT CLEAN GLASS WHEN HOT.

Though the circulation of air across the glass reduces acidic ash build up, cleaning the glass in the stove door is still required periodically. Cleaning is necessary to prevent glass from being weakened which may increase likelyhood of cracks. It is not acceptable to operate the stove with cracked or broken glass.

The best way to clean the door glass is using a damp cloth that has a smear of cool ash on it. For extra stubborn dirt, consult your local hardware store or stove specialist for a suitable cleaner.

⚠ WARNING: DO NOT CLEAN GLASS WITH ABRASIVE CLEANERS OR BY ANY OTHER PROCESS WHICH MAY SCRATCH OR DAMAGE THE GLASS.

CLEANING: INLET AND OUTLET PASSAGEWAYS

The inlet and outlet passageways should be cleaned at least once a year. Burning high ash pellets may require that the passageways are cleaned more frequently.

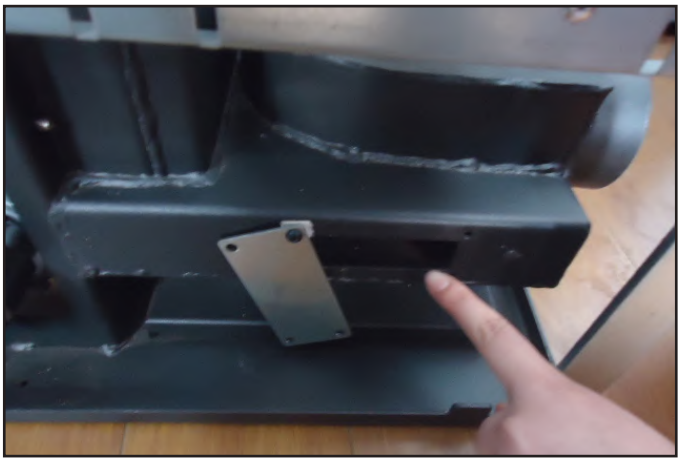


Figure 18 Inlet Duct

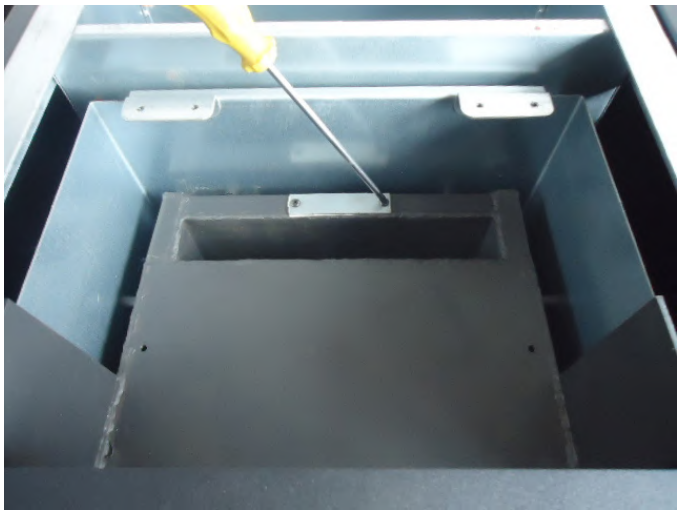


Figure 19 Dutlet Duct

On each side of the stove there are two access covers that can be removed by removing the fastening screws. Turn off the stove, allow the stove to cool down, and unplug the stove before disassembly and cleaning. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Replace the covers and secure with the allen head screws.

There are two more openings to the inlet and outlet passageways which can be accessed by removing the ash drawer. Loosen the two 5/32" allen head screws shown in Figure 19. Rotate the covers to expose the opening. Use a cleaning brush to loosen any ash build up. Insert a cleaning brush into the openings to loosen any ash build up and then use a vacuum cleaner to remove the loosened ash. Rotate the covers back over the openings and secure with the allen screws.

CLEANING: CONVECTION BLOWER

When facing the heater, the blower motor responsible for introducing air for heating and circulation to the room is located on the right hand side. Remove or open the side panel to obtain access. Clean the convection blower as required, before using the stove and while the stove is cooled down, the stove is unplugged, and there are no embers. Take care to not damage the blower's blades during cleaning. Use a vacuum to remove any dust accumulation of the blower's blades or inside the blower duct.

CLEANING: EXHAUST VENT PIPE

Inspect the exhaust venting system at least once a year to determine if cleaning is necessary. During start up, shut down, and erroneous operation of the stove incomplete combustion can produce ash, soot, and creosote. To clean the exhaust venting system insert an appropriate sized cleaning brush into the pipe to loosen and remove any ash or debris build up. Build up of debris and ash can restrict the flow of gases which will affect stove performance, and failure to remove creosote may result in a dangerous chimney fire.

CLEANING: PIPE CLEANERS

This model features pipe cleaners attached which can be pumped in order to scrape within the passageway to clean the exhaust passageways, see Figure 20. This task is to be performed every day, while the stove is cooled down and unplugged.

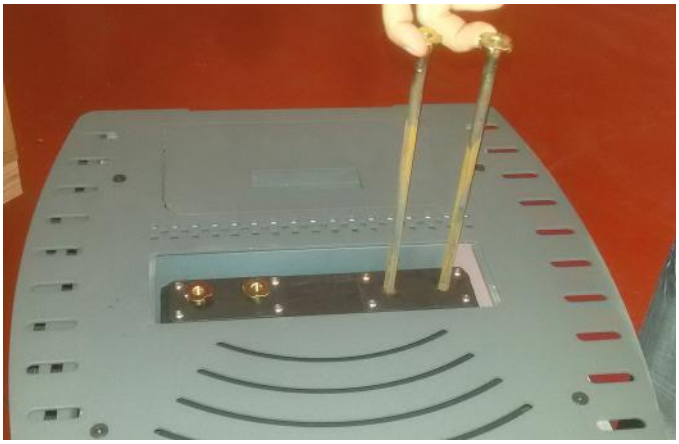


Figure 20 Pipe Cleaners

FLYASH - FORMATION AND NEED FOR REMOVAL

The products of combustion will contain small particles of flyash. The flyash will collect in the exhaust venting system and restrict the flow of the flue gases. Incomplete combustion, such as occurs during startup, shutdown, or incorrect operation of the room heater will lead to some soot formation which will collect in the exhaust venting system. The exhaust venting system should be inspected at least once every year to determine if cleaning is necessary. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

CREOSOTE - FORMATION AND NEED FOR REMOVAL

Failure to remove creosote may result in a dangerous chimney fire.

When wood pellets burn at a low temperature they produce tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of allow-temperature fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least once every few months during the heating season to determine if a creosote buildup has occurred. If a significant layer of creosote has accumulated (eighth of an inch, 3 mm, or more) it should be removed to reduce the risk of a chimney fire. Use the appropriate sized chimney brush to remove ash and buildup from the venting.

Be aware that the hotter the fire the less creosote is deposited, and weekly cleaning may be necessary in mild weather even though monthly cleaning may be enough in the coldest months. Contact your local municipal or provincial fire authority for information on how to handle a chimney fire. Have a clearly understood plan to handle a chimney fire.

REPLACING: GLASS

Replacing the door glass is only permitted by replacing the entire door assembly provided by the manufacturer. See page 26.

⚠ WARNING: SUBSTITUTING ALTERNATE MATERIAL MAY SHATTER GLASS AND CAUSE INJURY.

REPLACING: SEALING GASKETS

Over time the sealing gaskets along the glass, door, or ash drawer may lose their rigidity. These seals are essential for providing a seal which allows the stove to operate safely. Inspect the gaskets periodically, and if they become worn contact the manufacturer for information on original or equivalent gasket.

To replace the gasket:

1. Ensure that all pellets are extinguished and that the stove is cool to the touch.
2. Remove old gasket and clean the gasket gutter.
3. Apply a thin coat of high temperature gasket cement along the inside of the gasket gutter.
4. Press the beginning of the replacement gasket into the most up and most left position of the prepared gasket gutter.
5. Continue pressing the replacement gasket clockwise along the gasket gutter until it has wrapped back to where the gasket was pressed in initially.
6. Trim any excess replacement gasket away ,and press the remaining end into the gutter to complete the seal.

Close the door, drawer, or ash drawer and allow 3 to 4 hours for the cement to set before operating the stove.

REPLACING: HOT SURFACE IGNITER

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, undo the screw located on the back inside of the main body. Pull the hot surface igniter free, and install replacement service part. See Figure 21.

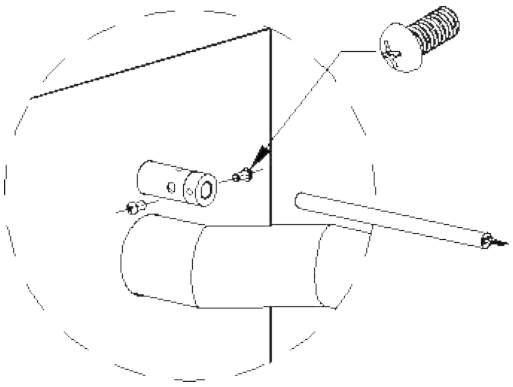


Figure 21 Igniter Disassembly

REPLACING: AUGER SYSTEM

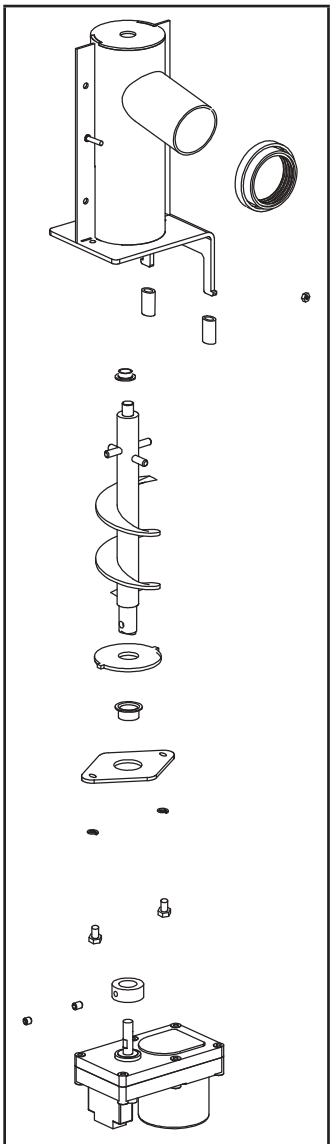


Figure 22 Auger Disassembly

Ensure that the stove is off and allow it time to become cool to the touch. After gaining access to the back, the auger can be disassembled part by part in the order indicated in Figure 22.

REPLACING: HEAT EXCHANGE BLOWER

Unplug the heater. Disconnect any wiring leading to the Heat Exchange Blower. Remove the screws holding the mounting plate to the heater. Slowly remove blower and replace with new one. Replace screws and wiring.

REPLACING: EXHAUST BLOWER

Unplug the heater. Disconnect any wiring leading to the Exhaust Blower. Remove the wing nuts holding the Exhaust Blower plate to the blower housing. Slowly remove blower and replace with new one. Replace wing nuts and wiring.

SAFETY COMPONENTS

1. Vacuum Pressure Switch: A safety vacuum switch is located behind the left door, fastened to the base. If a low pressure is created in the firebox by a leak, opening the door to the firebox, a blocked flue, or an unsealed ash drawer then the switch will shut the stove off as a precaution. Error code E5 will appear on the display panel.
2. High Limit Thermostat: A high temperature limiter is installed on the bottom of the hopper. If this sensor is exposed to temperatures higher than 158 degrees then the stove is shut off.
3. Vent Pipe High Temperature Thermostat: A high temperature limiter is installed on the vent pipe. If this sensor is exposed to temperatures higher than 104 degrees then the circulation fan blower is switched on.
4. Vent Pipe Low Temperature Thermostat: If the stove cools below a minimum temperature the stove will switch off. This may occur when the operating procedure fails to quickly and sufficiently heat the stove.
5. Fuse: A fuse on the rear of the device protects the stove from power surges. See Figure 23.

Figure 23 Fuse

ERROR CODES

NOTE: IN THE EVENT OF A POWER FAILURE (ERROR CODE E7), A SMALL AMOUNT OF SMOKE MAY BE EMITTED. THIS LASTS 3 TO 5 MINUTES AND DOES NOT REPRESENT A SAFETY RISK.

⚠ **CAUTION: IF OVERHEATING HAS OCCURRED (ERROR CODES E5 AND E6), THEN AN INSPECTION, MAINTENANCE, AND/OR CLEANING MUST OCCUR BEFORE THE STOVE CAN SAFELY BE OPERATED AGAIN.**

After following the suggested solution steps, press the confirm button to clear the error code from the error code from the multi function display screen. Then go through the operation procedure specified on page 14 to restart the heater.

ERROR CODE	CAUSE	SOLUTION
E1	Exhaust temperature is below 40 - 45 °F Operation has been interrupted and the fire has been discontinued.	1. Check that the pellet hopper has fuel. 2. Check that the auger motor is not damaged and is able to fill the firepot with fuel.
E2	Failure to ignite the fuel in fire pot.	1. Check that there are no "clinkers" (glass like lumps of various sizes formed by debris exposed to high heat, more common when using low quality fuel) in fire pot. 2. Check that the firepot is sitting in the holder correctly and that the igniter is not obstructed. 3. Check that the exhaust gas temperature sensor switch, beside the combustion fan, is not broken. 4. Check that the igniter is not broken.
E5	Low pressure detected at the vacuum switch (located behind the left door, fastened to the base).	1. Check that the door, and ash drawer if present, has been closed properly. 2. Check that there is nothing obstructing the exhaust duct nor that the duct is leaking. 3. Check that the combustion fan is not broken.
E6	Failure at the high temperature sensor (located below the pellet hopper).	1. Check that the switch is not broken. 2. The temperature of the sensor is too high. The stove is not running properly. Call customer service.
E7	Power failure.	Press the Confirm button to clear the error code. Then restart the stove. You may chose to skip directly into the stabilization cycle by depressing and holding the rate selector button for 3 seconds.
E9	Hopper sensor. Hopper low on pellets.	1. Replenish pellets in hopper.
ESC1	Short circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.
ESO1	Open circuit at temperature sensor #1.	1. Check wires and connection points. 2. Replace Motherboard.

ERROR CODES CONTINUED

ESC2	Short circuit at temperature sensor #2.	1. Check wires and connection points. 2. Replace Motherboard.
ESO2	Open circuit at temperature sensor #2	1. Check wires and connection points. 2. Replace Motherboard.
ESC3	Short circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.
ESO3	Open circuit at temperature sensor #3	1. Check wires and connection points. 2. Replace Motherboard.

TROUBLESHOOTING

SYMPTOM	CAUSE	SOLUTION
Heater does not turn on.	Power Switch turned off.	Turn on power switch.
	Power Cord disconnected.	1. Press power cord tightly into the heater 2. Ensure that the wall socket is delivering 120 Volts.
	Fuse is blown.	Replace the fuse.
The blower does not turn on during Cleaning Cycle, Feeding Cycle, or Lighting Cycle.	This is normal.	There is no problem, the blower does not turn on until the stabilization cycle.
The blower does not turn on during Stabilization Cycle.	No power in stove or in control panel.	Check the power and wires.
	Mother board disconnected.	Make sure all terminals to mother board are connected.
	Low Temperature sensor is broken.	Replace the low temperature sensor.
During the Lighting phase the auger is not filling the firepot with pellets.	This is normal.	There is no problem, the auger does not operate during the Lighting phase.

TROUBLESHOOTING CONTINUED

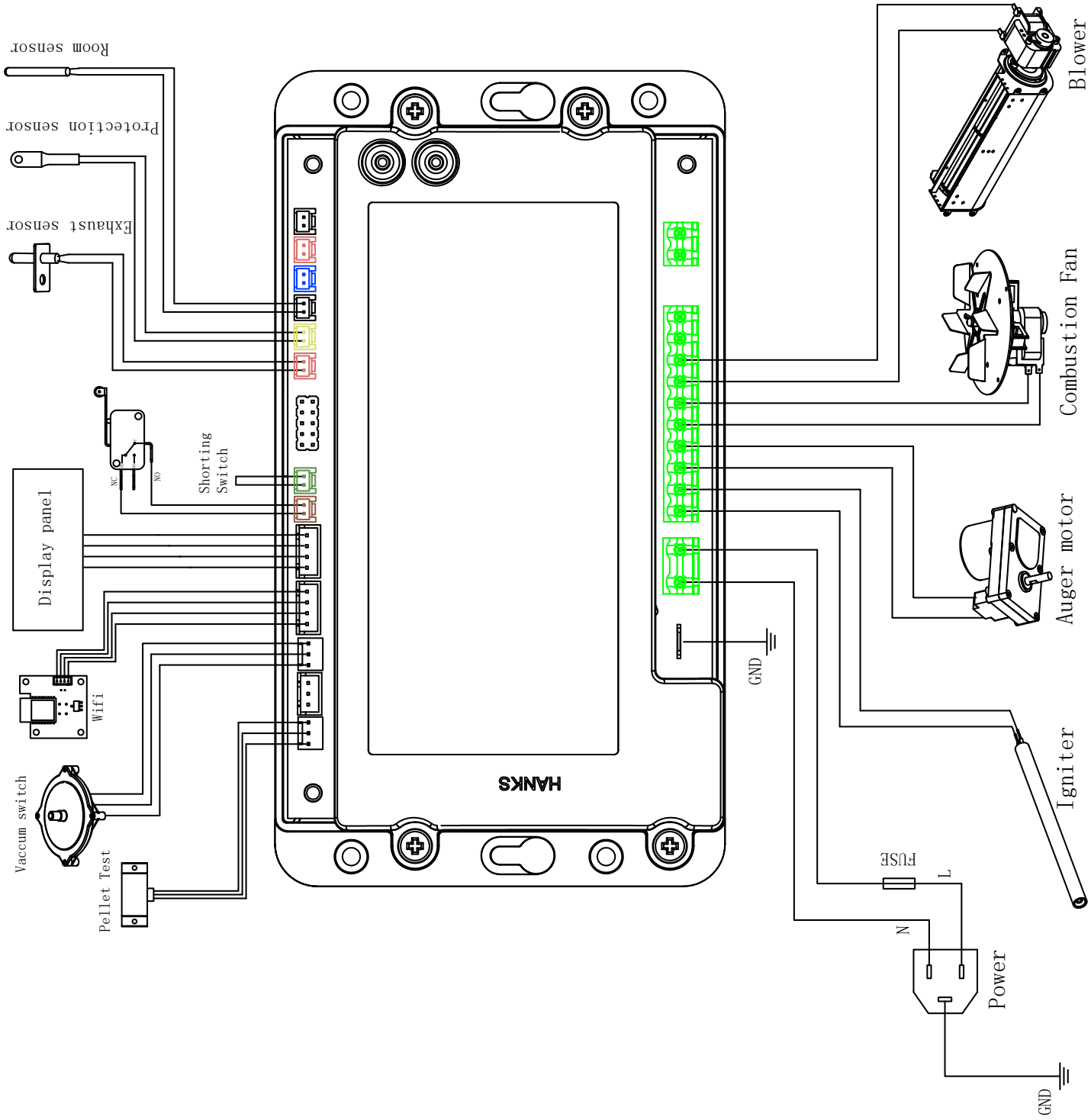
SYMPTOM	CAUSE	SOLUTION
During operation, besides the Lighting phase, the auger is not filling the firepot with pellets.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked, jammed, or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
Too much fuel in the firepot. The fuel can not be completely and thoroughly burned.	The feeding speed is faster than what combustion can support.	1. Increase the fan's speed to increase the rate of combustion. 2. Reduce the feeding speed.
Not enough fuel in the firepot.	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
After the fire has started, the stove turns off 15 minutes later.	The pellet hopper is low on fuel.	Check that the pellet hopper has a sufficient amount of fuel.
	The auger is not operating.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
	The pressure switch inside the stove is broken.	Replace the pressure switch.
Orange flame, pellets piling up in firepot,carbon residue forming on glass.	Insufficient air for sufficient combustion.	1. Check that the air inlet vent in the front is open. 2. Check that the door and window gaskets are intact. 3. Check if the air inlet ducting and the combustion exhaust ducting are blocked. 4. Increase the cross sectional area of the ducting. 5. Increase the fan's speed to increase the rate of combustion. 6. Contact the manufacturer for assistance.

TROUBLESHOOTING CONTINUED

SYMPTOM	CAUSE	SOLUTION
The fire extinguishes and the power shuts off.	No fuel in Pellet Hopper.	Add Fuel to Pellet Hopper.
	Auger is blocked or jammed or disconnected.	1. Unplug the unit so that it will not start suddenly and then unblock the auger. 2. Check that the auger is not blocked. If it is blocked, remove the cause of the jamming. 3. Check that the auger screw fastening the auger to the motor is secure.
	The feeding speed is too low to support the rate of combustion.	1. Decrease the fan's speed to decrease the rate of combustion. 2. Increase the feeding speed.
	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The fire extinguishes and the power shuts off (continued).	Requested temperature has been reached.	This is normal "ECO" mode behavior. The stove will automatically switch on once the ambient room temperature drops below the temperature that the stove is set to maintain.
The circulation blower continues to operate after the stove is cool and the fuel consumption has ceased.	The 30 ° C temperature switch has triggered.	1. Check that wires to the switch are sufficiently connected. 2. Replace the 30 ° C temperature switch.
The stove is not circulating a sufficient volume of sufficiently hot air.	The fuel is inadequate.	Use pellet fuel specified by this manual.
	The circulating blower is set too slow or is compromised.	1. If the blower is broken, change out the blower 2. If the mother board which connects to the blower is broken, change out the mother board.
	Heat exchange tubes or flue pass is dirty.	Clean the heat exchanger tubes or flue pass.

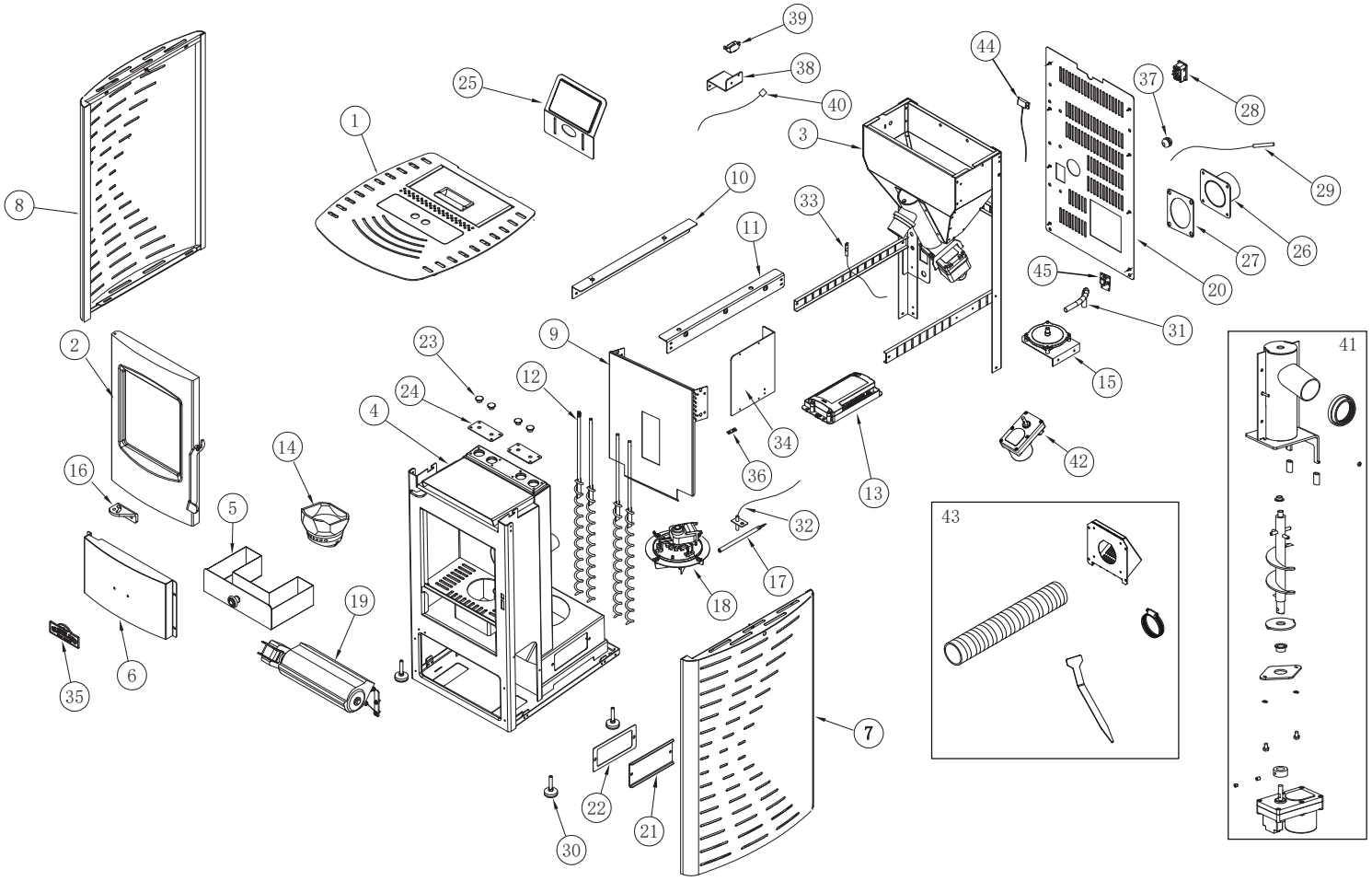
WIRING DIAGRAM

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C AND RATED FOR 600V



SERVICE PARTS MODEL PS20WTS

NOTE: NOT ALL PARTS AVAILABLE. FOR QUESTIONS CONTACT MANUFACTURER.



⚠WARNING: FAILURE TO POSITION THE PARTS IN ACCORDANCE WITH THESE DIAGRAMS OR FAILURE TO USE ONLY PARTS SPECIFICALLY APPROVED WITH THIS STOVE MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

NO.	PART NUM.	DESCRIPTION
1	66666	Top Cover
2	66665	Door Assembly
3	n/a	Hopper
4	n/a	Chamber
5	66667	Drawer
6	66668	Drawer Cover
7	66669	Right Side Panel
8	66670	Left Side Panel
9	n/a	Isolate Cover
10	n/a	Left Shoulder
11	n/a	Right Shoulder
12	66671	Cleaning Pipes
13	66664	Motherboard
14	66673	Fire Pot
15	66628	Vaccuum Switch
16	66674	Door Hinge

NO.	PART NUM.	DESCRIPTION
17	66608	Igniter
18	66607	Combustion Blower
19	66675	Circulation Blower
20	66676	Rear cover
21	66677	Side Seal Cover
22	66678	Side Seal Gasket
23	66679	Cleaning Pipe Holder
24	66680	Cleaning Pipe Cover
25	66690	Display Panel
26	66691	Exhaust connecter
27	66692	Exhaust connecter silicon pad
28	66615	Power Socket
29	66616	Room Sensor
30	66693	Feet
31	n/a	Silicon tube

NO.	PART NUM.	DESCRIPTION
32	66609	Temperature Sensor
33	66613	Safety Sensor
34	n/a	Motherboard Fixed Plate
35	n/a	Nameplate (see # 6)
36	n/a	Ground Screw
37	n/a	Wire Grommit
38	n/a	Switch fixing board
39	66617	Door Switch
40	66694	Switch Wire
41	66695	Auger Assembly
42	66696	Auger Motor
43	66659	Accessory Kit
44	66701	Hopper Sensor
45	66702	Touch Screen

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

Model # PS20WTS

READ INSTRUCTIONS CAREFULLY: Please read this entire manual before installation and use of this pellet fuel-burning room heater. Failure to follow these instructions could result in property damage, bodily injury or even death. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the stove. Place instructions in a safe place for future reference.

WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: ACCESSORIES MAY BE PURCHASED AT ANY GRAND TETON LOCAL DEALER OR DIRECT FROM THE FACTORY

FOR INFORMATION REGARDING SERVICE:

Please call Toll-Free 1-866-740-2497 • Weekends/After Hours 423-488-6316 • grandtetoncollection.com
Our office hours are 8:00 AM – 5:00 PM, EST, Monday through Friday.
Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY:

Enerco Group, Inc. (EGI) warrants Grand Teton Wood Pellet Fire Stoves to be free from imperfections in workmanship or material, at the date of manufacture. After installation, If covered components are found to be defective in workmanship or material during the applicable warranty period then the company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within applicable warranty period and found by the company to have imperfections in material or workmanship. The warranty period of the covered components is defined in the table below:

Components Covered	Warranty Period (Parts only, Labor not included)
Electrical	1 years
Steel parts (excluding fire pot)	5 years

If a part is damaged or missing, call our Technical Support Department at 1-866-740-2497.

Address any Warranty Claims to the Service Department, Mr. Heater, Inc., 4560 W. 160TH ST., CLEVELAND, OHIO 44135. Include your name, address and telephone number, the model and serial number of your product, and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation. This warranty does not cover damage or breakage due to misuse, abuse or modifications. There is no warranty on any paint, glass, gasket or fire brick. There is no warranty on the fire pot. There is no warranty against damage caused by corrosion.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Mr. Heater Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

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US Patent Pending

ASTM E1509-2012 (R2017)
ULC S627-2000 (R2020)
ASTM E2779-2017
ASTM E2515-2017
CSA B415.1-2010 (R2020)

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.05.13	CZ

FXXXXXX	C20W
USED ON	

Model No / N° de modèle:
C20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

E - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'event vertical

	USA	CANADA
A	4" (229 mm)	9" (229 mm)
B	15.9" (404 mm)	15.9" (404 mm)
C	7.9" (201 mm)	7.9" (201 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	9.9" (150 mm)	9.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'event devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1618. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	4 po (229 mm)	9 po (229 mm)
B	15.9 po (404 mm)	15.9 po (404 mm)
C	7.9 po (201 mm)	7.9 po (201 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	9.9 po (150 mm)	9.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (lb/hr)		PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
C20W	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
W/N 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'event de type L ou PL de 80 mm (3 po) du diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'event de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant la fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ENCRASSEMENT (kg/h) (lb/h)		ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
C20W	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vca.
- Courant : 3,3 A
- Fréquence : 60 Hz
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec aucun panneaux d'enlevés retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulles de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviert à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAIRE FONCTIONNER QUAVEC LES PORTES DE L'UNITE FERMEES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

66805 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black
- UL 969 Compliant

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.05.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUC-TION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEMP

TITLE:

LABEL, RATE, PELLET STOVE,MINI-MODEL-C

SIZE: A4	DWG.NO. 66805	REV
		A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

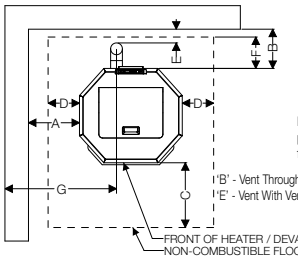
C20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518.

Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
C20W	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
C20W	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
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ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

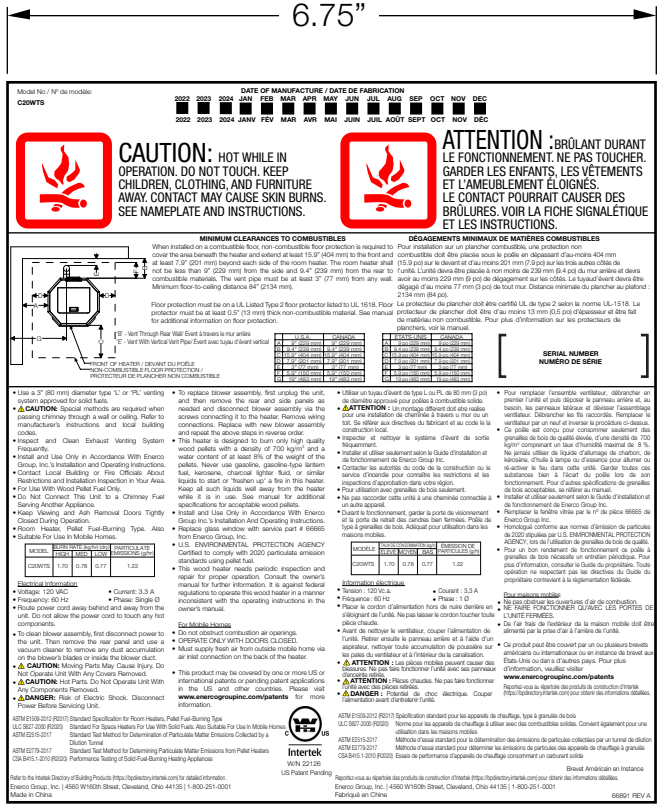
Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.12.01	CZ

FXXXXXX	C20WTS
USED ON	



Model No / Nº de modèle:
C20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION
2022 2023 2024 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
2022 2023 2024 JANV FÉV MAR AVR MAI JUIN JUIL AOÛT SEPT OCT NOV DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

B - Vent Through Rear Wall/ Évent à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Évent avec tuyau d'évent vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION / PROTECTEUR DE PLANCHER NON COMBUSTIBLE

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	9" (229 mm)	9" (229 mm)
C	9.4" (239 mm)	9.4" (239 mm)
D	9" (201 mm)	9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	9.9" (152 mm)	9.9" (152 mm)
G	84" (2133 mm)	84" (2133 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle et dépassant d'au moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau/cheminée devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9 po (229 mm)	9 po (229 mm)
C	9,4 po (239 mm)	9,4 po (239 mm)
D	9 po (201 mm)	9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	9,9 po (152 mm)	9,9 po (152 mm)
G	84 po (2133 mm)	84 po (2133 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	EMITTANCE RATE (g/hr)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
C20WTS	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Frequency: 60 Hz
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- Current: 3.3 A
- Phase: Single Ø

- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠**CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels, Also Suitable For Use In Mobile Homes
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
WIN 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant la fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ÉMISSION DE GAZ			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
C20WTS	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a
- Fréquence : 60 Hz
- Placer le cordon d'alimentation hors de vues derrière en éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Courant : 3,3 A
- Phase : 1 Ø

- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠**ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et désosser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement de poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QUTAVEC LES PORTES DE L'UNITE FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dans d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

66891 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.12.01
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEMP

TITLE:

LABEL, RATE, PELLET STOVE, MINI, TS, MODEL C

SIZE: A4	DWG.NO. 66891	REV A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / Nº de modèle:

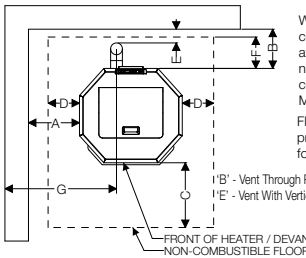
C20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
C20WTS	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
C20WTS	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

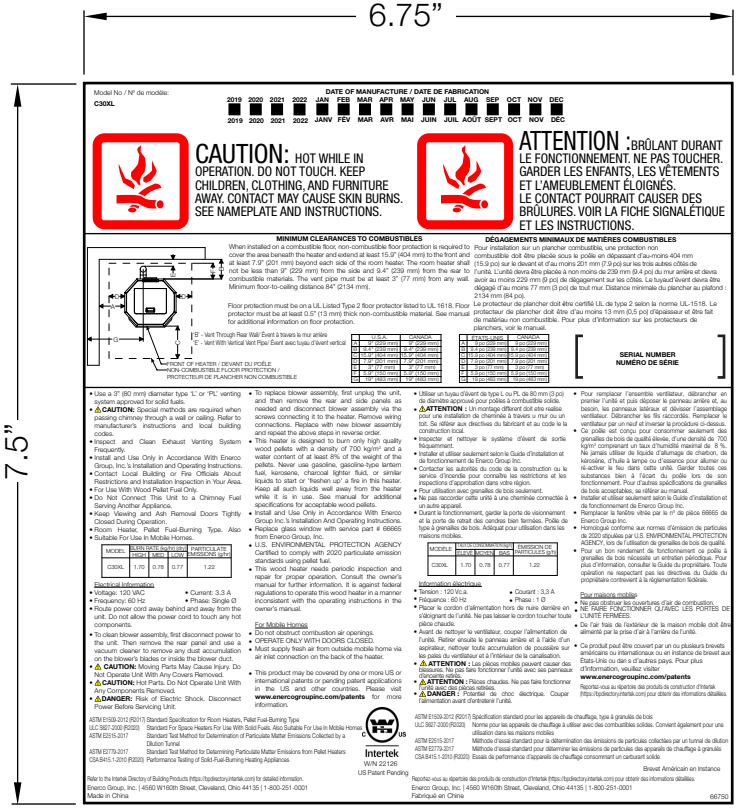
Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.01.13	CZ

F500XXX	C30XL
USED ON	



Model No / N° de modèle:
C30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

F - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'évent vertical

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	9" (229 mm)	9" (229 mm)
F	9.4" (239 mm)	9.4" (239 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9,4 po (239 mm)	9,4 po (239 mm)
C	15,9 po (404 mm)	15,9 po (404 mm)
D	7,9 po (201 mm)	7,9 po (201 mm)
E	9 po (229 mm)	9 po (229 mm)
F	9,4 po (239 mm)	9,4 po (239 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Flue Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/h) (lb/h)		EMISSIONS (g/h)	PARTICULATE EMISSIONS (g/h)
	HIGH	LOW	LOW	
C30XL	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enerco groupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E815-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

Intertek
WIN 22126
US Patent Pending

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un plafond. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ABSORPTION (kg/h) (lb/h)		ÉMISSION DE CO (g/h)	ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	BAS	BAS	
C30XL	1.70	0.78	0.77	1.22

Informations électriques
- Tension : 120 Vc.a.
- Courant : 3,3 A
- Fréquence : 60 Hz
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de vue derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussières sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité idéale, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon la Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 établies par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviennt à la réglementation fédérale.

Pour maisons mobiles
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAS FAIRE FONCTIONNER QUAND LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enerco groupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E815-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en China

Brevet Américain en Instance

66750

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.01.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE, MINI, MODEL C

SIZE: A4	DWG.NO. 66750	REV
		A

SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

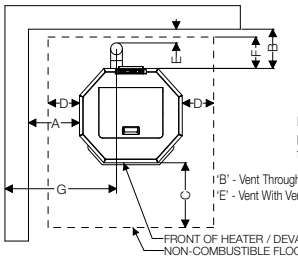
C30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
C30XL	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
C30XL	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

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Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.05.13	CZ

FXXXXXX	H20W
USED ON	

Model No / N° de modèle:
H20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

E - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'event vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION / PROTECTEUR DE PLANCHER NON-COMBUSTIBLE

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	7.9" (201 mm)	7.9" (201 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
G	9.9" (150 mm)	9.9" (150 mm)
H	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au moins 404 mm (15,9 po) sur le devant et d'au moins 201 mm (7,9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9,4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'event devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	7,9 po (201 mm)	7,9 po (201 mm)
C	15,9 po (404 mm)	15,9 po (404 mm)
D	7,9 po (201 mm)	7,9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
G	9,9 po (150 mm)	9,9 po (150 mm)
H	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (lb/hr)		PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
H20W	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
W/N 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'event de type L ou PL de 80 mm (3 po) ou dernière approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'event de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant la fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h) (lb/h)		ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
H20W	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 V.c.a.
- Courant : 3,3 A
- Fréquence : 60 Hz
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec aucun panneaux d'enlevés retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulles de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de chathon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviert à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITE FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

66817 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black
- UL 969 Compliant

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.05.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE,MINI-MODEL-H

SIZE: A4	DWG.NO. 66817	REV
		A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

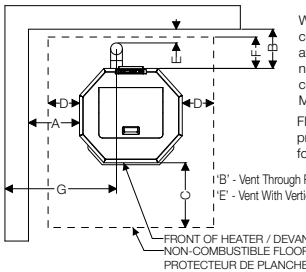
H20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
H20W	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
H20W	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

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ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
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CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

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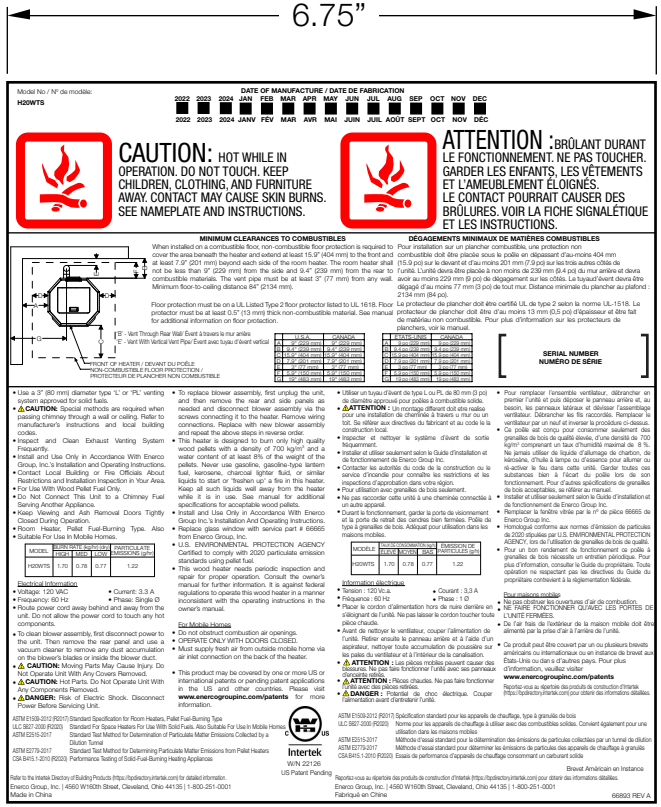
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.12.01	CZ

FXXXXXX	H20WTS
USED ON	



Model No / Nº de modèle:
H20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

R - Vent Through Rear Wall/ Évent à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Évent avec tuyau d'évent vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION /
PROTECTEUR DE PLANCHER NON COMBUSTIBLE

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	7.9" (201 mm)	7.9" (201 mm)
C	7.9" (201 mm)	7.9" (201 mm)
D	9" (229 mm)	9" (229 mm)
E	3" (77 mm)	3" (77 mm)
F	9.9" (152 mm)	9.9" (152 mm)
G	59" (1803 mm)	59" (1803 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle et dépassant d'au moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	7,9 po (201 mm)	7,9 po (201 mm)
C	7,9 po (201 mm)	7,9 po (201 mm)
D	9 po (229 mm)	9 po (229 mm)
E	3 po (77 mm)	3 po (77 mm)
F	9,9 po (152 mm)	9,9 po (152 mm)
G	59 po (1803 mm)	59 po (1803 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	EMISSIONS (g/hr)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
H20WTS	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Frequency: 60 Hz
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠**CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.
- Current: 3.3 A
- Phase: Single Ø

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels, Also Suitable For Use In Mobile Homes
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
WIN 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers ou mur ou un toit. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	ÉMISSIONS (g/hr)			ÉMISSION DE PARTICULES (g/hr)
	ÉLEVÉ	MOYEN	BAS	
H20WTS	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a
- Fréquence : 60 Hz
- Placer le cordon d'alimentation hors de vues derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠**ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.
- Courant : 3,3 A
- Phase : 1 Ø

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et désosser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement de poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dans d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

66893 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.12.01
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEMP

TITLE:

LABEL, RATE, PELLET STOVE, MINI, TS, MODEL H

SIZE: A4	DWG.NO. 66893	REV A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / Nº de modèle:

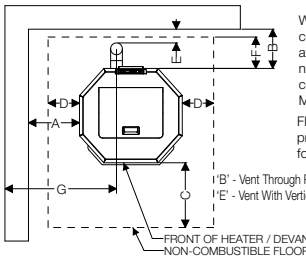
H20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
H20WTS	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
H20WTS	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

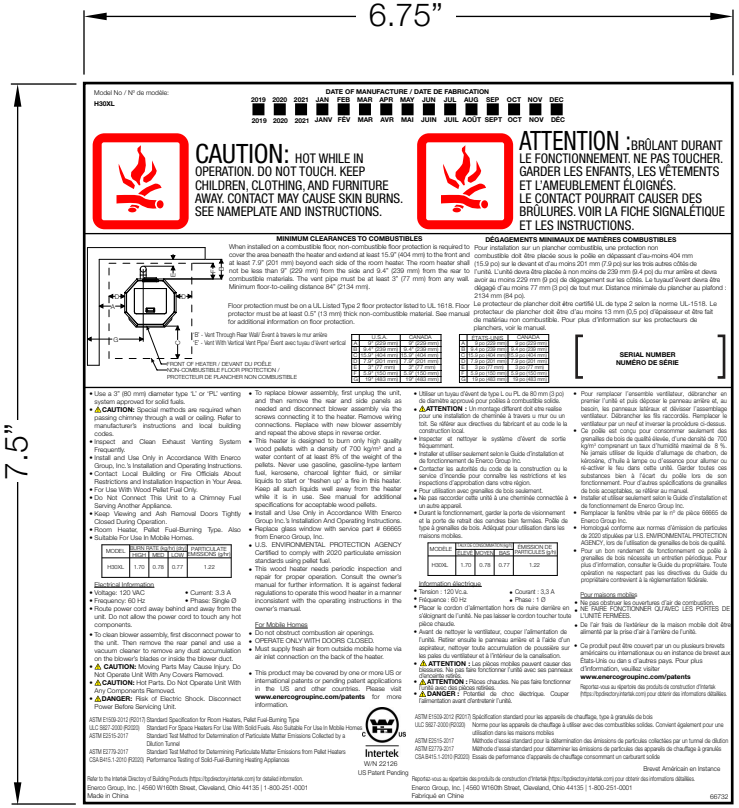
Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2021.12.17	CZ

F500218	H30XL
USED ON	



Model No / N° de modèle:
H30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

E - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'évent vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION / PROTECTEUR DE PLANCHER NON COMBUSTIBLE

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	9.9" (252 mm)	9.9" (252 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	9.9 po (252 mm)	9.9 po (252 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Flue Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/h) (lb/h)		EMISSIONS (g/h)	PARTICULATE EMISSIONS (g/h)
	HIGH	LOW	LOW	
H30XL	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
WIN 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un plafond. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ALIMENTATION (kg/h) (lb/h)		ÉMISSIONS (g/h)	ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	BAS	BAS	
H30XL	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3.3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussières sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité idéale, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon la Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 établies par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviennt à la réglementation fédérale.

Pour maisons mobiles
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAS FAIRE FONCTIONNER QUAND LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enerogroupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en China

66732

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2021.12.17
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEMP

TITLE:

LABEL, RATE, PELLET STOVE, MINI, MASTER FORGE

SIZE: A4	DWG.NO. 66732	REV
		A

SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

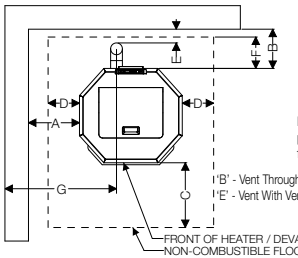
H30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518.

Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
H30XL	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
H30XL	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.05.13	CZ

FXXXXXX	J20W
USED ON	

Model No. / N° de modèle:
J20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

E - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'event vertical

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	7.9" (201 mm)	7.9" (201 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
G	3" (77 mm)	3" (77 mm)
H	9.9" (150 mm)	9.9" (150 mm)
I	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au moins 404 mm (15,9 po) sur le devant et d'au moins 201 mm (7,9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9,4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'event devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1618. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	7,9 po (201 mm)	7,9 po (201 mm)
C	15,9 po (404 mm)	15,9 po (404 mm)
D	7,9 po (201 mm)	7,9 po (201 mm)
G	3 po (77 mm)	3 po (77 mm)
H	9,9 po (150 mm)	9,9 po (150 mm)
I	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (lb/hr)		PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
J20W	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type.
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes.
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel.
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
W/N 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'event de type L ou PL de 80 mm (3 po) du diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'event de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant la fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ENCRASSEMENT (kg/h) (lb/h)		ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
J20W	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 V.c.a.
- Courant : 3,3 A
- Fréquence : 60 Hz
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec aucun panneaux d'enlevés retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulles de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de chathon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviant à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITE FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles.
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

66809 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black
- UL 969 Compliant

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.05.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUC-TION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE,MINI-MODEL-J

SIZE: A4	DWG.NO. 66809	REV A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

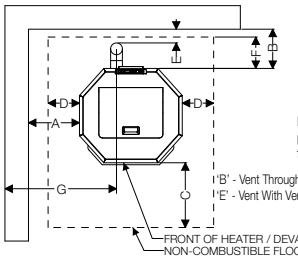
J20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518.

Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
J20W	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
J20W	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

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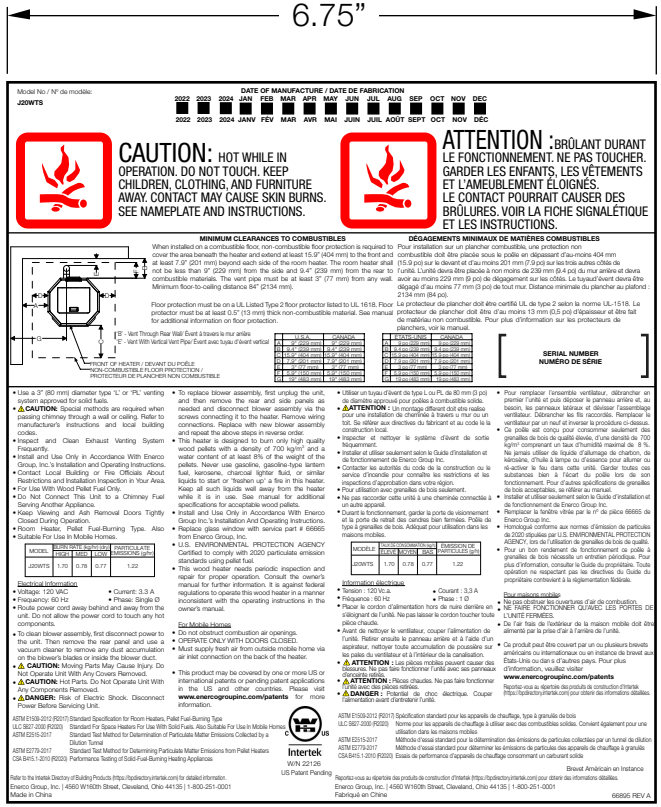
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.12.01	CZ

FXXXXXX	J20WTS
USED ON	



Model No / Nº de modèle:
J20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION
2022 2023 2024 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
2022 2023 2024 JANV FÉV MAR AVR MAI JUIN JUIL AOÛT SEPT OCT NOV DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

R - Vent Through Rear Wall/ Évent à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Évent avec tuyau d'évent vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION / PROTECTEUR DE PLANCHER NON COMBUSTIBLE

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	7.9" (201 mm)	7.9" (201 mm)
C	9" (229 mm)	9.4" (239 mm)
D	3" (77 mm)	3" (77 mm)
E	9.4" (239 mm)	9" (229 mm)
F	84" (2134 mm)	84" (2134 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle et dépassant d'au moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	7,9 po (201 mm)	7,9 po (201 mm)
C	9 po (229 mm)	9,4 po (239 mm)
D	3 po (77 mm)	3 po (77 mm)
E	9,4 po (239 mm)	9 po (229 mm)
F	84 po (2134 mm)	84 po (2134 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **⚠CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	EMISSIONS RATE (g/hr)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
J20WTS	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **⚠CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **⚠CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **⚠DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.
- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.
- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels, Also Suitable For Use In Mobile Homes
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
WIN 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- **⚠ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers ou mur ou un toit. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	ÉVALUATION DES ÉMISSIONS (g/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
J20WTS	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de vues derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- **⚠ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- **⚠ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **⚠DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.
- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et désosser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement de poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.
- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dans d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

66895 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.12.01
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE, MINI, TS, MODEL J

SIZE: A4	DWG.NO. 66895	REV
		A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / Nº de modèle:

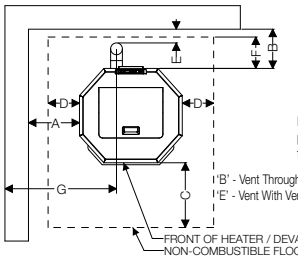
J20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
J20WTS	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
J20WTS	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

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ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
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CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

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Made in China

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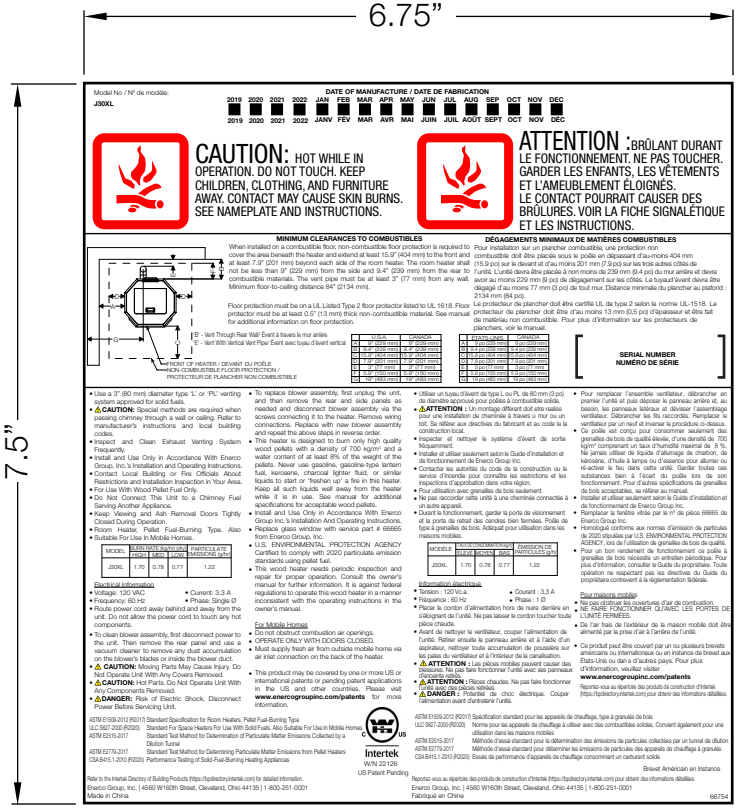
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.01.13	CZ

F500XXX	J30XL
USED ON	



Model No / N° de modèle:
J30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

F - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'évent vertical

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	9" (229 mm)	9" (229 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9,4 po (239 mm)	9,4 po (239 mm)
C	15,9 po (404 mm)	15,9 po (404 mm)
D	7,9 po (201 mm)	7,9 po (201 mm)
E	9 po (229 mm)	9 po (229 mm)
F	5,9 po (150 mm)	5,9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/h) (lb/h)		EMISSIONS (g/h)	PARTICULATE
	HIGH	LOW		
J30XL	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø

- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Intertek
WIN 22126
US Patent Pending

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un plafond. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ALIMENTATION (kg/h) (lb/h)		ÉMISSIONS (g/h)	ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	BAS		
J30XL	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a.
- Courant : 3.3 A
- Fréquence : 60 Hz
- Phase : 1 Ø

- Placer le cordon d'alimentation hors de ruine derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussières sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité idéale, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon la Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 établies par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviant à la réglementation fédérale.

Pour maisons mobiles
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAS FAIRE FONCTIONNER QUAND LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enerogroupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Brevet Américain en Instance

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en China

66754

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.01.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEMP

TITLE:

LABEL, RATE, PELLET STOVE, MINI, MODEL J

SIZE: A4	DWG.NO. 66754	REV
		A

SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

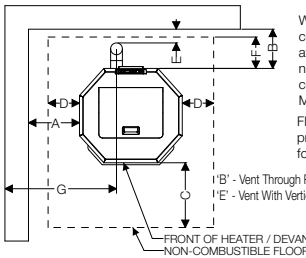
J30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
J30XL	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
J30XL	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

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Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.05.13	CZ

FXXXXXX	N20W
USED ON	

Model No / N° de modèle:
N20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

E - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'event vertical

	USA	CANADA
A	9" (229 mm)	9" (229 mm)
B	7.9" (201 mm)	7.9" (201 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
G	9.9" (150 mm)	9.9" (150 mm)
H	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'event devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ETATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	7,9 po (201 mm)	7,9 po (201 mm)
C	15,9 po (404 mm)	15,9 po (404 mm)
D	7,9 po (201 mm)	7,9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
G	9,9 po (150 mm)	9,9 po (150 mm)
H	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BTU/HR OUTPUT (kg/hr) (Lb/hr)		PARTICULATE EMISSIONS g/hr
	HIGH	MED	LOW	
N20W	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

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Intertek
W/N 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'event de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'event de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant la fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION		ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
N20W	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 V.c.a.
- Courant : 3,3 A
- Fréquence : 60 Hz
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec aucun panneaux (Composite) retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulles de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de chathon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviant à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITE FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

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Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

66813 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black
- UL 969 Compliant

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.05.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUC-TION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE,MINI-MODEL-N

SIZE: A4	DWG.NO. 66813	REV A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

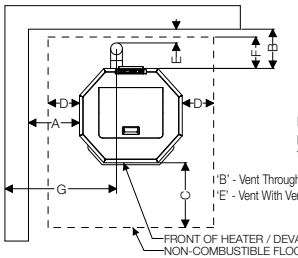
N20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
N20W	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
N20W	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

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ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

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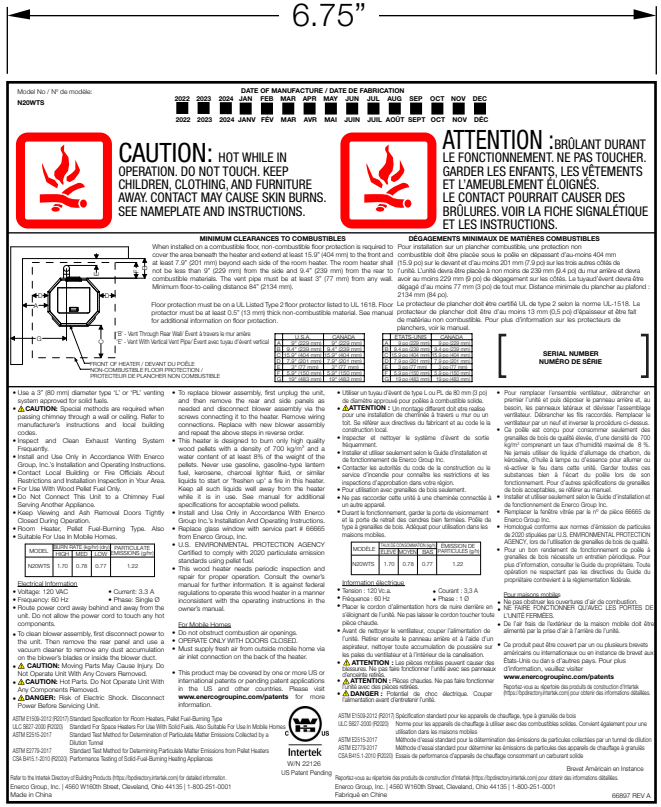
Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.12.01	CZ

FXXXXXX	N20WTS
USED ON	



Model No / Nº de modèle:
N20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION
2022 2023 2024 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
2022 2023 2024 JANV FÉV MAR AVR MAI JUIN JUIL AOÛT SEPT OCT NOV DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

B - Vent Through Rear Wall/ Évent à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Évent avec tuyau d'évent vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION / PROTECTEUR DE PLANCHER NON COMBUSTIBLE

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	7.9" (201 mm)	7.9" (201 mm)
D	15.9" (404 mm)	15.9" (404 mm)
E	3" (77 mm)	3" (77 mm)
F	9.8" (150 mm)	9.8" (150 mm)
G	58" (1473 mm)	58" (1473 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle et dépassant d'au moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9,4 po (239 mm)	9,4 po (239 mm)
C	7,9 po (201 mm)	7,9 po (201 mm)
D	15,9 po (404 mm)	15,9 po (404 mm)
E	3 po (77 mm)	3 po (77 mm)
F	9,8 po (150 mm)	9,8 po (150 mm)
G	58 po (1473 mm)	58 po (1473 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	EMITTANCE RATE (g/hr)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
N20WTS	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠**CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

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ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
WIN 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant la fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ÉMISSIONS (g/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
N20WTS	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de vues derrière en éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠**ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et désosser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement de poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la réglementation fédérale.

Pour maisons mobile
- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QUTAVEC LES PORTES DE L'UNITE FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dans d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

66897 REV A

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.12.01
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEMP

TITLE:

LABEL, RATE, PELLET STOVE, MINI, TS, MODEL N

SIZE: A4	DWG.NO. 66897	REV
		A
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / Nº de modèle:

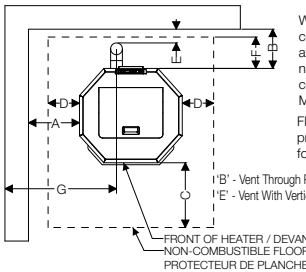
N20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION

2022	2023	2024	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2022	2023	2024	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
N20WTS	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
N20WTS	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017	Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017	Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

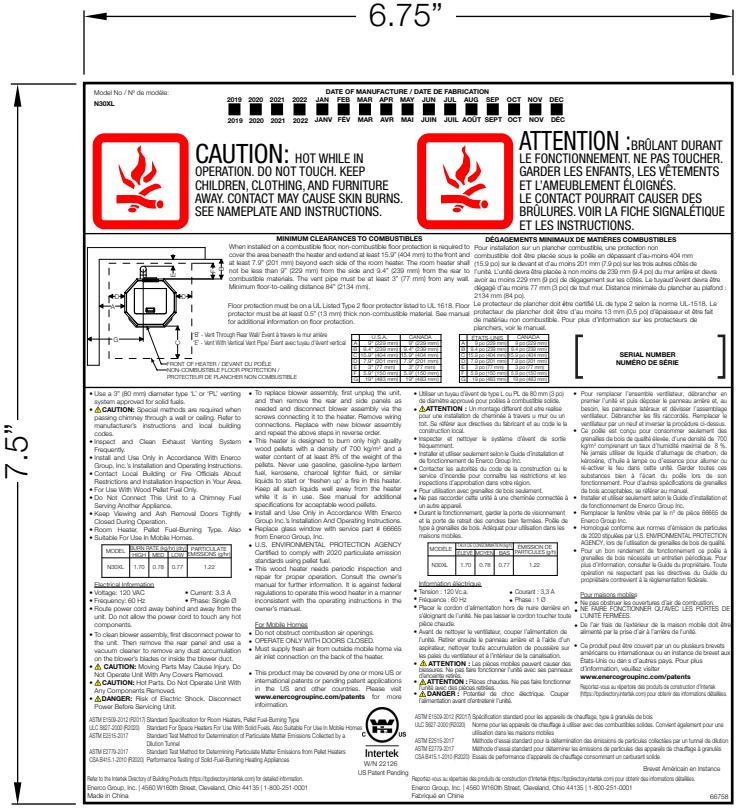
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

66897 REV A

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2022.01.13	CZ

F500XXX	N30XL
USED ON	



Model No / N° de modèle:
N30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FEV	MAR	AVR	MAI	JUIN	JUIL	AOUT	SEPT	OCT	NOV	DEC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.

MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

E - Vent Through Rear Wall/ Event à travers le mur arrière
E - Vent With Vertical Vent Pipe/ Event avec tuyau d'évent vertical

FRONT OF HEATER / DEVANT DU POÊLE
NON-COMBUSTIBLE FLOOR PROTECTION / PROTECTEUR DE PLANCHER NON COMBUSTIBLE

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyau d'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type "L" or "PL" venting system approved for solid fuels.
- **CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Flue Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr dry) HIGH	LOW	PARTICULATE EMISSIONS (g/hr)
N30XL	1.70	0.78	0.77	1.22

Electrical Information
- Voltage: 120 VAC
- Current: 3.3 A
- Frequency: 60 Hz
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- **CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- **DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m³ and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes
- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020) Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
ASTM E2515-2017 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel
ASTM E2779-2017 Standard Test Method for Determining Particulate Matter Emissions from Pellet Heaters
CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

Intertek
WIN 22126
US Patent Pending

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- **ATTENTION :** Un montage différent doit être réalisé pour une installation de cheminée à travers u mur ou un plafond. Se référer aux directives du fabricant et au code de la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec granulées de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à granulées de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX D'ALIMENTATION (kg/h) ÉLEVÉ	BAS	ÉMISSION DE PARTICULES (g/h)
N30XL	1.70	0.78	0.77	1.22

Information électrique
- Tension : 120 Vc.a.
- Courant : 3.3 A
- Fréquence : 60 Hz
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussières sur les pales du ventilateur et à l'intérieur de la canalisation.
- **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux retirés.
- **ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- **DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des granulées de bois de qualité élevée, d'une densité de 700 kg/m³ comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de granulées de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon la Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 établies par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de granulées de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à granulées de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contreviant à la réglementation fédérale.

Pour maisons mobiles
- Ne pas obstruer les ouvertures d'air de combustion.
- NE PAS FAIRE FONCTIONNER QUAND LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enerogroupinc.com/patents**

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en China

Brevet Américain en Instance

66758

Technical Requirements
- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2022.01.13
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

EGI enerco group inc.
Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE, MINI, MODEL N

SIZE: A4	DWG.NO. 66758	REV
		A

SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / N° de modèle:

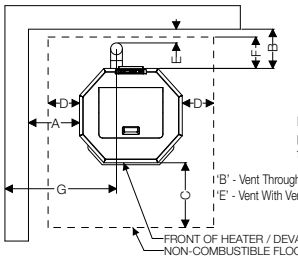
N30XL

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
N30XL	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
N30XL	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le n° de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017)	Standard Specification for Room Heaters, Pellet Fuel-Burning Type
ULC S627-2000 (R2020)	Standard For Space Heaters For Use With Solid Fuels. Also Suitable For Use In Mobile Homes
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CSA B415.1-2010 (R2020)	Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017	Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017	Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Made in China

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

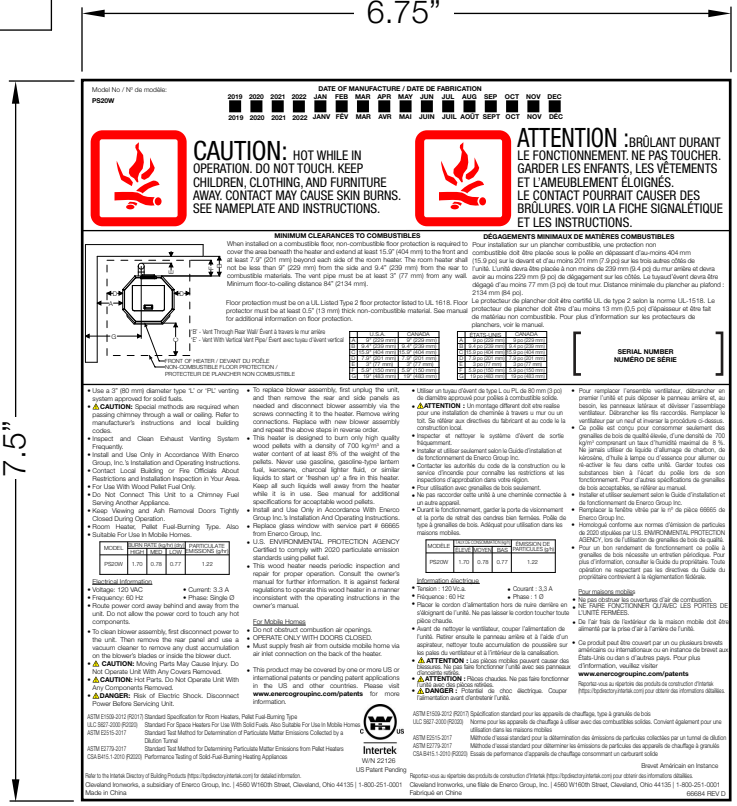
Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001

Fabriqué en Chine

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2019.02.05	CRM
B	ADD US PATENT PENDING	2021.04.30	CZ
C	ADD TSC F#, UPDATE STANDARDS, BURN RATES	2021.09.01	CZ
D	Added 2022 to Date of Manufacture	2021.12.29	CZ

F500215	PS20W
F500217	PS20W

USED ON



Technical Requirements

- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CRM	2019.07.02
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

enerco group inc.

Mr. Heater HEATSTAR ENERCO FLEX-TEK

TITLE:

LABEL, RATE, PELLET STOVE, PS20W

SIZE: A4	DWG.NO. 66684	REV
		D

SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / Nº de modèle:

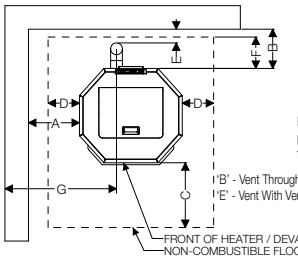
PS20W

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019	2020	2021	2022	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
PS20W	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
PS20W	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

ASTM E1509-2012 (R2017) Standard Specification for Room Heaters, Pellet Fuel-Burning Type
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CSA B415.1-2010 (R2020) Performance Testing of Solid-Fuel-Burning Heating Appliances

C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017) Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020) Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
ASTM E2515-2017 Méthode d'essai standard pour la détermination des émissions de particules collectées par un tunnel de dilution
ASTM E2779-2017 Méthode d'essai standard pour déterminer les émissions de particules des appareils de chauffage à granulés
CSA B415.1-2010 (R2020) Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Cleveland Ironworks, a subsidiary of Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Made in China

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

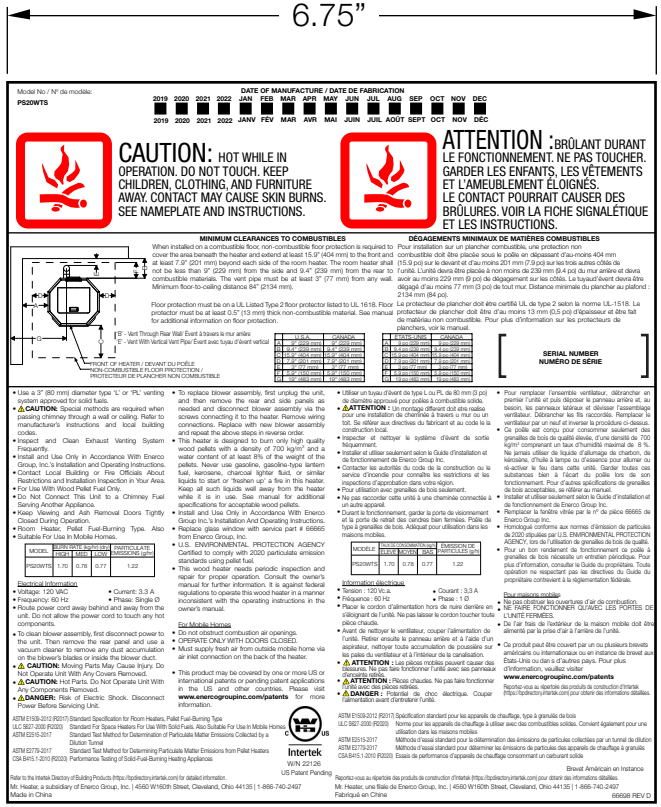
Cleveland Ironworks, une filale de Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-800-251-0001
Fabriqué en Chine

66684 REV D

REV	DESCRIPTION OF CHANGE	DATE	CHANGED BY
A	NEW RELEASE	2021.03.29	CZ
B	CLARIFYING CLEARANCE TO COMBUSTIBLES GRAPHIC, UPDATE STANDARDS	2021.09.17	CZ
C	UPDATED 800#	2021.12.07	CZ
D	Added 2022 to Date of Manufacture	2021.12.29	CZ

F500216	PS20WTS

USED ON



Technical Requirements

- Refer to the title block for all unspecified dimensional tolerances.
- For color requirements refer to the provided electronic data.
- The same batch must have color uniformity throughout.
- The label must have clear fonts, be free of curling, missing marks, chromatic aberration, and flow marks.
- Material: Etched Metal
- Background: Silver Metal; Text: Black

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: TWO PLACE DECIMAL: ± .030 THREE PLACE DECIMAL:± .005 HOLES: ± .004 ANGULAR: ± 1 DEG. FRACTIONAL DIMENSIONS: ± 1/64	CREATED	CZ	2021.03.29
INTERPRET GEOMETRIC TOLERANCING PER: N/A	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ENERCO GROUP, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ENERCO GROUP, INC. IS PROHIBITED.		
MATERIAL SEE NOTES			
FINISH			
DO NOT SCALE DRAWING			

enerco group inc.

Mr. Heater HEATSTAR ENERCO FLEX-TECH

TITLE:

LABEL, RATE, PELLET STOVE, GRAND TETON, PS20WTS

SIZE: A4	DWG.NO. 66698	REV D
SCALE: N/A	WEIGHT: N/A	SHEET 1 OF 1

Model No / Nº de modèle:

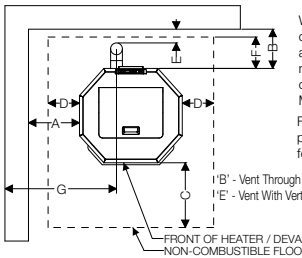
PS20WTS

DATE OF MANUFACTURE / DATE DE FABRICATION

2019	2020	2021	2022	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
■															
2019	2020	2021	2022	JANV	FÉV	MAR	AVR	MAI	JUIN	JUIL	AOÛT	SEPT	OCT	NOV	DÉC

CAUTION: HOT WHILE IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. SEE NAMEPLATE AND INSTRUCTIONS.

ATTENTION : BRÛLANT DURANT LE FONCTIONNEMENT. NE PAS TOUCHER. GARDER LES ENFANTS, LES VÊTEMENTS ET L'AMEUBLEMENT ÉLOIGNÉS. LE CONTACT POURRAIT CAUSER DES BRÛLURES. VOIR LA FICHE SIGNALÉTIQUE ET LES INSTRUCTIONS.



MINIMUM CLEARANCES TO COMBUSTIBLES

When installed on a combustible floor, non-combustible floor protection is required to cover the area beneath the heater and extend at least 15.9" (404 mm) to the front and at least 7.9" (201 mm) beyond each side of the room heater. The room heater shall not be less than 9" (229 mm) from the side and 9.4" (239 mm) from the rear to combustible materials. The vent pipe must be at least 3" (77 mm) from any wall. Minimum floor-to-ceiling distance 84" (2134 mm).

Floor protection must be on a UL Listed Type 2 floor protector listed to UL 1618. Floor protector must be at least 0.5" (13 mm) thick non-combustible material. See manual for additional information on floor protection.

	U.S.A.	CANADA
A	9" (229 mm)	9" (229 mm)
B	9.4" (239 mm)	9.4" (239 mm)
C	15.9" (404 mm)	15.9" (404 mm)
D	7.9" (201 mm)	7.9" (201 mm)
E	3" (77 mm)	3" (77 mm)
F	5.9" (150 mm)	5.9" (150 mm)
G	19" (483 mm)	19" (483 mm)

DÉGAGEMENTS MINIMAUX DE MATIÈRES COMBUSTIBLES

Pour installation sur un plancher combustible, une protection non combustible doit être placée sous le poêle en dépassant d'au-moins 404 mm (15.9 po) sur le devant et d'au moins 201 mm (7.9 po) sur les trois autres côtés de l'unité. L'unité devra être placée à non moins de 239 mm (9.4 po) du mur arrière et devra avoir au moins 229 mm (9 po) de dégagement sur les côtés. Le tuyaud'évent devra être dégagé d'au moins 77 mm (3 po) de tout mur. Distance minimale du plancher au plafond : 2134 mm (84 po).

Le protecteur de plancher doit être certifié UL de type 2 selon la norme UL-1518. Le protecteur de plancher doit être d'au moins 13 mm (0,5 po) d'épaisseur et être fait de matériau non combustible. Pour plus d'information sur les protecteurs de planchers, voir le manuel.

	ÉTATS-UNIS	CANADA
A	9 po (229 mm)	9 po (229 mm)
B	9.4 po (239 mm)	9.4 po (239 mm)
C	15.9 po (404 mm)	15.9 po (404 mm)
D	7.9 po (201 mm)	7.9 po (201 mm)
E	3 po (77 mm)	3 po (77 mm)
F	5.9 po (150 mm)	5.9 po (150 mm)
G	19 po (483 mm)	19 po (483 mm)

SERIAL NUMBER
NUMÉRO DE SÉRIE

- Use a 3" (80 mm) diameter type 'L' or 'PL' venting system approved for solid fuels.
- ⚠**CAUTION:** Special methods are required when passing chimney through a wall or ceiling. Refer to manufacturer's instructions and local building codes.
- Inspect and Clean Exhaust Venting System Frequently.
- Install and Use Only in Accordance With Enerco Group, Inc.'s Installation and Operating Instructions.
- Contact Local Building or Fire Officials About Restrictions and Installation Inspection in Your Area.
- For Use With Wood Pellet Fuel Only.
- Do Not Connect This Unit to a Chimney Fuel Serving Another Appliance.
- Keep Viewing and Ash Removal Doors Tightly Closed During Operation.
- Room Heater, Pellet Fuel-Burning Type. Also
- Suitable For Use In Mobile Homes.

MODEL	BURN RATE (kg/hr) (dry)			PARTICULATE EMISSIONS (g/hr)
	HIGH	MED	LOW	
PS20WTS	1.70	0.78	0.77	1.22

Electrical Information

- Voltage: 120 VAC
- Frequency: 60 Hz
- Current: 3.3 A
- Phase: Single Ø
- Route power cord away behind and away from the unit. Do not allow the power cord to touch any hot components.
- To clean blower assembly, first disconnect power to the unit. Then remove the rear panel and use a vacuum cleaner to remove any dust accumulation on the blower's blades or inside the blower duct.
- ⚠ **CAUTION:** Moving Parts May Cause Injury. Do Not Operate Unit With Any Covers Removed.
- ⚠**CAUTION:** Hot Parts. Do Not Operate Unit With Any Components Removed.
- ⚠**DANGER:** Risk of Electric Shock. Disconnect Power Before Servicing Unit.

- To replace blower assembly, first unplug the unit, and then remove the rear and side panels as needed and disconnect blower assembly via the screws connecting it to the heater. Remove wiring connections. Replace with new blower assembly and repeat the above steps in reverse order.
- This heater is designed to burn only high quality wood pellets with a density of 700 kg/m^3 and a water content of at least 8% of the weight of the pellets. Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or 'freshen up' a fire in this heater. Keep all such liquids well away from the heater while it is in use. See manual for additional specifications for acceptable wood pellets.
- Install and Use Only in Accordance With Enerco Group Inc.'s Installation And Operating Instructions.
- Replace glass window with service part # 66665 from Enerco Group, Inc.
- U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using pellet fuel.
- This wood heater needs periodic inspection and repair for proper operation. Consult the owner's manual for further information. It is against federal regulations to operate this wood heater in a manner inconsistent with the operating instructions in the owner's manual.

For Mobile Homes

- Do not obstruct combustion air openings.
- OPERATE ONLY WITH DOORS CLOSED.
- Must supply fresh air from outside mobile home via air inlet connection on the back of the heater.

- This product may be covered by one or more US or international patents or pending patent applications in the US and other countries. Please visit **www.enercogroupinc.com/patents** for more information.

- Utiliser un tuyau d'évent de type L ou PL de 80 mm (3 po) de diamètre approuvé pour poêles à combustible solide.
- ⚠**ATTENTION :** Un montage different doit etre realise pour une installation de cheminée à travers u mur ou un toit. Se référer aux directives du fabricant et au code le la construction local.
- Inspecter et nettoyer le système d'évent de sortie fréquemment.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Contacter les autorités du code de la construction ou le service d'incendie pour connaître les restrictions et les inspections d'approbation dans votre région.
- Pour utilisation avec grenailles de bois seulement.
- Ne pas raccorder cette unité à une cheminée connectée à un autre appareil.
- Durant le fonctionnement, garder la porte de visionnement et la porte de retrait des cendres bien fermées. Poêle de type à grenailles de bois. Adéquat pour utilisation dans les maisons mobiles.

MODÈLE	TAUX DE CONSOMMATION (kg/h)			ÉMISSION DE PARTICULES (g/h)
	ÉLEVÉ	MOYEN	BAS	
PS20WTS	1.70	0.78	0.77	1.22

Information électrique

- Tension : 120 Vc.a.
- Fréquence : 60 Hz
- Courant : 3,3 A
- Phase : 1 Ø
- Placer le cordon d'alimentation hors de nuire derrière en s'éloignant de l'unité. Ne pas laisser le cordon toucher toute pièce chaude.
- Avant de nettoyer le ventilateur, couper l'alimentation de l'unité. Retirer ensuite le panneau arrière et à l'aide d'un aspirateur, nettoyer toute accumulation de poussière sur les pales du ventilateur et à l'intérieur de la canalisation.
- ⚠ **ATTENTION :** Les pièces mobiles peuvent causer des blessures. Ne pas faire fonctionner l'unité avec ses panneaux d'enceinte retirés.
- ⚠**ATTENTION :** Pièces chaudes. Ne pas faire fonctionner l'unité avec des pièces retirées.
- ⚠**DANGER :** Potentiel de choc électrique. Couper l'alimentation avant d'entretenir l'unité.

- Pour remplacer l'ensemble ventilateur, débrancher en premier l'unité et puis déposer le panneau arrière et, au besoin, les panneaux latéraux et dévisser l'assemblage ventilateur. Débrancher les fils raccordés. Remplacer le ventilateur par un neuf et inverser la procédure ci-dessus.
- Ce poêle est conçu pour consommer seulement des grenailles de bois de qualité élevée, d'une densité de 700 kg/m^3 comprenant un taux d'humidité maximal de 8 %. Ne jamais utiliser de liquide d'allumage de charbon, de kérosène, d'huile à lampe ou d'essence pour allumer ou ré-activer le feu dans cette unité. Garder toutes ces substances bien à l'écart du poêle lors de son fonctionnement. Pour d'autres spécifications de grenailles de bois acceptables, se référer au manuel.
- Installer et utiliser seulement selon le Guide d'installation et de fonctionnement de Enerco Group Inc.
- Remplacer la fenêtre vitrée par le nº de pièce 66665 de Enerco Group Inc.
- Homologué conforme aux normes d'émission de particules de 2020 stipulées par U.S. ENVIRONMENTAL PROTECTION AGENCY, lors de l'utilisation de grenailles de bois de qualité.
- Pour un bon rendement de fonctionnement ce poêle à grenailles de bois nécessite un entretien périodique. Pour plus d'information, consulter le Guide du propriétaire. Toute opération ne respectant pas les directives du Guide du propriétaire contrevient à la règlementation fédérale.

Pour maisons mobiles

- Ne pas obstruer les ouvertures d'air de combustion.
- NE FAIRE FONCTIONNER QU'AVEC LES PORTES DE L'UNITÉ FERMÉES.
- De l'air frais de l'extérieur de la maison mobile doit être alimenté par la prise d'air à l'arrière de l'unité.

- Ce produit peut être couvert par un ou plusieurs brevets américains ou internationaux ou en instance de brevet aux États-Unis ou dan s d'autres pays. Pour plus d'information, veuillez visiter **www.enercogroupinc.com/patents**

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C US
Intertek
W/N 22126
US Patent Pending

ASTM E1509-2012 (R2017)	Spécification standard pour les appareils de chauffage, type à granulés de bois
ULC S627-2000 (R2020)	Norme pour les appareils de chauffage à utiliser avec des combustibles solides. Convient également pour une utilisation dans les maisons mobiles
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CSA B415.1-2010 (R2020)	Essais de performance d'appareils de chauffage consommant un carburant solide

Brevet Américain en Instance

Refer to the Intertek Directory of Building Products (https://bpdirectory.intertek.com) for detailed information.

Mr. Heater, a subsidiary of Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-866-740-2497

Made in China

Reportez-vous au répertoire des produits de construction d'Intertek (https://bpdirectory.intertek.com) pour obtenir des informations détaillées.

Mr. Heater, une filale de Enerco Group, Inc. | 4560 W160th Street, Cleveland, Ohio 44135 | 1-866-740-2497

Fabriqué en Chine

CERTIFICATE OF NIST TRACEABLE CALIBRATION

Calibration Certificate No: 92435

Customer Information

Customer: Intertek

Address : 8431 Murphy Drive
Middleton WI 53562

Customer PO #: Verbal - Brian Brunson

Calibration Procedure Information

Procedure ID: GTP TMASS-LAM Revision #: 11 Revision Date: 6/18/2019

Calibration Standards Information

Graftel ID	Manufacturer	Model #	Description	CAL Due
10062	Graftel	9202	5-Channel Temperature Sensor	8/6/2024
10074	Meriam	50MJ10-14	Laminar Flowmeter	11/21/2021
10075	Meriam	50MJ10-9	Laminar Flowmeter	11/26/2021
10128	Furness	FCO352	Diff Pressure	5/7/2022
60030	Paroscientific	760-100A	Pressure, 100 psia	5/20/2022
T1830482	Vaisala	HMW95D	RH/Temp. Logger	12/22/2021
1A01JMGKP36	Graftel	N/A	Digital Barometer	12/22/2021
50789	Paroscientific	760-100A	Pressure Gauge	8/17/2022

Sensor Information

Manufacturer: Sierra Description: Mass Flow Meter Method Used: Laminar

Model #: M50L-AL-DD-2-PV2-V1-5PC Rated Accuracy: ± 1 % of Full Scale Accuracy Specified By: Sierra

Instrument ID#: 1413 Range: 0 to 10 slpm Condition: Functional

Serial #: 189158

Comments: Calibration Date: 08/20/2021
Calibration Due: 02/20/2022

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). The reported calibration uncertainty has a confidence level of 95% (k=2). A calibration uncertainty ratio of 4:1 was maintained unless required uncertainty is supported by analysis. Graftel Quality Assurance System complies with applicable requirements of ISO/IEC-17025-2017, ANSI/NCSL Z540-I-1994 and ISO 9001. All results contained within this certificate relate only to item(s) calibrated. This certificate shall not be reproduced except in full and with the written consent of Graftel. Acceptance Criteria per Simple Acceptance Rule: Measurement Uncertainty is not applied to the measured value when in/out of tolerance statement is made.

Performed By: L. Chan Date: 8/20/2021

Lap Chan
Calibration Technician

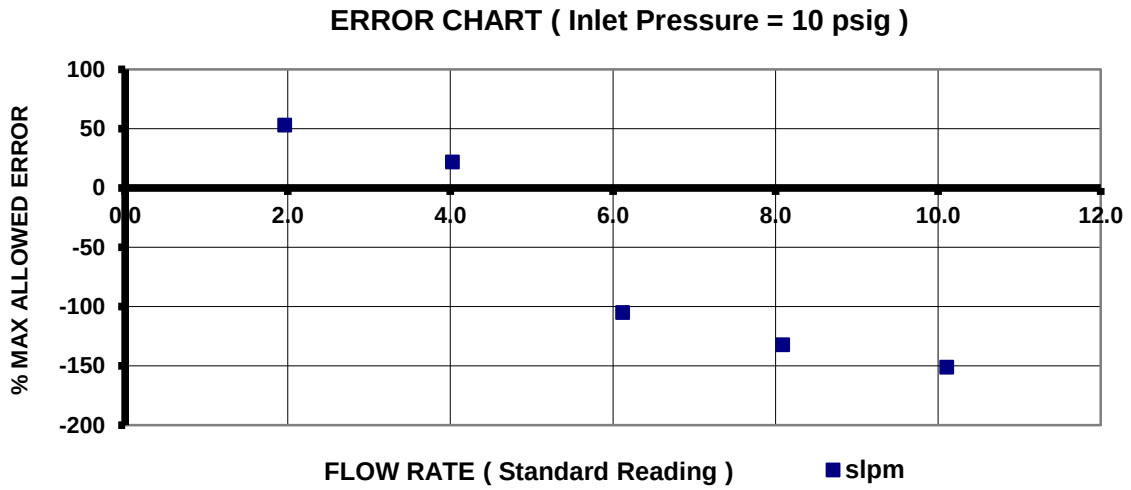
Approved By: Date: 8/20/2021

Scott Pickett
Vice President, Lab Services

95 Chancellor Drive | Roselle, Illinois 60172 | +1 (847) 364-2600 | +1 (847) 364-2600 (fax) | Graftel.com

ATTACHMENT TO CALIBRATION CERTIFICATE 92435
AS FOUND DATA

Reading From Standard, slpm	Lower Limit of Meter Reading, slpm	Measured Reading From Meter, slpm	Upper Limit of Meter Reading, slpm	Error, slpm	Measurement Uncertainty (k=2) slpm	CMC (k=2) slpm	STATUS
1.964	1.864	2.017	2.064	0.053	0.010	0.010	Pass
4.026	3.926	4.048	4.126	0.022	0.020	0.020	Pass
6.118	6.018	6.013	6.218	-0.105	0.031	0.031	Fail
8.089	7.989	7.957	8.189	-0.132	0.040	0.040	Fail
10.104	10.004	9.953	10.204	-0.151	0.051	0.051	Fail



Instrument Specifications		
Meter's Calibrated Fluid:	Air	
Test Fluid:	Air	
Meter's Standard Pressure:	14.7	psia
Meter's Standard Temperature:	70	ºF
Lower Range:	0	slpm
Upper Range	10	slpm
Resolution:	0.001	
Rated Accuracy:	1.0	% of Full Scale
Laboratory Ambient Conditions		
Pressure:	14.36	psia
Humidity:	53.47	%RH
Temperature:	70.05	ºF

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NIST Traceable Calibration Data Sheet
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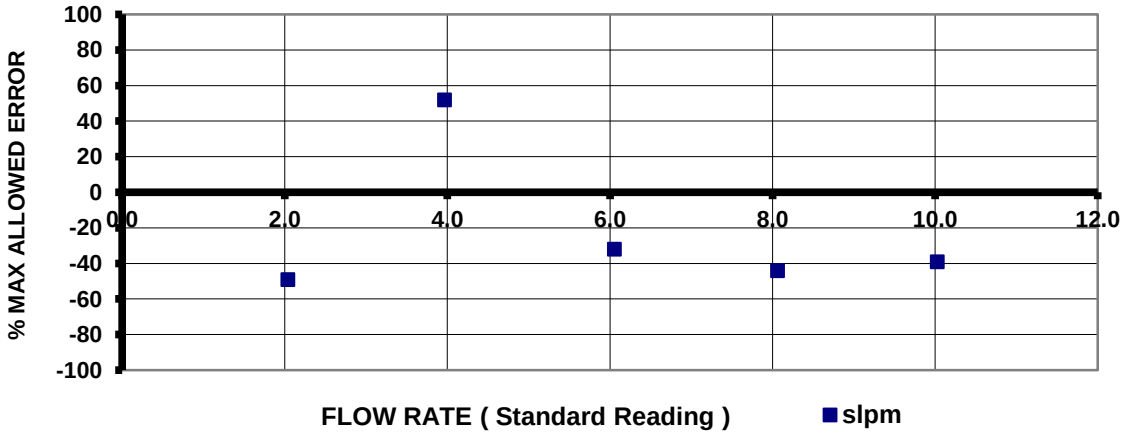
ATTACHMENT TO CALIBRATION CERTIFICATE 92435
AS LEFT DATA

Reading From Standard, slpm	Lower Limit of Meter Reading, slpm	Measured Reading From Meter, slpm	Upper Limit of Meter Reading, slpm	Error, slpm	Measurement Uncertainty (k=2) slpm	CMC (k=2) slpm	STATUS
2.037	1.937	1.988	2.137	-0.049	0.010	0.010	Pass
3.964	3.864	4.016	4.064	0.052	0.020	0.020	Pass
6.053	5.953	6.021	6.153	-0.032	0.030	0.030	Pass
8.061	7.961	8.017	8.161	-0.044	0.040	0.040	Pass
10.026	9.926	9.987	10.126	-0.039	0.050	0.050	Pass

ERROR CHART (Inlet Pressure = 10 psig)



Instrument Specifications		
Meter's Calibrated Fluid:	Air	
Test Fluid:	Air	
Meter's Standard Pressure:	14.7	psia
Meter's Standard Temperature:	70	ºF
Lower Range:	0	slpm
Upper Range	10	slpm
Resolution:	0.001	
Rated Accuracy:	1.0	% of Full Scale
Laboratory Ambient Conditions		
Pressure:	14.36	psia
Humidity:	53.61	%RH
Temperature:	70.05	ºF

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CERTIFICATE OF NIST TRACEABLE CALIBRATION

Calibration Certificate No: 92434

Customer Information

Customer: Intertek

Address : 8431 Murphy Drive
Middleton WI 53562

Customer PO #: Verbal - Brian Brunson

Calibration Procedure Information

Procedure ID: GTP TMASS-LAM Revision #: 11 Revision Date: 6/18/2019

Calibration Standards Information

Graftel ID	Manufacturer	Model #	Description	CAL Due
10062	Graftel	9202	5-Channel Temperature Sensor	8/6/2024
10074	Meriam	50MJ10-14	Laminar Flowmeter	11/21/2021
10075	Meriam	50MJ10-9	Laminar Flowmeter	11/26/2021
10128	Furness	FCO352	Diff Pressure	5/7/2022
60030	Paroscientific	760-100A	Pressure, 100 psia	5/20/2022
T1830482	Vaisala	HMW95D	RH/Temp. Logger	12/22/2021
1A01JMGKP36	Graftel	N/A	Digital Barometer	12/22/2021
50789	Paroscientific	760-100A	Pressure Gauge	8/17/2022

Sensor Information

Manufacturer: Sierra Description: Mass Flow Meter Method Used: Laminar

Model #: M50L-AL-DD-2-PV2-V1-5PC Rated Accuracy: ± 1 % of Full Scale Accuracy Specified By: Sierra

Instrument ID#: 1414 Range: 0 to 10 slpm Condition: Functional

Serial #: 189157

Comments: Calibration Date: 08/20/2021
Calibration Due: 02/20/2022

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). The reported calibration uncertainty has a confidence level of 95% (k=2). A calibration uncertainty ratio of 4:1 was maintained unless required uncertainty is supported by analysis. Graftel Quality Assurance System complies with applicable requirements of ISO/IEC-17025-2017, ANSI/NCSL Z540-I-1994 and ISO 9001. All results contained within this certificate relate only to item(s) calibrated. This certificate shall not be reproduced except in full and with the written consent of Graftel. Acceptance Criteria per Simple Acceptance Rule: Measurement Uncertainty is not applied to the measured value when in/out of tolerance statement is made.

Performed By: L. Chan Date: 8/20/2021

Lap Chan
Calibration Technician

Approved By: Date: 8/20/2021

Scott Pickett
Vice President, Lab Services

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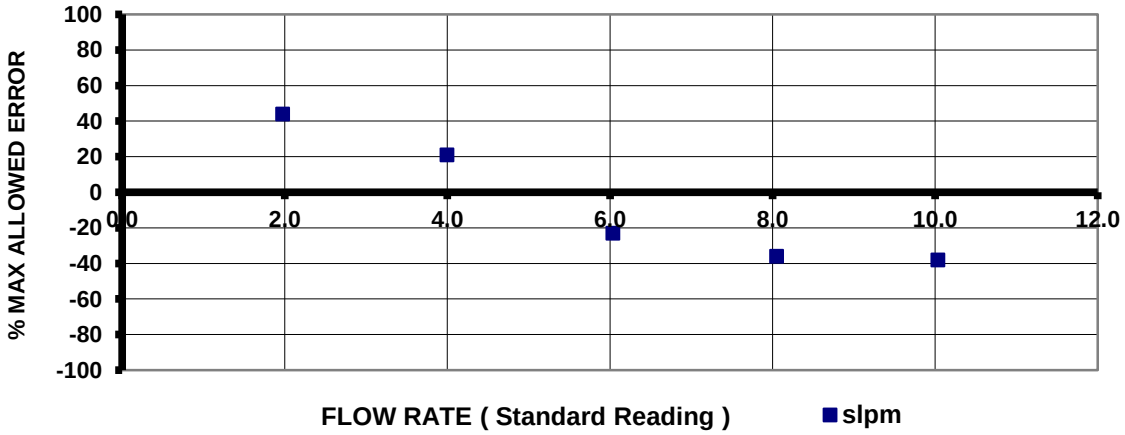
ATTACHMENT TO CALIBRATION CERTIFICATE 92434
AS FOUND / AS LEFT DATA

Reading From Standard, slpm	Lower Limit of Meter Reading, slpm	Measured Reading From Meter, slpm	Upper Limit of Meter Reading, slpm	Error, slpm	Measurement Uncertainty (k=2) slpm	CMC (k=2) slpm	STATUS
1.975	1.875	2.019	2.075	0.044	0.010	0.010	Pass
3.996	3.896	4.017	4.096	0.021	0.020	0.020	Pass
6.034	5.934	6.011	6.134	-0.023	0.030	0.030	Pass
8.049	7.949	8.013	8.149	-0.036	0.040	0.040	Pass
10.032	9.932	9.994	10.132	-0.038	0.050	0.050	Pass

ERROR CHART (Inlet Pressure = 10 psig)



Instrument Specifications		
Meter's Calibrated Fluid:	Air	
Test Fluid:	Air	
Meter's Standard Pressure:	14.7	psia
Meter's Standard Temperature:	70	ºF
Lower Range:	0	slpm
Upper Range	10	slpm
Resolution:	0.001	
Rated Accuracy:	1.0	% of Full Scale
Laboratory Ambient Conditions		
Pressure:	14.37	psia
Humidity:	53.48	%RH
Temperature:	70.02	ºF

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CERTIFICATE OF NIST TRACEABLE CALIBRATION

Calibration Certificate No: 92433

Customer Information

Customer: Intertek

Address : 8431 Murphy Drive
Middleton WI 53562

Customer PO #: Verbal - Brian Brunson

Calibration Procedure Information

Procedure ID: GTP TMASS-LAM Revision #: 11 Revision Date: 6/18/2019

Calibration Standards Information

Graftel ID	Manufacturer	Model #	Description	CAL Due
10062	Graftel	9202	5-Channel Temperature Sensor	8/6/2024
10074	Meriam	50MJ10-14	Laminar Flowmeter	11/21/2021
10075	Meriam	50MJ10-9	Laminar Flowmeter	11/26/2021
10128	Furness	FCO352	Diff Pressure	5/7/2022
60030	Paroscientific	760-100A	Pressure, 100 psia	5/20/2022
T1830482	Vaisala	HMW95D	RH/Temp. Logger	12/22/2021
1A01JMGKP36	Graftel	N/A	Digital Barometer	12/22/2021
50789	Paroscientific	760-100A	Pressure Gauge	8/17/2022

Sensor Information

Manufacturer: Sierra Description: Mass Flow Meter Method Used: Laminar

Model #: M50L-AL-DD-2-PV2-V1-5PC Rated Accuracy: ± 1 % of Full Scale Accuracy Specified By: Sierra

Instrument ID#: 001519 Range: 0 to 10 slpm Condition: Functional

Serial #: 231326

Comments: Calibration Date: 08/20/2021
Calibration Due: 02/20/2022

The calibrations within the certificate/report are traceable through NIST or another National Metrology Institute to the International System of Units (SI). The reported calibration uncertainty has a confidence level of 95% (k=2). A calibration uncertainty ratio of 4:1 was maintained unless required uncertainty is supported by analysis. Graftel Quality Assurance System complies with applicable requirements of ISO/IEC-17025-2017, ANSI/NCSL Z540-I-1994 and ISO 9001. All results contained within this certificate relate only to item(s) calibrated. This certificate shall not be reproduced except in full and with the written consent of Graftel. Acceptance Criteria per Simple Acceptance Rule: Measurement Uncertainty is not applied to the measured value when in/out of tolerance statement is made.

Performed By: L. Chan Date: 8/20/2021

Lap Chan
Calibration Technician

Approved By: Date: 8/20/2021

Scott Pickett
Vice President, Lab Services

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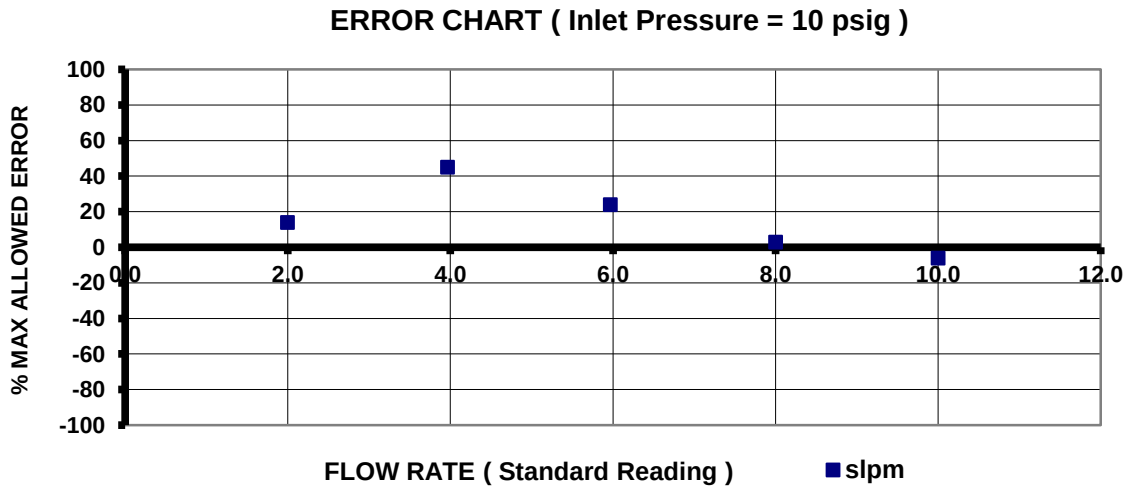
ATTACHMENT TO CALIBRATION CERTIFICATE 92433
AS FOUND / AS LEFT DATA

Reading From Standard, slpm	Lower Limit of Meter Reading, slpm	Measured Reading From Meter, slpm	Upper Limit of Meter Reading, slpm	Error, slpm	Measurement Uncertainty (k=2) slpm	CMC (k=2) slpm	STATUS
1.998	1.898	2.012	2.098	0.014	0.010	0.010	Pass
3.966	3.866	4.011	4.066	0.045	0.020	0.020	Pass
5.967	5.867	5.991	6.067	0.024	0.030	0.030	Pass
8.002	7.902	8.005	8.102	0.003	0.040	0.040	Pass
9.999	9.899	9.993	10.099	-0.006	0.050	0.050	Pass



Instrument Specifications		
Meter's Calibrated Fluid:	Air	
Test Fluid:	Air	
Meter's Standard Pressure:	14.7	psia
Meter's Standard Temperature:	70	ºF
Lower Range:	0	slpm
Upper Range	10	slpm
Resolution:	0.001	
Rated Accuracy:	1.0	% of Full Scale
Laboratory Ambient Conditions		
Pressure:	14.37	psia
Humidity:	54.67	%RH
Temperature:	70.04	ºF

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ExceLINX KEITHLEY A Greater Measure of Confidence

Task: Configure Scanning DMM Channels

Task	Name	DMM Config
	Description	
	Created By	Midlab
	Company	
	Date Created	12/8/2020
	Date Modified	8/12/2021
	Status/Cmds	Task stopped successfully
Instrument	Device	MODEL_2750_at_GPIB0_16*
	Password	
	Slot 1 Module	M7708*
	Slot 2 Module	M7708*
	Slot 3 Module	M7708*
	Slot 4 Module	Empty*
	Slot 5 Module	Empty*
	Front Panel Lockout	On
Setup	Line Sync	Off
	Autozero	On
	Display Digits	6½
	DCV Input Divider	Off
	Open TC Detection	Off
	Temp Scale	°F
Limits	Digital Outputs	Off
	Pulse Output	Off
	Polarity	High
	Duration	0.02 sec
	Master Latch	Off

Channel Scan List

Channel			Measurement		Scaling					Alarm Limits						Rep Filter		Sampling		Options			
Enb	List	Tag	Function	Range	Rel	Math	m/ref	b	U	En1	Hi1	Lo1	En2	Hi2	Lo2	Enb	Count	Rate	AC BW	Opt 1	Opt 2	Opt 3	Opt 4
On	101-102		TEMP	K	Off	None				Off			Off			Off		SLOW		INT			
Off	201-224		TEMP	J	Off	None				Off			Off			Off		SLOW		INT			
Off	301-340		TEMP	J	Off	None				Off			Off			Off		SLOW		INT			

ExceLINX KEITHLEY A Greater Measure of Confidence

Task: Scan DMM Channels

Task	Name	DMM Scan	
	Description		
	Created By	Midlab	
	Company		
	Date Created	12/8/2020	
	Date Modified	8/9/2021	
	Status/Cmds	Task stopped successfully	
Configuration	Worksheet	DMM Config	
Trigger	Model	Scan	
	Source	Timer	
	Delay	Auto	sec
	Reading Count	INF	
	Timer	600	sec
	Monitor	None	
	Monitor Limits	None	
Data Location	Worksheet	Sheet1	
	Starting Col	c	
	Starting Row	432	
	Organize By	Rows	
	Autoincrement	Use one table	
	Auto Wrap	On	
	Log File		
	Format	Delimited text (comma)	
Data Display	Add Channel Tags	No	
	Add Channels	Yes	
	Add Units	No	
	Scroll Display	No	
	Limits	None	
	Timestamp	None	
	Update Interval	100	msec

Task Data

Date	Time	Ambient °F Chn 101	PS20W Flue Gas °F Chn 102	PS66W Flue Gas °F Chn 103	Weight Added lbs PS20W	Weight Added lbs PS66W	PS20W Total Time Minutes	PS20W Total Time Hours	PS66W Total Time Minutes	PS66W Total Time Hours
08/03/21	1:00 PM	77	109	138	15.4 lbs	37 lbs				
08/03/21	1:10 PM	78	327	253	x	x				
08/03/21	1:20 PM	79	347	292	x	x				
08/03/21	1:30 PM	80	341	297	x	x				
08/03/21	1:40 PM	79	336	302	x	x				
08/03/21	1:50 PM	80	347	303	x	x				
08/03/21	2:00 PM	80	359	303	x	x				
08/03/21	2:10 PM	81	355	300	x	x				
08/03/21	2:20 PM	81	359	303	x	x				
08/03/21	2:30 PM	81	356	305	x	x				
08/03/21	2:40 PM	81	360	300	x	x				
08/03/21	2:50 PM	82	354	303	x	x				
08/03/21	3:00 PM	82	360	301	7 lbs	12 lbs				
08/03/21	3:10 PM	84	358	308	x	x				
08/03/21	3:20 PM	83	366	307	x	x				
08/03/21	3:30 PM	84	369	300	x	x				
08/03/21	3:40 PM	85	356	304	x	x				
08/03/21	3:50 PM	85	372	300	x	x				
08/03/21	4:00 PM	85	358	307	x	x				
08/03/21	4:10 PM	85	365	307	x	x				
08/03/21	4:20 PM	85	358	300	x	x				
08/03/21	4:30 PM	86	368	303	x	x				
08/03/21	4:40 PM	86	358	307	x	x				
08/03/21	4:50 PM	86	367	309	x	x				
08/03/21	5:00 PM	86	367	304	x	x				
08/03/21	5:10 PM	86	367	305	x	x				
08/03/21	5:20 PM	86	370	301	x	x				
08/03/21	5:30 PM	86	366	303	x	x				
08/03/21	5:40 PM	86	369	306	x	x				
08/03/21	5:50 PM	86	369	304	x	x				
08/03/21	6:00 PM	87	373	295	x	x				
08/03/21	6:10 PM	86	365	297	x	x				
08/03/21	6:20 PM	87	373	299	x	x				
08/03/21	6:30 PM	86	371	300	x	x				
08/03/21	6:40 PM	87	371	308	x	x				
08/03/21	6:50 PM	86	359	301	x	x				
08/03/21	7:00 PM	87	361	301	x	x				
08/03/21	7:10 PM	87	356	307	x	x				
08/03/21	7:20 PM	87	323	300	x	x				
08/03/21	7:30 PM	87	266	301	x	x				
08/03/21	7:40 PM	86	218	305	x	x	400	6.66		
08/03/21	7:50 PM	86	x	302	x	x				
08/03/21	8:00 PM	86	x	306	x	x				
08/03/21	8:10 PM	86	x	314	x	x				
08/03/21	8:20 PM	85	x	305	x	x				
08/03/21	8:30 PM	85	x	301	x	x				
08/03/21	8:40 PM	85	x	314	x	x				
08/03/21	8:50 PM	84	x	301	x	x				
08/03/21	9:00 PM	84	x	305	x	x				
08/03/21	9:10 PM	84	x	305	x	x				
08/03/21	9:20 PM	83	x	298	x	x				
08/03/21	9:30 PM	83	x	299	x	x				
08/03/21	9:40 PM	84	x	303	x	x				
08/03/21	9:50 PM	83	x	298	x	x				
08/03/21	10:00 PM	83	x	295	x	x				
08/03/21	10:10 PM	83	x	294	x	x				
08/03/21	10:20 PM	83	x	301	x	x				
08/03/21	10:30 PM	83	x	303	x	x				

08/03/21	10:40 PM	83	x	297	x	x
08/03/21	10:50 PM	82	x	296	x	x
08/03/21	11:00 PM	82	x	300	x	x
08/03/21	11:10 PM	82	x	299	x	x
08/03/21	11:20 PM	82	x	300	x	x
08/03/21	11:30 PM	82	x	299	x	x
08/03/21	11:40 PM	82	x	296	x	x
08/03/21	11:50 PM	81	x	298	x	x
08/04/21	12:00 AM	82	x	300	x	x
08/04/21	12:10 AM	81	x	301	x	x
08/04/21	12:20 AM	81	x	295	x	x
08/04/21	12:30 AM	81	x	298	x	x
08/04/21	12:40 AM	81	x	296	x	x
08/04/21	12:50 AM	81	x	297	x	x
08/04/21	1:00 AM	81	x	292	x	x
08/04/21	1:10 AM	81	x	294	x	x
08/04/21	1:20 AM	81	x	302	x	x
08/04/21	1:30 AM	81	x	298	x	x
08/04/21	1:40 AM	80	x	294	x	x
08/04/21	1:50 AM	81	x	301	x	x
08/04/21	2:00 AM	81	x	294	x	x
08/04/21	2:10 AM	81	x	297	x	x
08/04/21	2:20 AM	81	x	298	x	x
08/04/21	2:30 AM	81	x	295	x	x
08/04/21	2:40 AM	80	x	290	x	x
08/04/21	2:50 AM	80	x	300	x	x
08/04/21	3:00 AM	80	x	295	x	x
08/04/21	3:10 AM	80	x	299	x	x
08/04/21	3:20 AM	80	x	295	x	x
08/04/21	3:30 AM	80	x	293	x	x
08/04/21	3:40 AM	80	x	299	x	x
08/04/21	3:50 AM	80	x	301	x	x
08/04/21	4:00 AM	80	x	294	x	x
08/04/21	4:10 AM	80	x	294	x	x
08/04/21	4:20 AM	80	x	301	x	x
08/04/21	4:30 AM	79	x	299	x	x
08/04/21	4:40 AM	79	x	295	x	x
08/04/21	4:50 AM	80	x	308	x	x
08/04/21	5:00 AM	79	x	300	x	x
08/04/21	5:10 AM	79	x	296	x	x
08/04/21	5:20 AM	79	x	300	x	x
08/04/21	5:30 AM	79	x	297	x	x
08/04/21	5:40 AM	79	x	297	x	x
08/04/21	5:50 AM	79	x	310	x	x
08/04/21	6:00 AM	79	x	299	x	x
08/04/21	6:10 AM	79	x	290	x	x
08/04/21	6:20 AM	79	x	310	x	x
08/04/21	6:30 AM	79	x	298	x	x
08/04/21	6:40 AM	79	x	290	x	x
08/04/21	6:50 AM	79	x	302	x	x
08/04/21	7:00 AM	79	x	296	x	x
08/04/21	7:10 AM	79	x	302	x	x
08/04/21	7:20 AM	79	x	303	x	x
08/04/21	7:30 AM	78	196	296	15 lbs	20 lbs
08/04/21	7:40 AM	80	310	295	x	x
08/04/21	7:50 AM	78	367	289	x	x
08/04/21	8:00 AM	78	372	291	x	x
08/04/21	8:10 AM	77	366	295	x	x
08/04/21	8:20 AM	77	369	290	x	x
08/04/21	8:30 AM	78	369	295	x	x
08/04/21	8:40 AM	78	367	290	x	x
08/04/21	8:50 AM	78	367	297	x	x
08/04/21	9:00 AM	78	377	300	x	x
08/04/21	9:10 AM	79	377	295	x	x

08/04/21	9:20 AM	79	380	295	x	x
08/04/21	9:30 AM	79	378	289	x	x
08/04/21	9:40 AM	80	377	291	x	x
08/04/21	9:50 AM	80	374	287	x	x
08/04/21	10:00 AM	80	366	294	x	x
08/04/21	10:10 AM	81	373	299	x	x
08/04/21	10:20 AM	81	367	300	x	x
08/04/21	10:30 AM	81	370	293	x	x
08/04/21	10:40 AM	82	367	294	x	x
08/04/21	10:50 AM	82	367	294	10 lbs	x
08/04/21	11:00 AM	83	360	299	x	x
08/04/21	11:10 AM	82	359	292	x	x
08/04/21	11:20 AM	83	350	297	x	x
08/04/21	11:30 AM	84	365	302	x	x
08/04/21	11:40 AM	82	354	298	x	x
08/04/21	11:50 AM	83	361	299	x	x
08/04/21	12:00 PM	84	357	299	x	x
08/04/21	12:10 PM	84	358	301	x	x
08/04/21	12:20 PM	84	363	305	x	x
08/04/21	12:30 PM	84	365	308	x	x
08/04/21	12:40 PM	84	370	301	x	x
08/04/21	12:50 PM	84	356	306	x	x
08/04/21	1:00 PM	84	362	303	x	x
08/04/21	1:10 PM	85	366	299	x	x
08/04/21	1:20 PM	84	359	304	x	x
08/04/21	1:30 PM	85	365	300	x	x
08/04/21	1:40 PM	85	365	298	x	x
08/04/21	1:50 PM	85	357	294	10 lbs	x
08/04/21	2:00 PM	85	358	306	x	x
08/04/21	2:10 PM	85	362	304	x	x
08/04/21	2:20 PM	86	350	301	x	x
08/04/21	2:30 PM	86	366	309	x	x
08/04/21	2:40 PM	86	367	304	x	x
08/04/21	2:50 PM	86	374	298	x	x
08/04/21	3:00 PM	86	363	311	x	x
08/04/21	3:10 PM	86	364	309	x	x
08/04/21	3:20 PM	87	359	301	9.5	17 ibs
08/04/21	3:30 PM	87	364	316	x	x
08/04/21	3:40 PM	87	364	307	x	x
08/04/21	3:50 PM	87	362	301	x	x
08/04/21	4:00 PM	86	365	315	x	x
08/04/21	4:10 PM	87	372	304	x	x
08/04/21	4:20 PM	88	369	301	x	x
08/04/21	4:30 PM	88	367	304	x	x
08/04/21	4:40 PM	88	365	298	x	x
08/04/21	4:50 PM	88	361	298	x	x
08/04/21	5:00 PM	88	371	304	x	x
08/04/21	5:10 PM	88	363	305	x	x
08/04/21	5:20 PM	89	360	304	x	x
08/04/21	5:30 PM	89	366	303	x	x
08/04/21	5:40 PM	89	364	301	x	x
08/04/21	5:50 PM	89	373	298	x	x
08/04/21	6:00 PM	89	361	303	x	x
08/04/21	6:10 PM	89	370	304	x	x
08/04/21	6:20 PM	89	365	297	x	x
08/04/21	6:30 PM	89	364	295	x	x
08/04/21	6:40 PM	89	363	301	x	x
08/04/21	6:50 PM	89	374	308	x	x
08/04/21	7:00 PM	89	373	303	x	x
08/04/21	7:10 PM	89	369	305	x	x
08/04/21	7:20 PM	89	370	310	x	x
08/04/21	7:30 PM	89	369	302	x	x
08/04/21	7:40 PM	89	366	308	x	x
08/04/21	7:50 PM	89	372	305	x	x

08/04/21	8:00 PM	88	364	306	x	x		
08/04/21	8:10 PM	88	355	308	x	x		
08/04/21	8:20 PM	88	322	307	x	x		
08/04/21	8:30 PM	88	271	306	x	x		
08/04/21	8:40 PM	88	207	304	x	x		
08/04/21	8:50 PM	88	173	302	x	x		
08/04/21	9:00 PM	87	141	306	x	x		
08/04/21	9:10 PM	87	113	304	x	x		
08/04/21	9:20 PM	86	100	304	x	x		
08/04/21	9:30 PM	85	105	302	x	x	840.0	14.0
08/04/21	9:40 PM	85	x	304	x	x		
08/04/21	9:50 PM	85	x	302	x	x		
08/04/21	10:00 PM	85	x	302	x	x		
08/04/21	10:10 PM	85	x	305	x	x		
08/04/21	10:20 PM	85	x	304	x	x		
08/04/21	10:30 PM	84	x	307	x	x		
08/04/21	10:40 PM	84	x	302	x	x		
08/04/21	10:50 PM	84	x	301	x	x		
08/04/21	11:00 PM	84	x	298	x	x		
08/04/21	11:10 PM	84	x	303	x	x		
08/04/21	11:20 PM	84	x	298	x	x		
08/04/21	11:30 PM	84	x	302	x	x		
08/04/21	11:40 PM	84	x	305	x	x		
08/04/21	11:50 PM	84	x	299	x	x		
08/05/21	12:00 AM	83	x	299	x	x		
08/05/21	12:10 AM	83	x	306	x	x		
08/05/21	12:20 AM	84	x	295	x	x		
08/05/21	12:30 AM	83	x	305	x	x		
08/05/21	12:40 AM	84	x	310	x	x		
08/05/21	12:50 AM	83	x	295	x	x		
08/05/21	1:00 AM	83	x	299	x	x		
08/05/21	1:10 AM	83	x	308	x	x		
08/05/21	1:20 AM	83	x	305	x	x		
08/05/21	1:30 AM	83	x	303	x	x		
08/05/21	1:40 AM	83	x	322	x	x		
08/05/21	1:50 AM	83	x	314	x	x		
08/05/21	2:00 AM	83	x	306	x	x		
08/05/21	2:10 AM	83	x	305	x	x		
08/05/21	2:20 AM	83	x	300	x	x		
08/05/21	2:30 AM	83	x	304	x	x		
08/05/21	2:40 AM	83	x	303	x	x		
08/05/21	2:50 AM	83	x	300	x	x		
08/05/21	3:00 AM	82	x	300	x	x		
08/05/21	3:10 AM	83	x	299	x	x		
08/05/21	3:20 AM	82	x	299	x	x		
08/05/21	3:30 AM	82	x	300	x	x		
08/05/21	3:40 AM	82	x	296	x	x		
08/05/21	3:50 AM	82	x	301	x	x		
08/05/21	4:00 AM	82	x	301	x	x		
08/05/21	4:10 AM	82	x	302	x	x		
08/05/21	4:20 AM	82	x	297	x	x		
08/05/21	4:30 AM	82	x	300	x	x		
08/05/21	4:40 AM	82	x	296	x	x		
08/05/21	4:50 AM	81	x	300	x	x		
08/05/21	5:00 AM	82	x	304	x	x		
08/05/21	5:10 AM	81	x	302	x	x		
08/05/21	5:20 AM	81	x	303	x	x		
08/05/21	5:30 AM	81	x	295	x	x		
08/05/21	5:40 AM	81	x	300	x	x		
08/05/21	5:50 AM	81	x	295	x	x		
08/05/21	6:00 AM	82	x	297	x	x		
08/05/21	6:10 AM	81	x	299	x	x		
08/05/21	6:20 AM	81	x	297	x	x		
08/05/21	6:30 AM	81	x	296	x	x		

08/05/21	6:40 AM	81	x	302	x	x
08/05/21	6:50 AM	81	x	299	x	x
08/05/21	7:00 AM	81	x	299	x	x
08/05/21	7:10 AM	82	x	301	x	x
08/05/21	7:20 AM	82	x	303	x	x
08/05/21	7:30 AM	82	x	296	x	x
08/05/21	7:40 AM	80	243	294	15 lbs	x
08/05/21	7:50 AM	80	311	300	x	x
08/05/21	8:00 AM	81	351	297	x	x
08/05/21	8:10 AM	81	356	294	x	x
08/05/21	8:20 AM	81	351	301	x	x
08/05/21	8:30 AM	81	355	296	x	x
08/05/21	8:40 AM	81	354	296	x	x
08/05/21	8:50 AM	81	352	296	x	x
08/05/21	9:00 AM	82	352	291	x	x
08/05/21	9:10 AM	82	357	291	x	x
08/05/21	9:20 AM	82	360	296	x	x
08/05/21	9:30 AM	82	352	295	x	x
08/05/21	9:40 AM	83	361	291	x	x
08/05/21	9:50 AM	82	367	300	x	x
08/05/21	10:00 AM	82	363	297	x	x
08/05/21	10:10 AM	83	357	293	x	x
08/05/21	10:20 AM	83	365	307	x	x
08/05/21	10:30 AM	83	355	298	7 lbs	11 lbs
08/05/21	10:40 AM	84	348	296	x	x
08/05/21	10:50 AM	84	337	312	x	x
08/05/21	11:00 AM	84	352	296	x	x
08/05/21	11:10 AM	84	358	294	x	x
08/05/21	11:20 AM	84	356	312	x	x
08/05/21	11:30 AM	84	356	294	x	x
08/05/21	11:40 AM	84	354	295	x	x
08/05/21	11:50 AM	84	365	303	x	x
08/05/21	12:00 PM	84	355	292	x	x
08/05/21	12:10 PM	84	360	293	x	x
08/05/21	12:20 PM	85	351	305	x	x
08/05/21	12:30 PM	85	355	310	x	x
08/05/21	12:40 PM	85	368	307	x	x
08/05/21	12:50 PM	85	366	308	x	x
08/05/21	1:00 PM	85	359	307	x	x
08/05/21	1:10 PM	85	353	307	x	x
08/05/21	1:20 PM	86	361	307	x	x
08/05/21	1:30 PM	86	358	310	4 lbs	x
08/05/21	1:40 PM	86	351	302	x	x
08/05/21	1:50 PM	87	356	303	x	x
08/05/21	2:00 PM	86	348	309	x	x
08/05/21	2:10 PM	87	351	302	x	x
08/05/21	2:20 PM	86	356	303	x	x
08/05/21	2:30 PM	87	355	310	x	x
08/05/21	2:40 PM	86	352	299	x	x
08/05/21	2:50 PM	87	361	300	x	x
08/05/21	3:00 PM	86	361	300	x	x
08/05/21	3:10 PM	84	352	302	x	x
08/05/21	3:20 PM	85	357	298	x	x
08/05/21	3:30 PM	84	361	297	10 lbs	x
08/05/21	3:40 PM	83	360	301	x	x
08/05/21	3:50 PM	83	366	299	x	x
08/05/21	4:00 PM	83	365	300	x	x
08/05/21	4:10 PM	84	363	301	x	x
08/05/21	4:20 PM	85	369	305	x	x
08/05/21	4:30 PM	85	365	310	x	x
08/05/21	4:40 PM	86	372	308	x	x
08/05/21	4:50 PM	86	368	300	x	x
08/05/21	5:00 PM	86	366	310	x	x
08/05/21	5:10 PM	86	369	298	x	x

08/05/21	5:20 PM	85	364	305	x	x				
08/05/21	5:30 PM	86	370	302	x	x				
08/05/21	5:40 PM	85	369	294	x	x				
08/05/21	5:50 PM	85	360	286	x	x				
08/05/21	6:00 PM	85	375	281	x	x				
08/05/21	6:10 PM	84	365	268	x	x				
08/05/21	6:20 PM	84	370	247	x	x				
08/05/21	6:30 PM	84	371	216	x	x				
08/05/21	6:40 PM	84	364	200	x	x				
08/05/21	6:50 PM	84	365	195	x	x				
08/05/21	7:00 PM	83	369	185	x	x				
08/05/21	7:10 PM	83	367	177	x	x				
08/05/21	7:20 PM	83	368	165	x	x				
08/05/21	7:30 PM	83	361	166	x	x				
08/05/21	7:40 PM	83	366	153	x	x				
08/05/21	7:50 PM	83	358	142	x	x				
08/05/21	8:00 PM	83	357	141	x	x				
08/05/21	8:10 PM	82	336	131	x	x				
08/05/21	8:20 PM	82	302	123	x	x				
08/05/21	8:30 PM	82	260	131	x	x				
08/05/21	8:40 PM	81	199	129	x	x				
08/05/21	8:50 PM	81	138	119	x	x				
08/05/21	9:00 PM	81	149	117	x	x				
08/05/21	9:10 PM	81	126	112	x	x	810.0	13.5	3360.0	56.0
		Chn 101	Chn 102	x	x	x				
08/06/21	7:30 AM	77	78	x	14 lbs	x				
08/06/21	7:40 AM	77	297	x	x	x				
08/06/21	7:50 AM	78	367	x	x	x				
08/06/21	8:00 AM	77	370	x	x	x				
08/06/21	8:10 AM	77	370	x	x	x				
08/06/21	8:20 AM	77	369	x	x	x				
08/06/21	8:30 AM	76	374	x	x	x				
08/06/21	8:40 AM	76	355	x	x	x				
08/06/21	8:50 AM	76	359	x	x	x				
08/06/21	9:00 AM	77	364	x	x	x				
08/06/21	9:10 AM	78	361	x	x	x				
08/06/21	9:20 AM	77	362	x	x	x				
08/06/21	9:30 AM	77	354	x	x	x				
08/06/21	9:40 AM	78	362	x	x	x				
08/06/21	9:50 AM	78	364	x	x	x				
08/06/21	10:00 AM	77	362	x	x	x				
08/06/21	10:10 AM	78	362	x	x	x				
08/06/21	10:20 AM	78	368	x	x	x				
08/06/21	10:30 AM	78	363	x	x	x				
08/06/21	10:40 AM	78	369	x	x	x				
08/06/21	10:50 AM	78	369	x	x	x				
08/06/21	11:00 AM	79	361	x	x	x				
08/06/21	11:10 AM	79	370	x	x	x				
08/06/21	11:20 AM	80	368	x	x	x				
08/06/21	11:30 AM	80	368	x	x	x				
08/06/21	11:40 AM	80	366	x	x	x				
08/06/21	11:50 AM	81	359	x	x	x				
08/06/21	12:00 PM	81	363	x	x	x				
08/06/21	12:10 PM	81	359	x	x	x				
08/06/21	12:20 PM	82	365	x	x	x				
08/06/21	12:30 PM	82	368	x	x	x				
08/06/21	12:40 PM	81	363	x	15 lbs	x				
08/06/21	12:50 PM	82	360	x	x	x				
08/06/21	1:00 PM	82	366	x	x	x				
08/06/21	1:10 PM	83	364	x	x	x				
08/06/21	1:20 PM	83	369	x	x	x				
08/06/21	1:30 PM	83	371	x	x	x				
08/06/21	1:40 PM	84	362	x	x	x				
08/06/21	1:50 PM	84	376	x	x	x				

08/06/21	2:00 PM	84	372	x	x	x		
08/06/21	2:10 PM	84	364	x	x	x		
08/06/21	2:20 PM	84	368	x	x	x		
08/06/21	2:30 PM	85	370	x	x	x		
08/06/21	2:40 PM	84	364	x	x	x		
08/06/21	2:50 PM	84	360	x	x	x		
08/06/21	3:00 PM	84	362	x	x	x		
08/06/21	3:10 PM	84	366	x	x	x		
08/06/21	3:20 PM	84	369	x	x	x		
08/06/21	3:30 PM	85	367	x	x	x		
08/06/21	3:40 PM	85	368	x	x	x	480.0	8.0
		Chn 101	Chn 102	x	x	x		
08/09/21	7:00 AM	77	87	x	8 lbs	x		
08/09/21	7:10 AM	77	355	x		x		
08/09/21	7:20 AM	77	360	x		x		
08/09/21	7:30 AM	77	353	x		x		
08/09/21	7:40 AM	77	360	x		x		
08/09/21	7:50 AM	77	366	x		x		
08/09/21	8:00 AM	77	365	x		x		
08/09/21	8:10 AM	76	367	x		x		
08/09/21	8:20 AM	76	361	x		x		
08/09/21	8:30 AM	76	362	x		x		
08/09/21	8:40 AM	76	361	x		x		
08/09/21	8:50 AM	76	359	x		x		
08/09/21	9:00 AM	76	359	x		x		
08/09/21	9:10 AM	76	362	x		x		
08/09/21	9:20 AM	79	366	x		x		
08/09/21	9:30 AM	79	377	x		x		
08/09/21	9:40 AM	80	370	x		x		
08/09/21	9:50 AM	80	369	x		x		
08/09/21	10:00 AM	80	369	x		x		
08/09/21	10:10 AM	81	372	x		x		
08/09/21	10:20 AM	81	371	x		x		
08/09/21	10:30 AM	81	375	x		x		
08/09/21	10:40 AM	81	375	x		x		
08/09/21	10:50 AM	81	375	x		x		
08/09/21	11:00 AM	81	368	x		x		
08/09/21	11:10 AM	81	372	x		x		
08/09/21	11:20 AM	81	365	x		x		
08/09/21	11:30 AM	81	373	x		x		
08/09/21	11:40 AM	81	371	x		x		
08/09/21	11:50 AM	81	367	x		x		
08/09/21	12:00 PM	81	355	x		x		
08/09/21	12:10 PM	81	336	x		x		
08/09/21	12:20 PM	81	289	x		x		
08/09/21	12:30 PM	81	232	x		x		
08/09/21	12:40 PM	81	171	x		x		
08/09/21	12:50 PM	Chn 101	Chn 102	x	10 lbs	x		
08/09/21	1:00 PM	80	205	x		x		
08/09/21	1:10 PM	81	344	x		x		
08/09/21	1:20 PM	81	364	x		x		
08/09/21	1:30 PM	81	367	x		x		
08/09/21	1:40 PM	82	371	x		x		
08/09/21	1:50 PM	82	371	x		x		
08/09/21	2:00 PM	82	379	x		x		
08/09/21	2:10 PM	82	368	x		x		
08/09/21	2:20 PM	82	370	x		x		
08/09/21	2:30 PM	82	374	x		x		
08/09/21	2:40 PM	82	373	x		x		
08/09/21	2:50 PM	82	361	x		x		
08/09/21	3:00 PM	82	371	x		x	480.0	8.0
							3010 min	50.2 Hrs

ENERCO GROUP
G10380720
ASTME2779
MODEL: PS20W
DATE: 8-12-21
TEST # 2

CLEVELAND

RICE LAKE RoughDeck

Haier

MARTH
FIBER IN MOTION
100% Renewable Wood Resource
Average BTU 8000 - 8100
Net Wt. 40 LB / 18.1 kg
Distributed by
Marth Wood Shaving Supply
Marathon, WI 54448

ENERCO GROUP
G103/80720
ASTM E2779
MODEL: PS20W
DATE: 8-27-21
TEST #3

RICE LAKE RoughDeck

MART
100% Renewa
Wood Resou
Net Wt. 40 LB / 18

ENERCO GROUP
G10368072O
ASTME2779
MODEL: PS20W
DATE: 8-11-21
TEST #1

CLEVELAND

RICE LAKE RoughDeck

WERNER

MARTH
FIBER IN MOTION
100% Renewable
Wood Resource
Average BTU 8000 - 8100
Net Wt. 40 LB / 18.1 kg

CLEVELAND
665

CAUTION
ATTENTION
IN

KEEP UPRIGHT
TESTED & APPROVED
CLEVELAND
IRON WORKS
No. 205
FEATURES
SMART HOME TECHNOLOGY
FRAGILE
KEEP DRY
Marth Wood Fuel Pellets
CLEVELAND