

OLYMPUS

Pellet Boiler

Technical Manual

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1.0 INTRODUCTION

The Olympus Pellet Boiler is an automatic hydronic heating system designed to provide efficient and reliable heating using wood pellets as fuel. It features automatic pellet feeding and ignition, combustion and airflow control, and a touchscreen controller for convenient operation. The boiler is designed for integration with hydronic heating systems, buffer tanks, and domestic hot water systems, providing a flexible and efficient heating solution.

2.0 SAFETY INSTRUCTIONS

- Olympus pellet boiler system must only be installed and commissioned for the first time by an authorized technician to ensure safe, economical, and code-compliant operation.
- Never modify any component of the hydraulic heating loop, combustion chamber or flue gas exhaust infrastructure.
- The appliance must be electrically bonded to a dedicated system equipped with an effective earth grounding conductor to prevent electrical shock.
- The installation site must maintain strict minimum safety clearances away from walls and flammable materials as detailed in this manual; never place clothes, furniture, or combustible materials on or near the boiler jacket.
- Under no circumstances should the boiler be ignited or operated with the front fire door open or if the ceramic viewing glass is cracked or broken.
- Never wash the boiler chassis with water or liquid spray, moisture entry into the enclosure can permanently destroy internal electronics and create an immediate electrical shock hazard.
- Primary structural surfaces (glass, door handle, and flue piping) become extremely hot during operation, always utilize temperature resistant safety gloves and proper technical tools during adjustments.
- Keep the top pellet bunker cover closed securely at all times during operation to ensure proper fuel feed isolation.

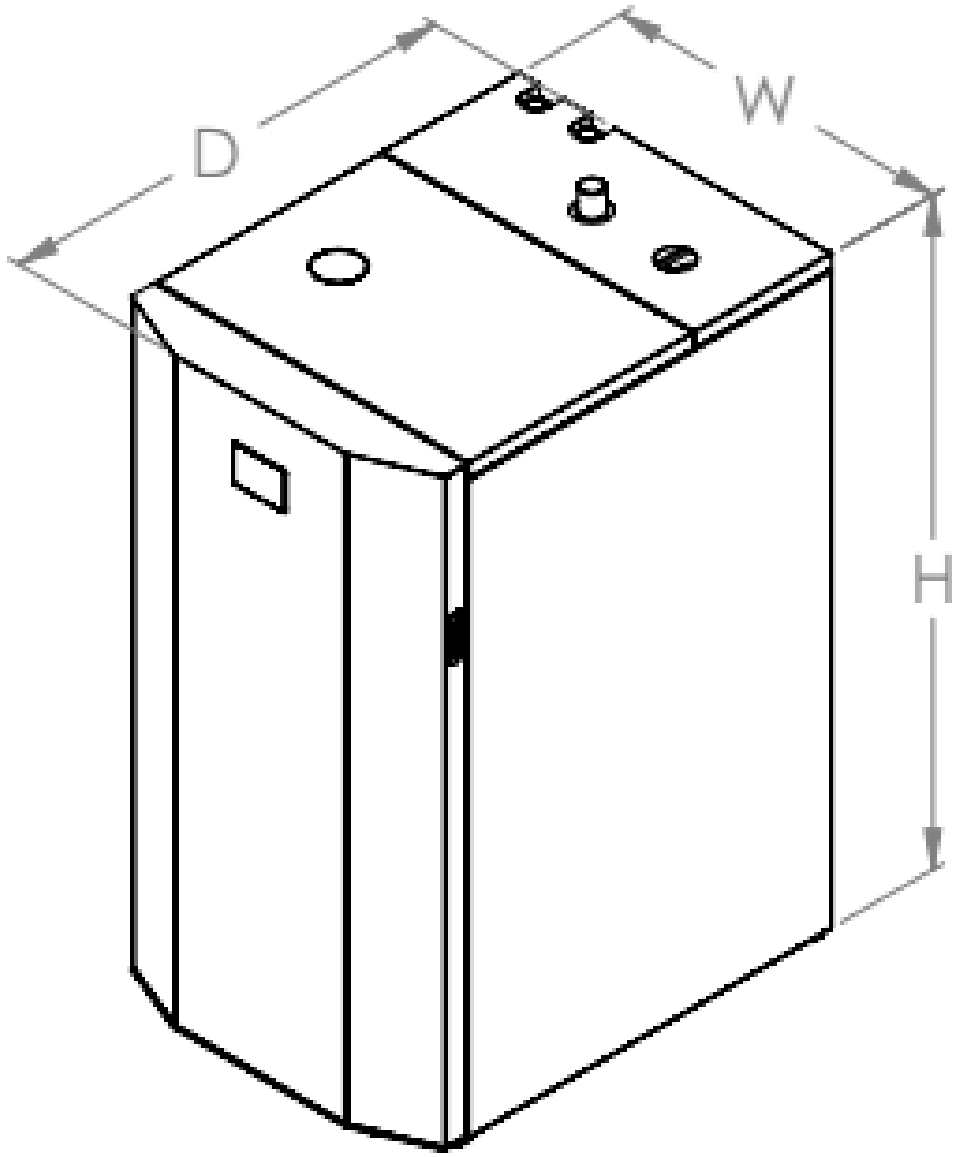
2.1 Maintenance and Emergency Procedures

- In the event of a chimney or flue pipe fire, immediately power off the unit via the digital control panel, disconnect the main power supply cord and keep the front door tightly shut.
- Instantly power down the boiler if you detect a systemic error code, component failure or operational malfunction.
- The entire boiler system and its corresponding flue exhaust piping must undergo a comprehensive technical inspection and deep cleaning by a qualified service specialist at least once per year.
- Any structural intervention, repair or component replacement must be performed using original factory-authorized spare parts, utilizing non-genuine components invalidates the warranty and poses severe operational risks.

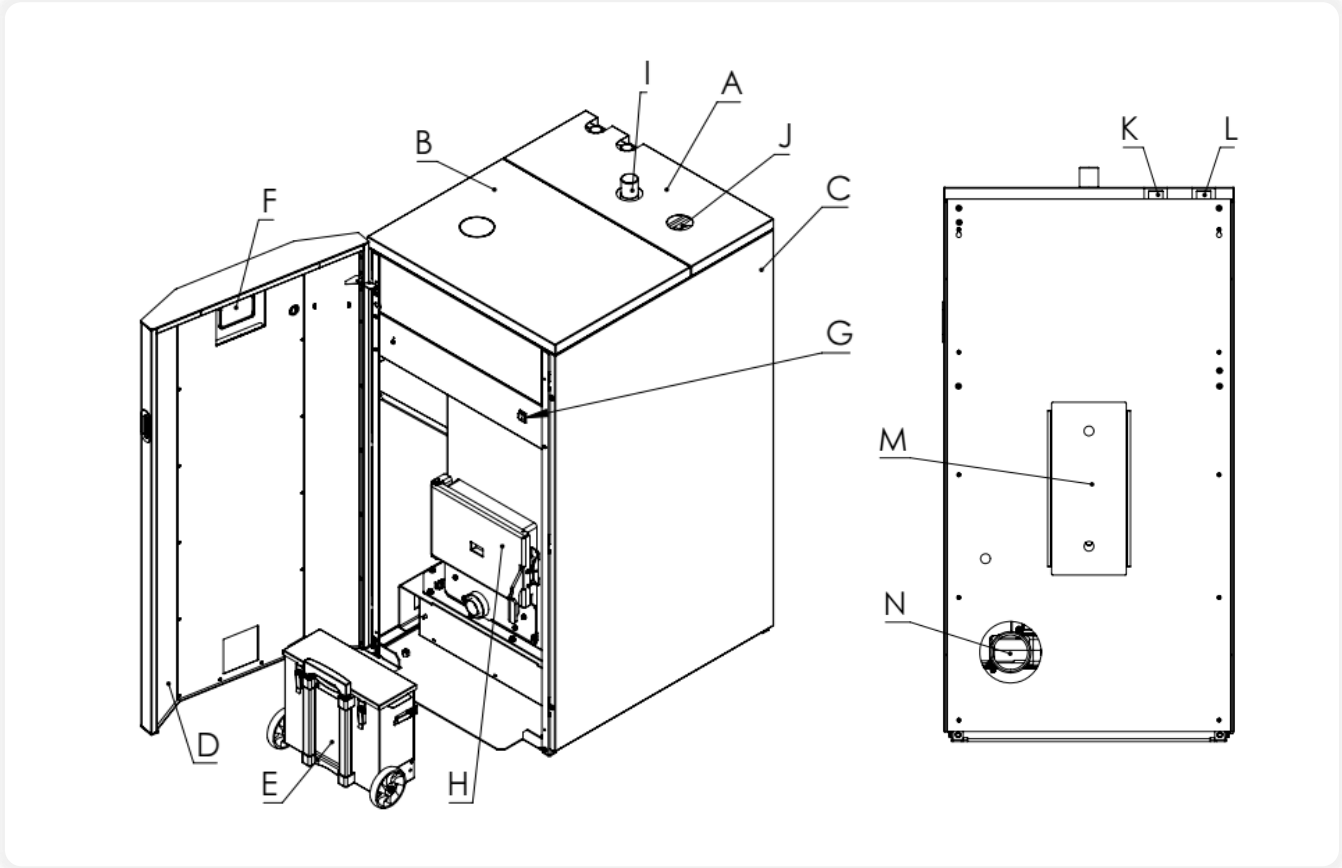
3.0 TECHNICAL SPECIFICATIONS

FEATURE	OLYM75	OLY160
Heating Output	75K BTU (22 KW)	160K BTU (46 KW)
Heated Volume	22,249 ft^3	46,263 ft^3
Pellet Hopper Capacity	95 lb	146 lb
Max. Working Pressure	43.5 psi	43.5 psi
Flue Gas Temperature	230 °F	279 °F
Flue Gas Outlet	4 in.	6 in.
Max. Water Temperature	194 °F	194 °F
Water Jacket Capacity	21 gal	32 gal
Chimney Draft	0.05 in. w.c.	0.05 in. w.c.
Energy Efficiency	94%	94%
Electrical Supply	120V/60 Hz	120V/60 Hz
Electrical Consumption	60 W	410 W
Weight	904 lb	992 lb

4.0 APPEARANCE AND DIMENSION



MODEL	HEIGHT	WIDTH	DEPTH
OLYM75	56¾ in.	27¼ in.	37¾ in.
OLYM160	62½ in.	29¾ in.	39¾ in.



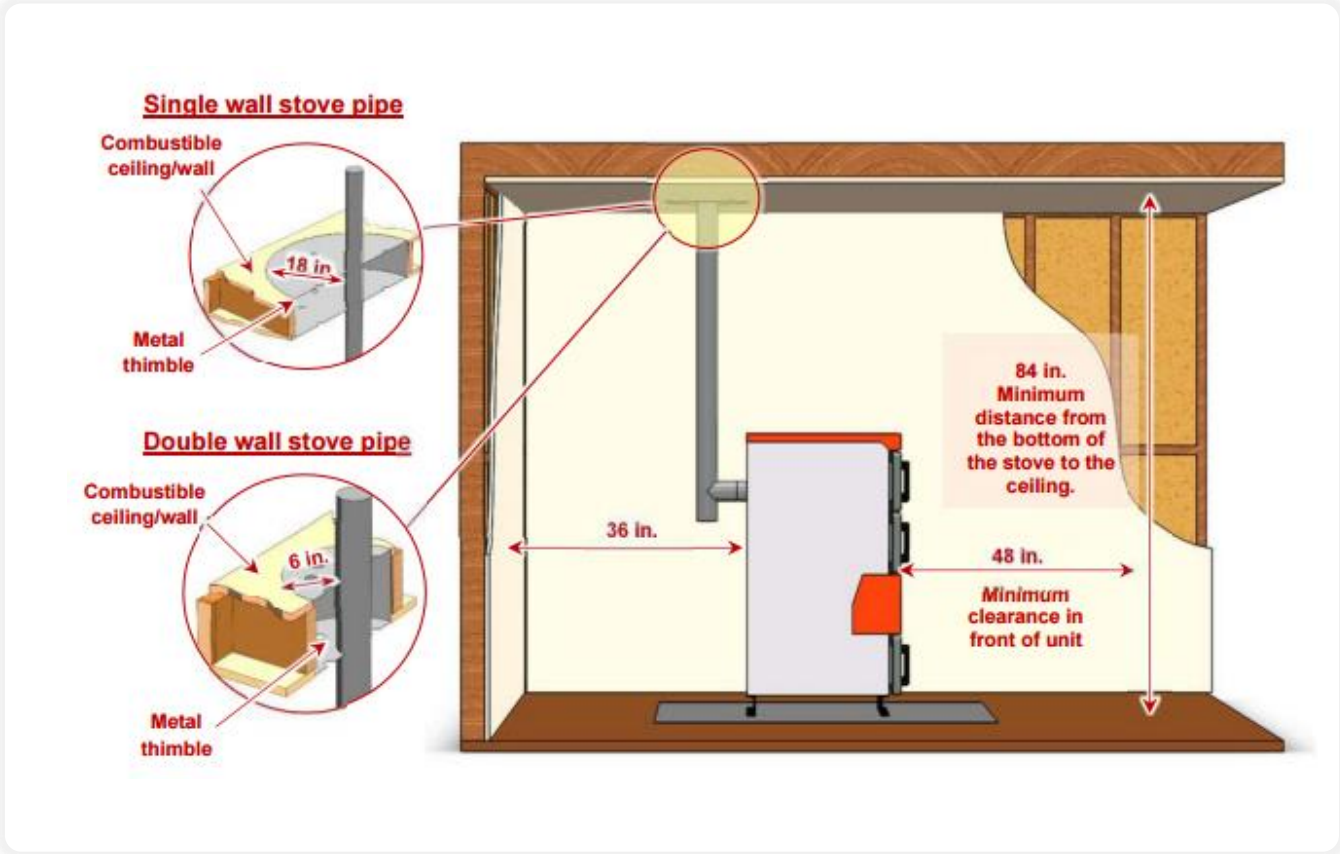
A	Top back cover	H	Combustion chamber door
B	Top front cover	I	Pellets inlet
C	Side panel	J	Air outlet for pellet suction probe
D	Front door	K	Hot water outlet
E	Ash container	L	Cold water inlet
F	Control display	M	Service door
G	ON/OFF switch	N	Exhaust fan for flue gasses

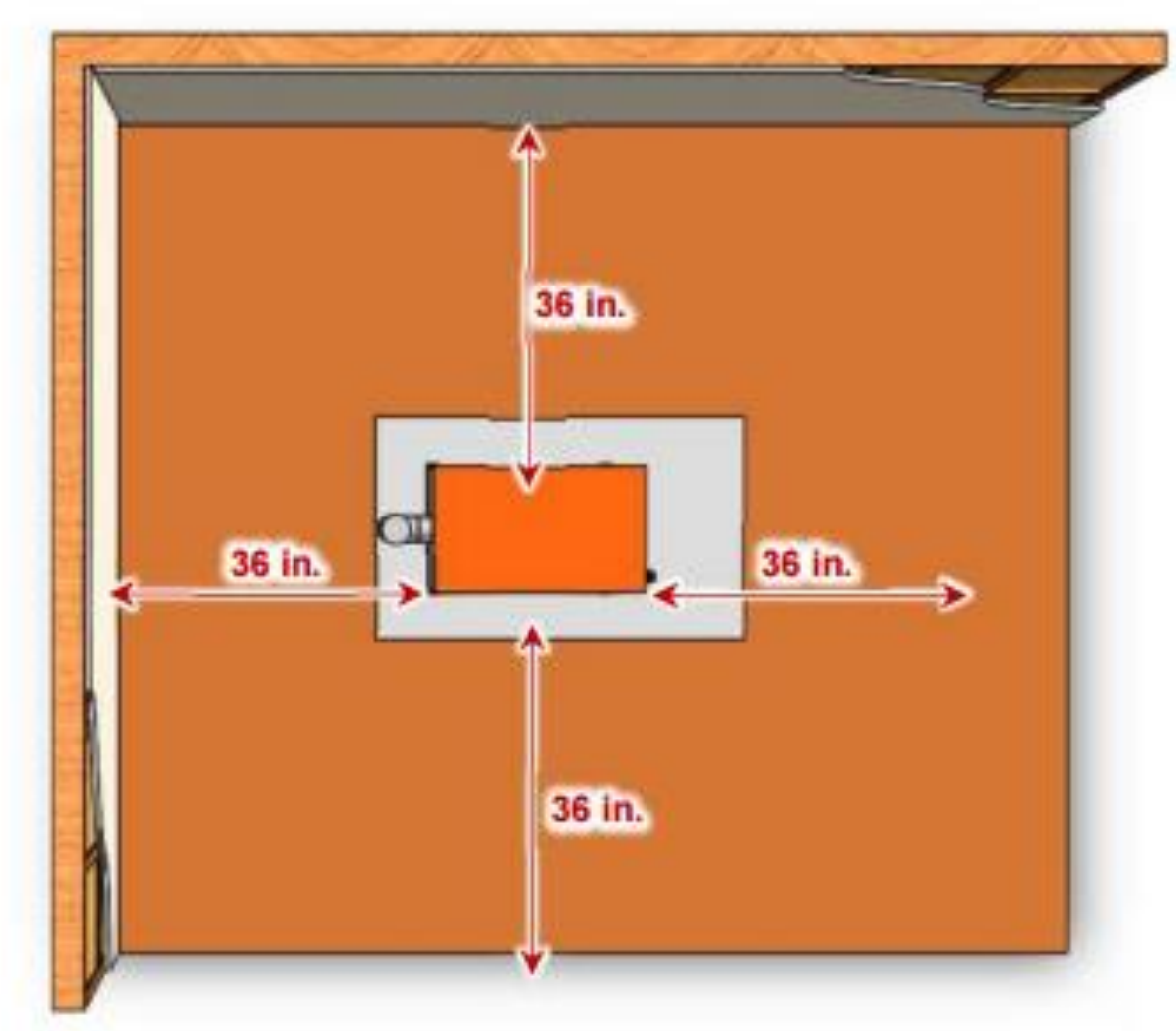
5.0 INSTALLATION

5.1 Standard Clearances Without Protection Wall

Prior to installation, load capacity of the place where the stove will be intended must be ensured. To ensure the correct and safe operation of the boiler, installed near combustible walls or ceilings, the minimum required clearance is:

- 36 in. (900 mm) – from all sides of the appliance (back, sides and corners).
- 48 in. (1219 mm) – from front of the stove.
- 84 in. (2130 mm) – minimum ceiling height, measured from floor to ceiling.
- 6 in. (150 mm) – from double-wall chimney pipe to combustibles.
- 18 in. (450 mm) – from single-wall chimney pipe to combustibles.





Clearance to Combustible Walls stove with sheet metal jacket or casing (no protection wall)

5.2. Standard Clearances with a Protection Wall

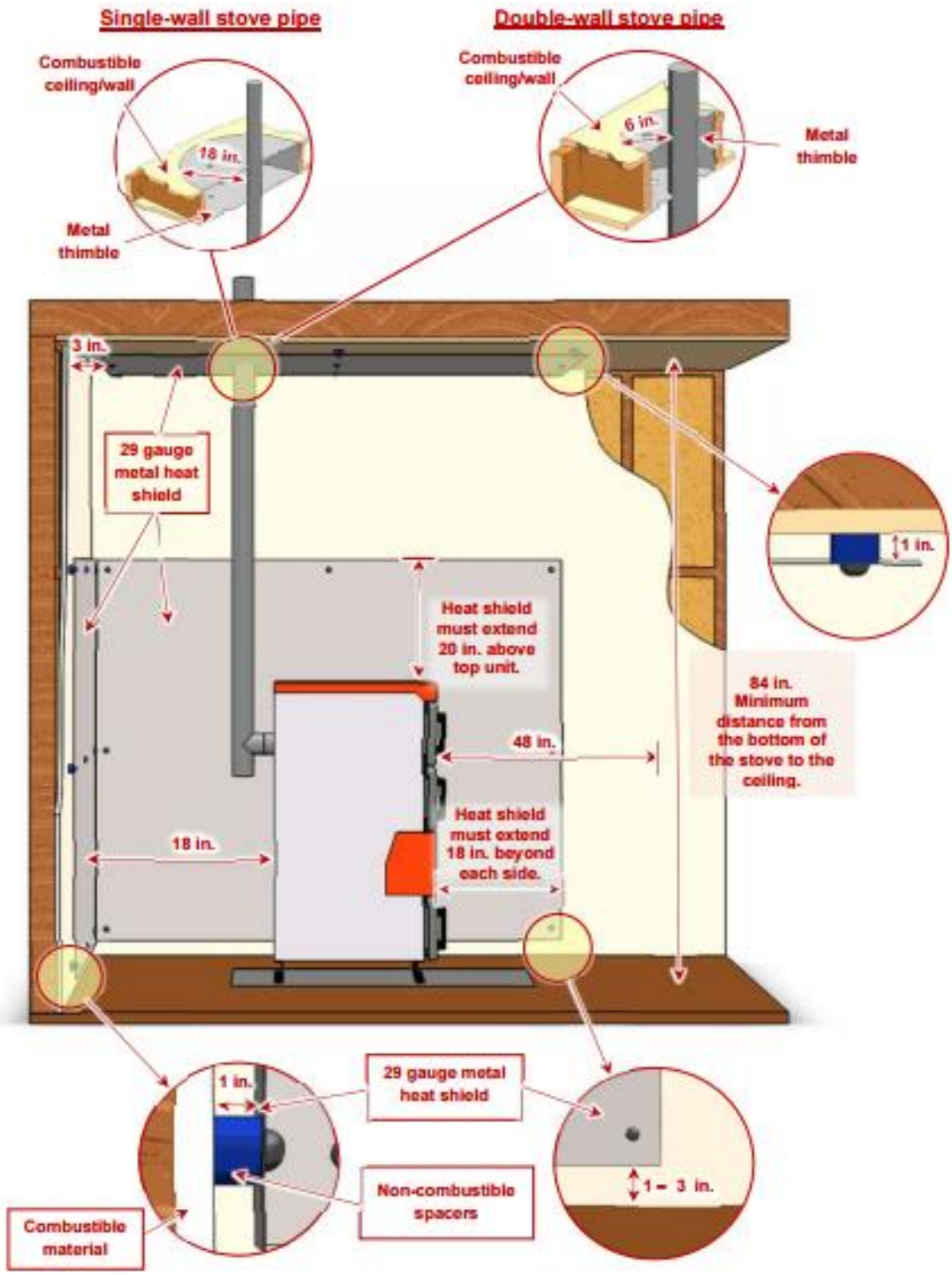
When a properly constructed 29-gauge sheet metal heat shield is installed with a 1 in. (25 mm) air gap, clearances may be reduced under CSA B365 rules.

5.2.1. Heat Shield Construction Requirements

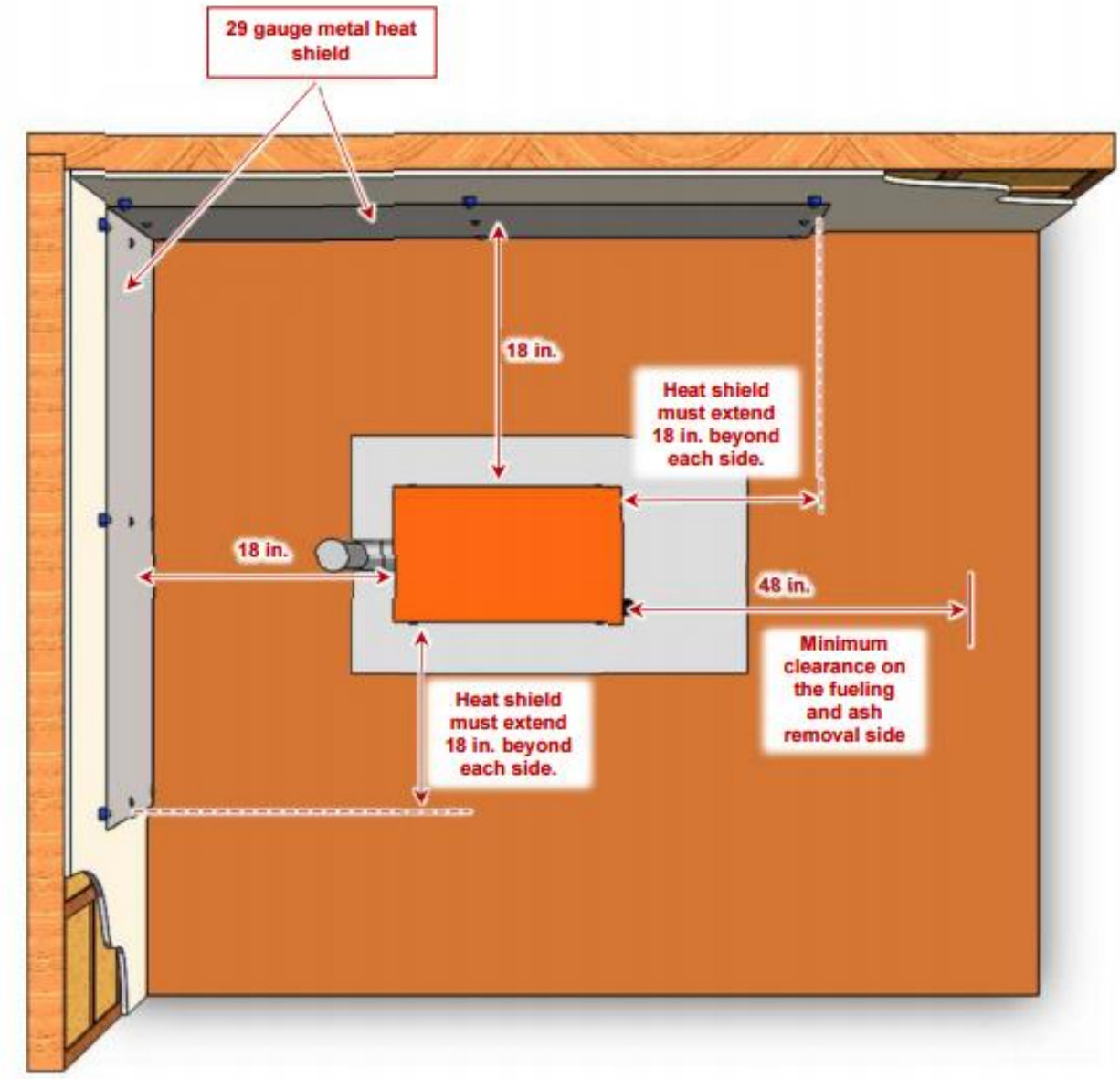
- Minimum air space between shield and wall/ceiling: 1 in. (25 mm).
- Clearance at bottom of shield: 1–3 in. (25–75 mm).
- Clearance at top of shield: minimum 3 in. (75 mm).
- Shield must extend:
- 20 in. (500 mm) above the top of the unit.
- 18 in. (450 mm) beyond each side of the unit.
- Ceiling shields: maintain 3 in. (75 mm) edge clearance.
- Mounting hardware must allow full vertical ventilation and not transfer heat directly to combustibles.

5.2.2. Functional Principle

The heat shield creates a ventilated air space, allowing heat to dissipate before reaching combustible surfaces. This reduces the minimum required clearance safely.



Minimum clearances for uncertified stove with sheet metal jacket or casing (with protection wall)



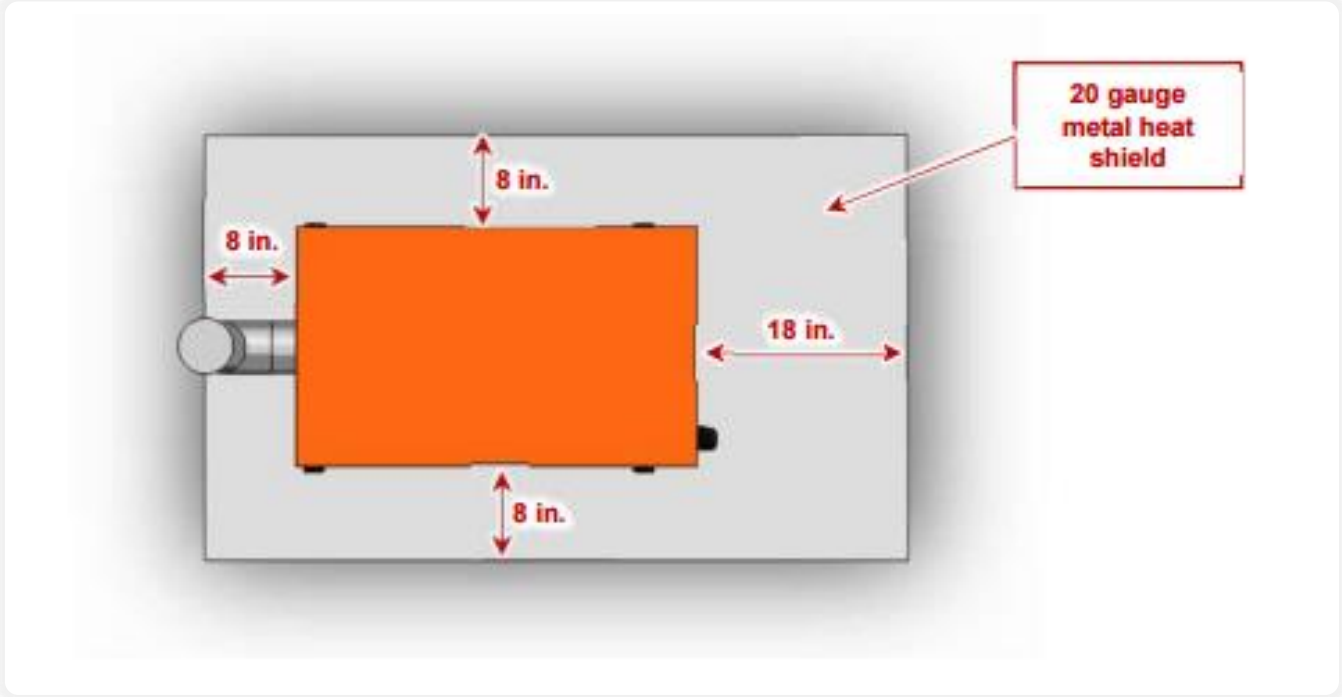
Clearance to Combustible Walls for stove with sheet metal jacket or casing (with Protection Wall)

5.2.3. Floor Protection

Ensuring proper floor protection for uncertified wood stove the floor must be protected with two elements:

A. Floor Pad — Ember Protection

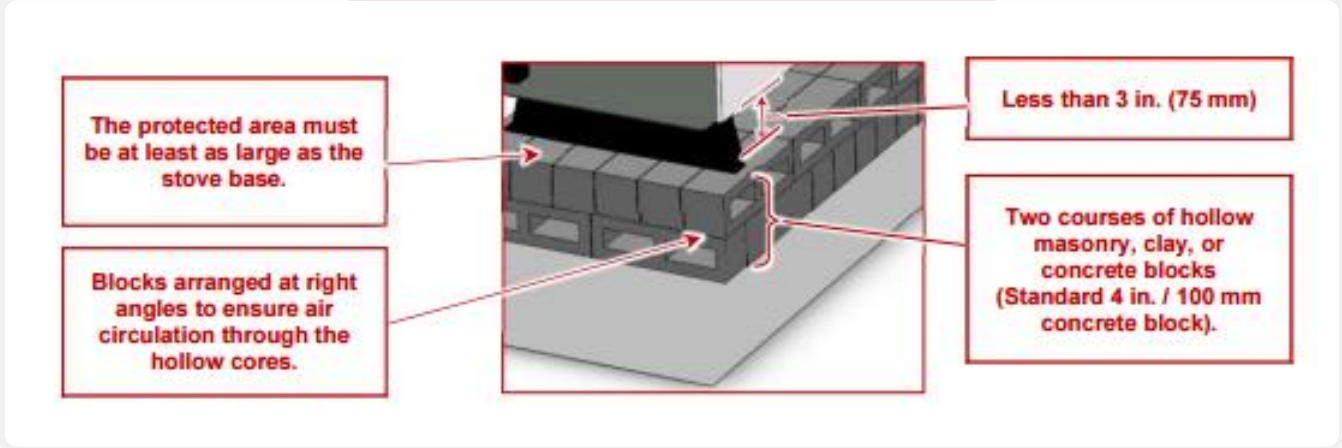
- Use a continuous non-combustible material such as ceramic tile, flagstone, brick, or block.
- Extend the pad 18 in. (450 mm) beyond every side with a loading door and 8 in. (200 mm) beyond all other sides.
- Properly grout or mortar all joints to prevent debris accumulation and maintain a continuous surface.



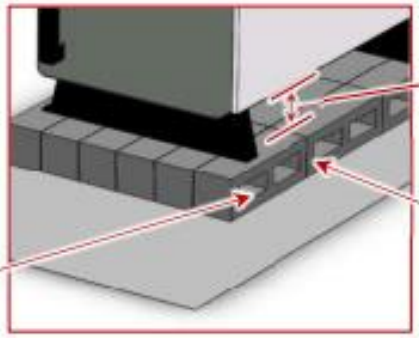
B. Heat Shield or Thermal Protection (Overheating Protection):

Prevents the floor from overheating due to heat radiation from the stove's base. The required construction depends on the clearance between the bottom of the appliance and the floor.

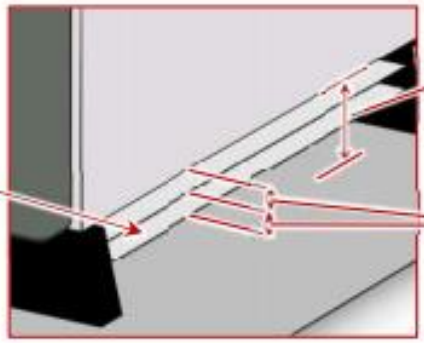
Option 1 – Clearance less than 3 in.



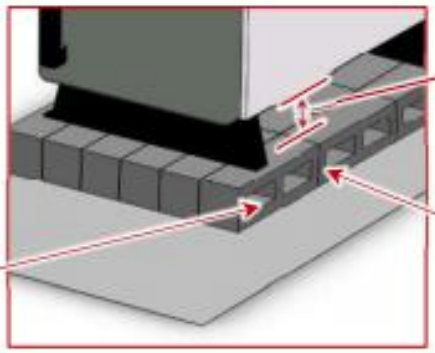
Option 2 – Clearance between 3 in. and 7 in. – Hollow Masonry



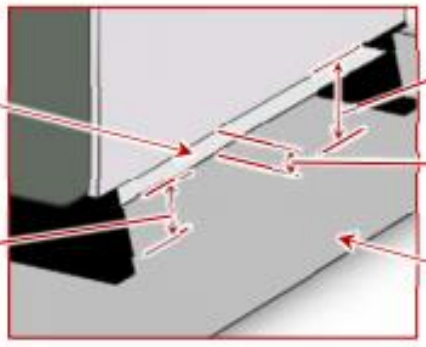
Option 2.1 – Clearance between 3 in. and 7 in. – Metal Plates



Option 3 – Clearance greater than 7 in. – Hollow Masonry



Option 3.1 – Clearance greater than 7 in. – Metal Plates



5.3. Summary

5.3.1. Summary of Clearance and Floor Protection Requirements for boilers with Sheet Metal Jacket or Casing – Burning Units.

REQUIREMENT	WITHOUT WALL PROTECTION	WITH WALL PROTECTION (29-Gauge Metal Heat Shield)	NOTES
Ceiling Clearance	60 in.	84 in. from stove bottom to ceiling	No reduction below 84 in. ceiling height; shield extends 20 in. above stove.
Side / Back Clearance	36 in.	18 in.	Shield extends 20 in. above and 18 in. beyond appliance sides.
Front Clearance	48 in.	48 in.	No reduction permitted.
Single-Wall Stove Pipe	18 in.	18 in.	Must use non-combustible thimble through walls/ceilings.
Double-Wall Stove Pipe	6 in.	6 in.	Certified double-wall Only.
Floor Pad (Ember Protection)	Extend 18 in. in front of loading door and 8 in. on other sides	Extend 18 in. in front of loading door and 8 in. on other sides	Must be continuous non-combustible surface.
Thermal Floor Protection (Overheating Protection)	Required (depends on clearance under stove)	Required (depends on clearance under stove)	Options described below.

5.3.2. Floor Protection Options (Thermal Overheating Protection)

CLEARANCE UNDER STOVE	PROTECTION OPTION	DESCRIPTION
Less than 3 in.	Option 1	Two courses of hollow masonry/concrete blocks (100 mm thick), arranged for airflow
3–7 in.	Option 2	Single course of hollow masonry units with ventilated cores
	Option 2.1	Two sheet metal plates (min. 24 gauge), spaced 1 in. apart
More than 7 in.	Option 3	Single course of hollow masonry units with ventilated cores
	Option 3.1	One permanent sheet metal plate (min. 24 gauge), 2 in. above floor pad and 1 in. below stove bottom

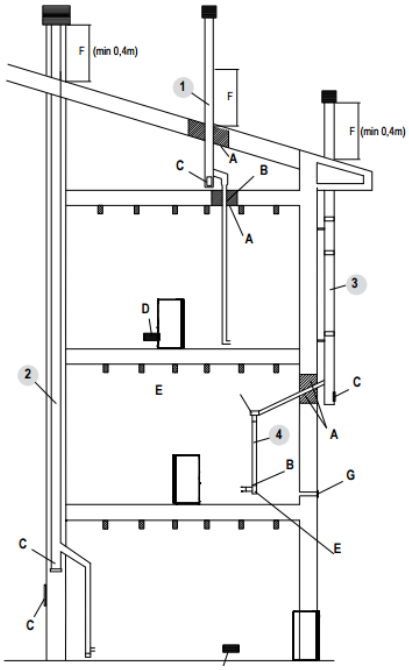
5.4. Installation

The boiler with water jacket operates on the water-heating boiler principle. Heat from the combustion chamber is transferred to remote and difficult-to-reach areas to maintain even temperature and thermal comfort.

- Ensure every branch and element of the installation remains airtight during operation.
- Protect all installation elements from freezing, especially in non-heated premises.
- Clean the pump filter immediately after testing the installation.
- If reusing an old installation, wash it several times to remove accumulated dirt from water-jacket surfaces.
- Do not drain circulating water during the non-heated season.
- Chemical treatment of circulating water is not recommended.
- Fill or unload the system through a hose connected to a faucet at the lowest point.
- An expansion vessel may be installed when constructing a closed system.
- The warranty is invalid if the water jacket swells due to increased pressure or improper connection.
- Check water quality and provide treatment if it is very hard, polluted, or otherwise outside specification.

5.5 Connecting to Chimney

- Option 1 – Flue Through Wall or Ceiling:
- Maintain a minimum 4 in. clearance around the flue where adjacent to non-combustible materials such as concrete or brick.
- Maintain a minimum 11¾ in. clearance around the flue where adjacent to combustible materials such as wood.
- Install suitable insulation between the flue and the ceiling or wall penetration.
- Option 2 – Masonry Chimney: Use a brick or concrete chimney with suitable insulation, a moisture drainage channel, and an accessible cleanout door.
- Option 3 – External Flue: Use double-wall, insulated stainless-steel flue pipe securely fastened to the building. Install a wind-resistant chimney cap.
- Option 4 – Cleanout Access: Use T-fittings at appropriate locations to provide easy access for flue cleaning without removing the pipe sections.



⚠ Warning

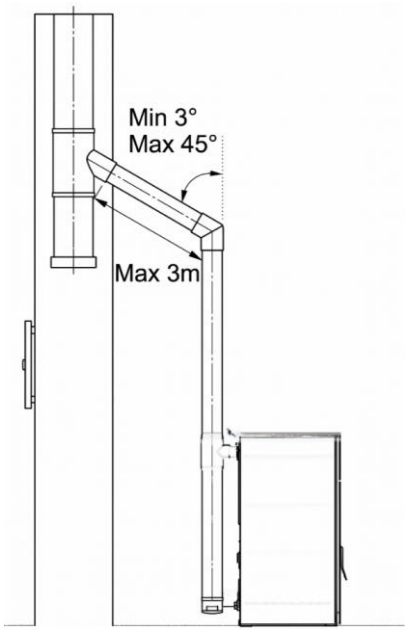
The chimney and the flue pipes must be cleaned and checked regularly depending on the installation and the fuel quality, but no less than once per year before the heating season.

5.5.1 Chimney Draft Requirements

- Maintain a recommended chimney draft of 0.05–0.08 in. w.c. (12–20 Pa) during operation.
- Install a suitable wind-resistant chimney cap to minimize draft fluctuations caused by strong winds.
- Ensure the chimney provides stable and consistent draft

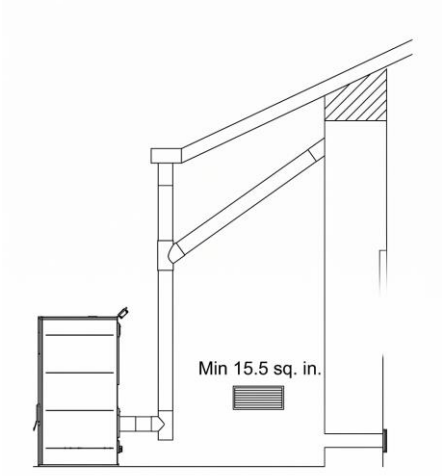
5.5.2 Flue Pipe Installation Requirements

- Use non-combustible, fire-resistant and condensation-resistant flue materials.
- Ensure all flue joints are airtight and properly sealed to prevent condensation.
- Avoid horizontal sections where possible.
- Install horizontal sections with a minimum 3° upward slope.
- Keep horizontal sections as short as possible and no longer than 9 ft.
- Use elbows with a maximum 45° angle for changes in direction.
- Limit the flue system to no more than four direction changes, including T-fittings.
- Insulate flue components installed outside the boiler room.
- Provide suitable access for soot and flue cleaning.
- Maintain a constant flue diameter, changes in diameter are permitted only at the chimney connection.



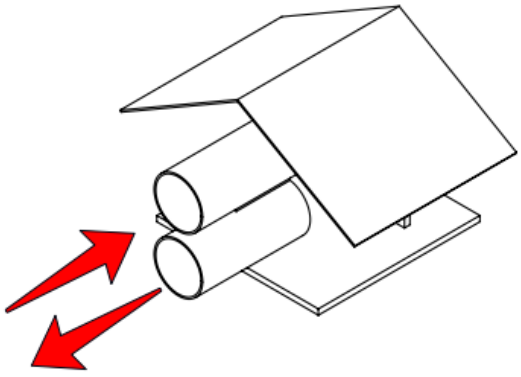
5.6 Air Inlet

Provide a circular combustion-air inlet connected to the outside. The outside air opening must have a minimum free area of 15½ in². Position the inlet appropriately and protect it with a suitable ventilation grille. The boiler may draw combustion air from the installation room only when the room has an adequate outside-air inlet.



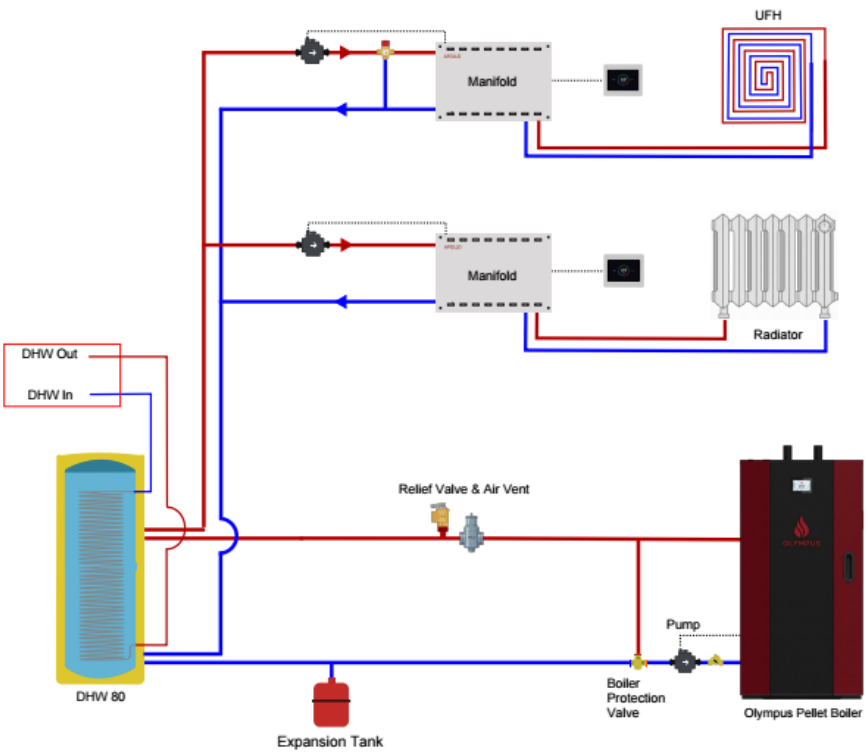
5.7 Connecting to an External Pellet Source

- Install a pellet suction probe at the bottom of the external pellet silo or storage bin.
- Connect the bottom hose to the boiler to convey pellets from the silo to the boiler hopper.
- Connect the top hose as the return air line from the vacuum system.
- The return line circulates the air used by the vacuum turbine while retaining the pellets in the boiler hopper.
- Ensure all pellet and air connections are secure and properly sealed for reliable operation.



5.8 Schematics

OLYMPUS Boiler + DHW + Radiant + Radiator



Material List:

Olympus Pellet Boiler

Apollo Pressure Relief Valve 3/4"

Apollo Air Eliminator 1"

Apollo Radiant Mixing Valve 1"

DHW80

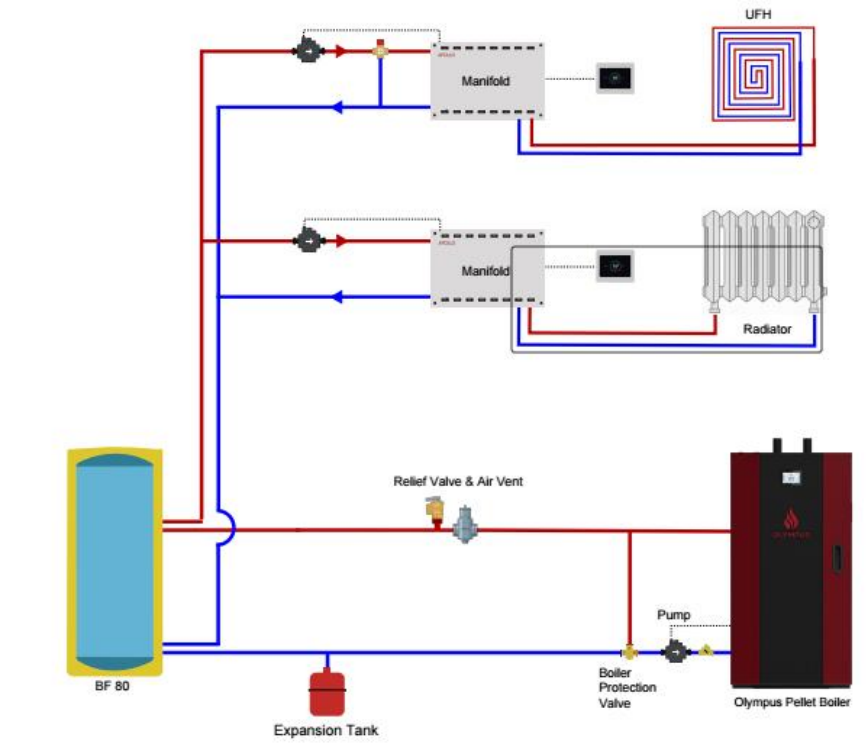
Pump High Efficiency 1"
110VAC x2

Apollo Expansion Tank 9.5 gal

Boiler Protection Valve 1 1/2"

Pump High Efficiency 1 1/4"
220VAC

OLYMPUS Boiler + Buffer + Radiant + Radiator



Material List:

Olympus Pellet Boiler

Apollo Pressure Relief Valve 3/4"

Apollo Air Eliminator 1"

Apollo Radiant Mixing Valve 1"

DHW80

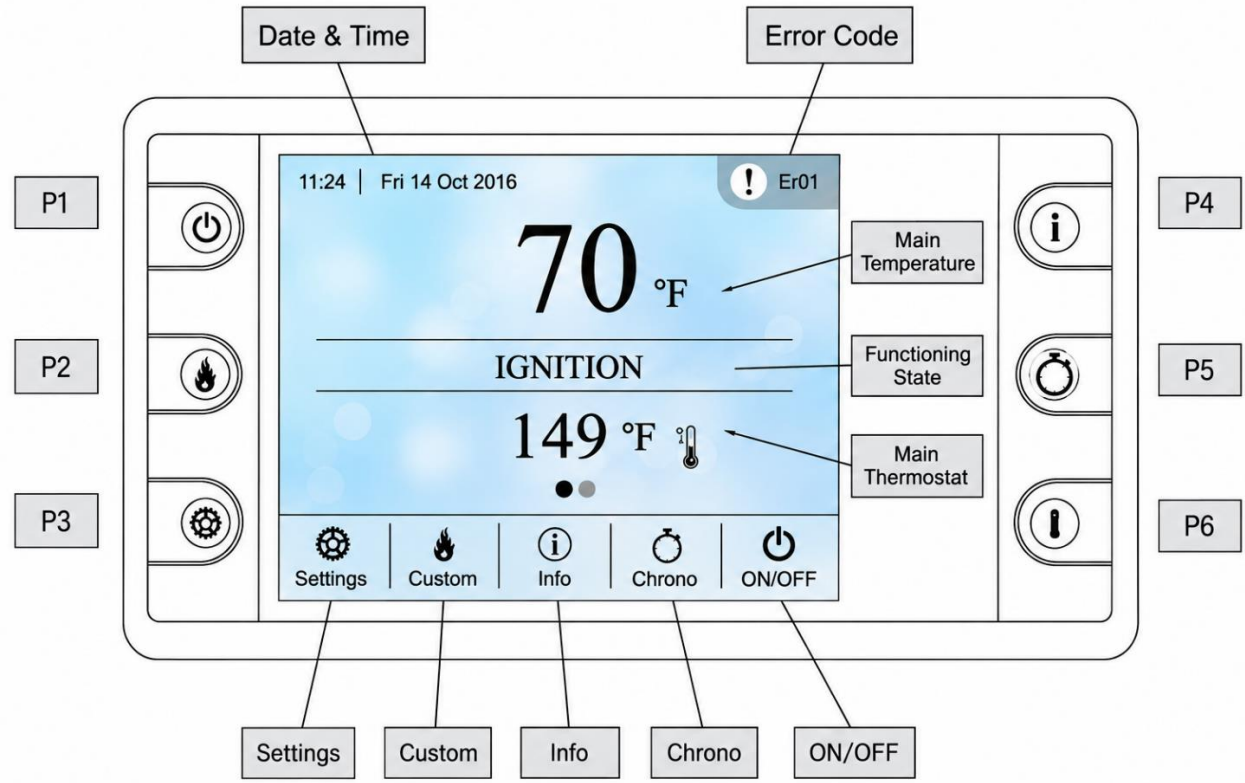
Pump High Efficiency 1"
110VAC x2

Apollo Expansion Tank 9.5 gal

Boiler Protection Valve 1 1/2"

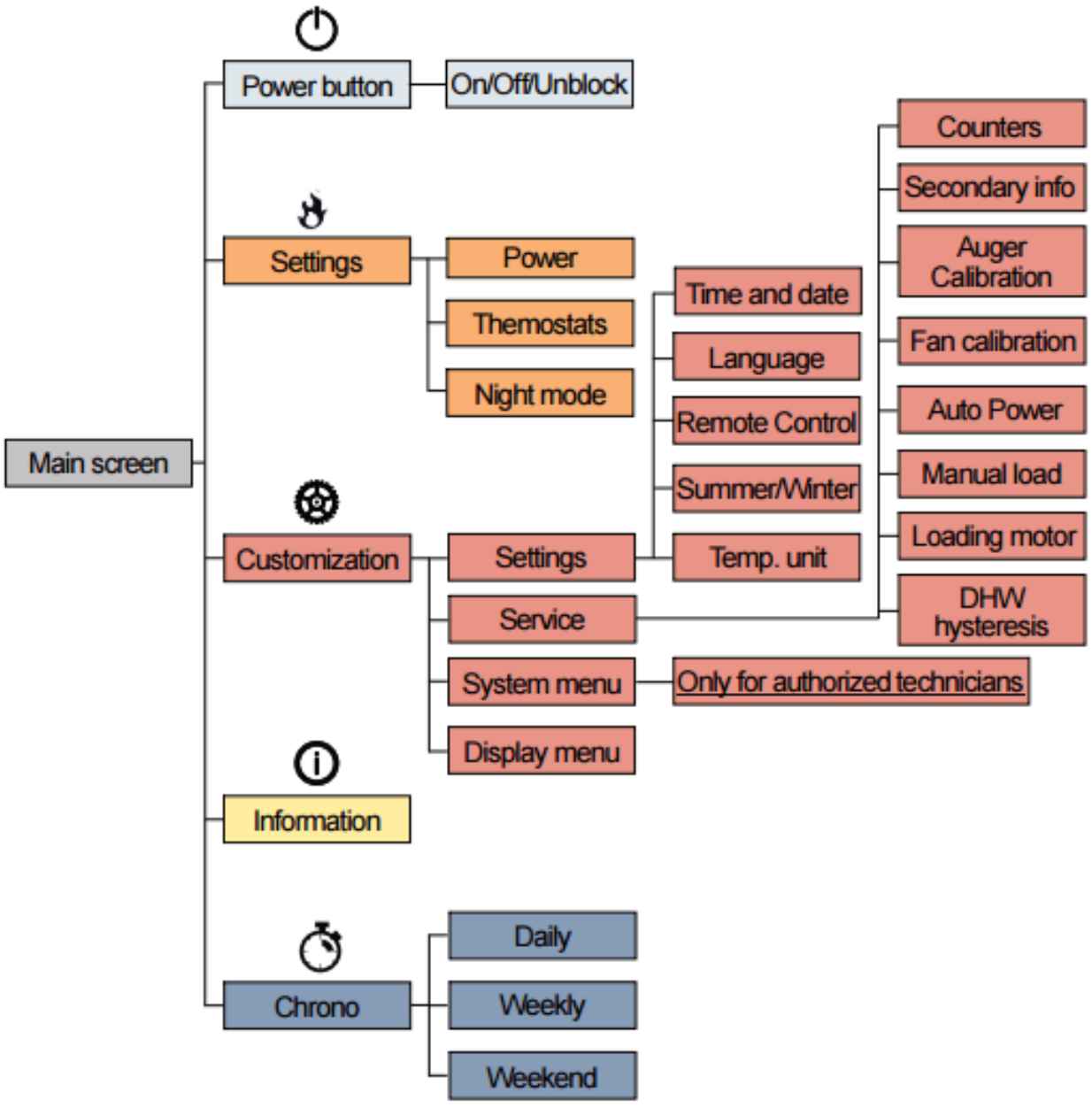
Pump High Efficiency 1 1/4"
220VAC

5.9 Display


Date & Time
Error Code
P1
P2
P3
P4
P5
P6
11:24 | Fri 14 Oct 2016
Er01
70 °F
Main Temperature
IGNITION
Functioning State
149 °F
Main Thermostat
Settings
Custom
Info
Chrono
ON/OFF
Settings
Custom
Info
Chrono
ON/OFF

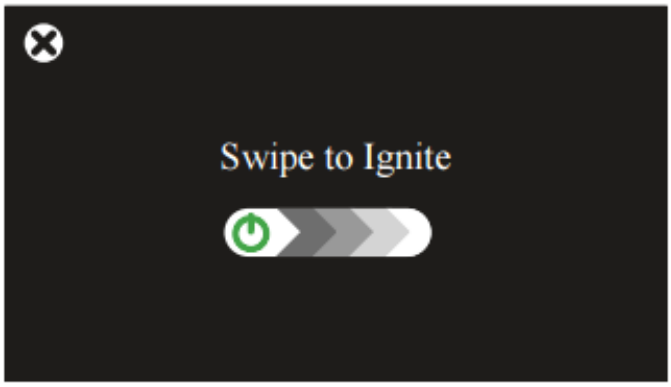

12:18 Fri 14 Oct 2016
Er.01
Pump
Auger 2
Cleaning motor
Heating Resistance
Cleaning motor 6
Cleaning motor 2
External chrono
Room Thermostat
DHW Request
Loading motor 3
Brazier Shutter

5.9.1 Menus and Sub-menus

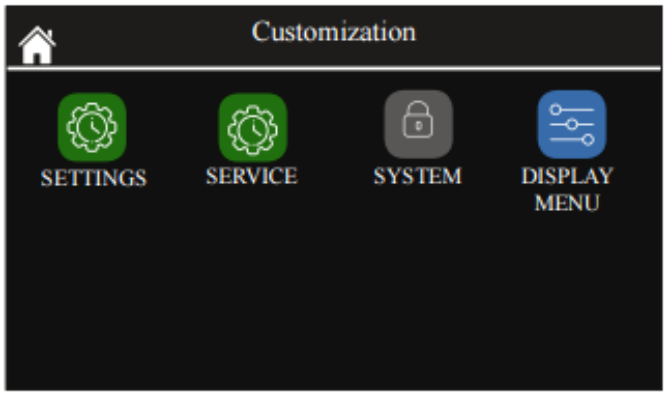
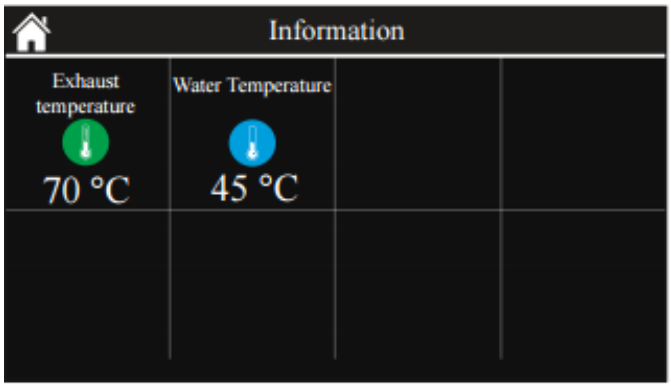


5.9.2 User Menu

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<td>ON/OFF Menu

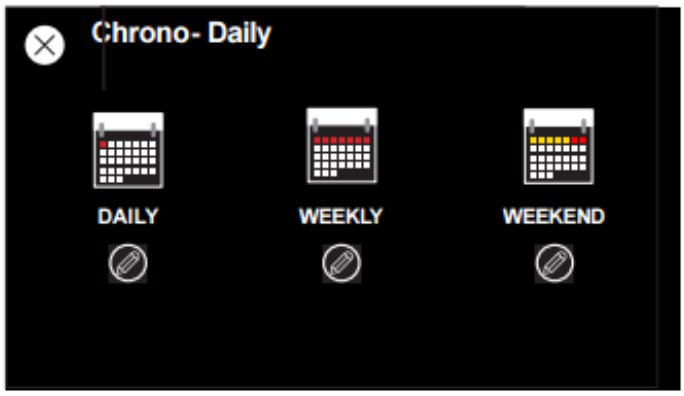
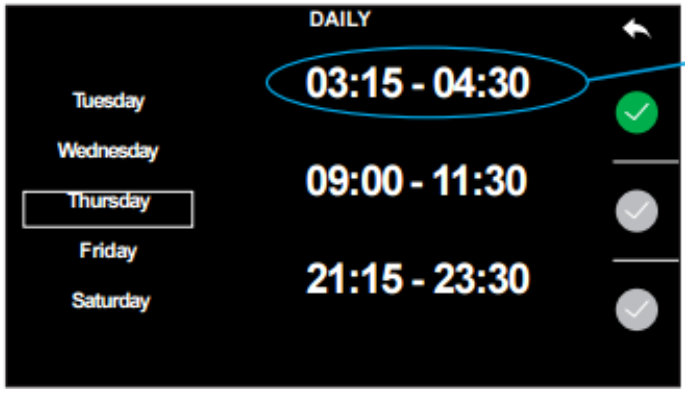
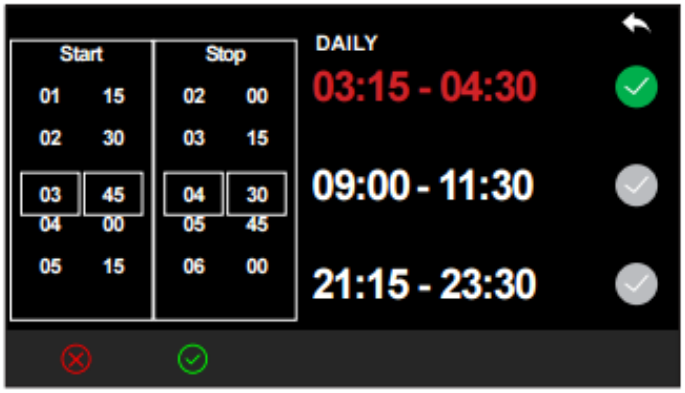
Screen Image:
• System power ON
• System power OFF
• Alarms reset</td>
<td>
</td>
</tr>
<tr>
<td>Settings

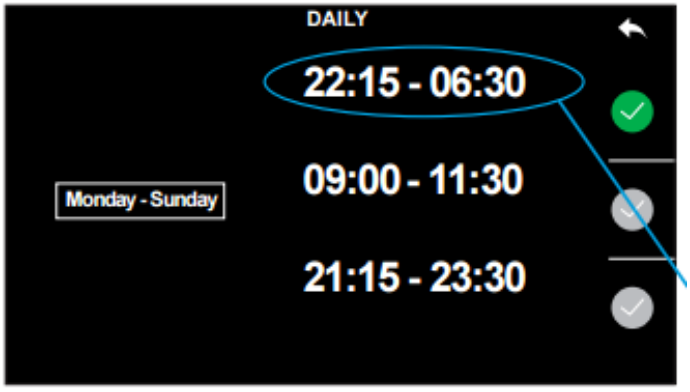
From this screen it is possible to view all the variables for the proper functioning of the heating system.</td>
<td>
</td>
</tr>
<tr>
<td>Customization

In this screen you can view all the variables of the control panel. Furthermore, it is possible to access the SYSTEM MENU which is reserved exclusively for technical personnel.</td>
<td>
</td>
</tr>
<tr>
<td>From this screen it is only possible to display the values of all inputs and outputs.</td>
<td>
</td>
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</table>

5.9.2 User Menu

<table>
<tr>
<td>

To select the desired CHRONO program, press on the respective tabs:
• Daily
• Weekly
• Weekend.
To change the chrono program, press on . If the chrono function is disabled all the tabs are grey.</td>
<td>
</td>
</tr>
<tr>
<td>To edit the time slots, press on the corresponding Frame Time.</td>
<td>
</td>
</tr>
<tr>
<td>Scroll Up or Down to change the System on/off Time.</td>
<td>
</td>
</tr>
<tr>
<td>

Used if the boiler is close to a living quarters and needs to be more silent during a specific time period.</td>
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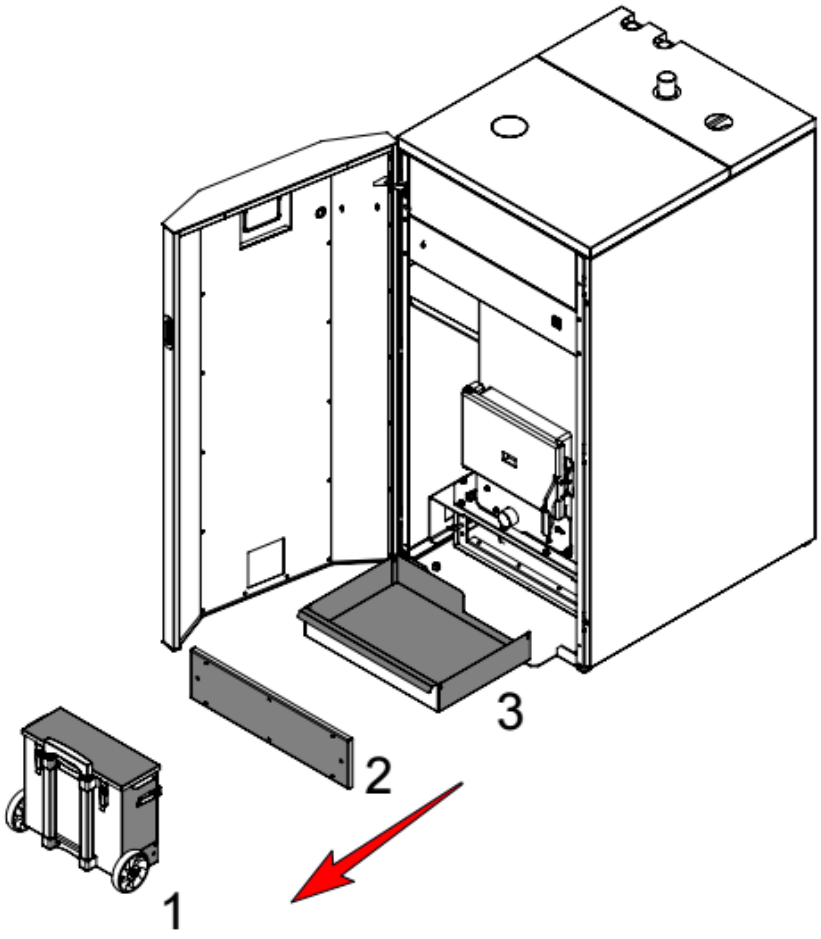
6.0 Cleaning Procedure

⚠ Critical Safety Warning

Before executing any maintenance or cleaning procedures, ensure that the boiler is completely switched off, disconnected from the primary power grid and fully cooled down to ambient room temperature. Always use a specialized ash vacuum cleaner designed for biomass systems, never use a standard household vacuum cleaner.

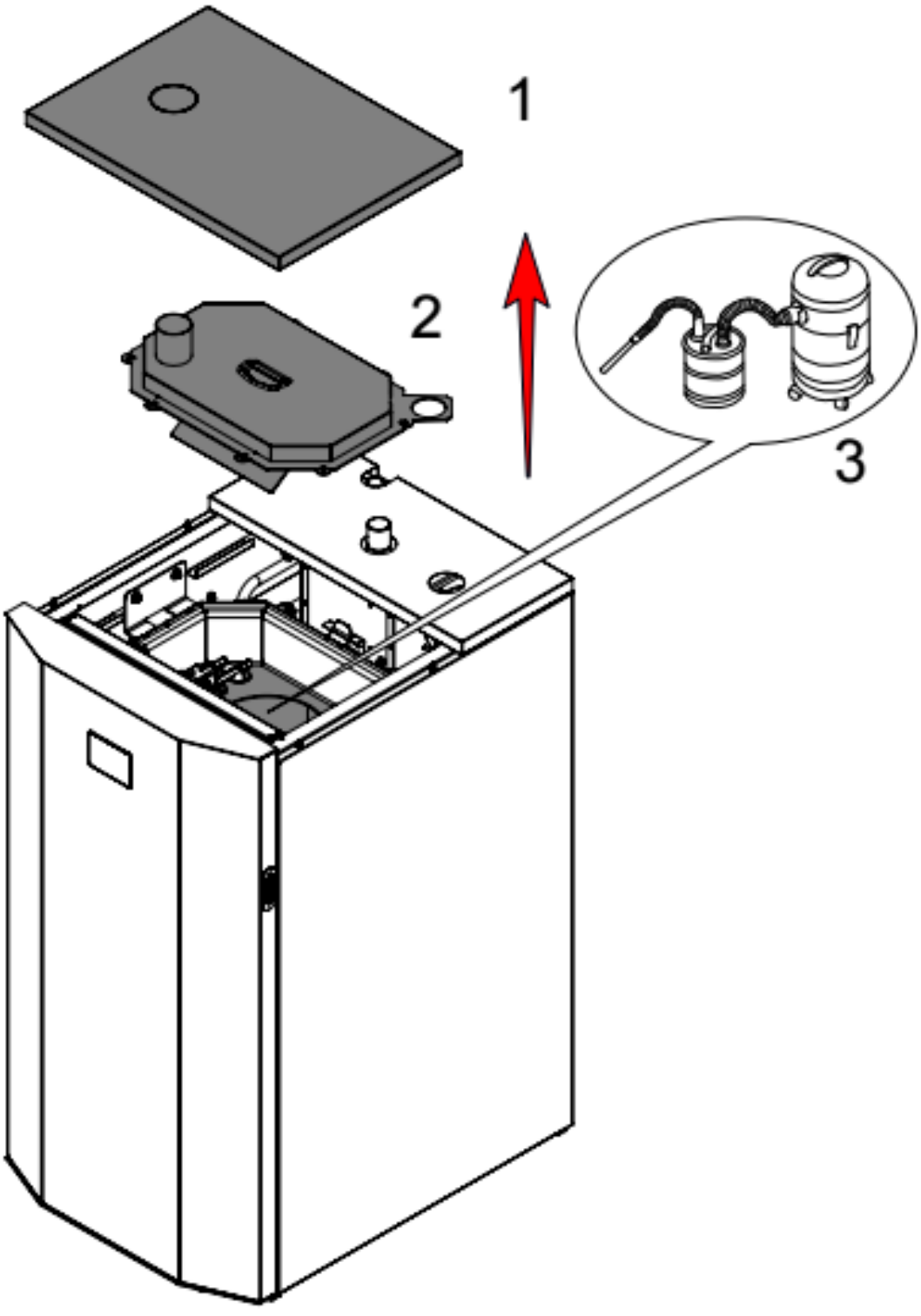
Step 1: Top Cover Removal

Pull out the ash container and empty it. Remove the screws and the cover. Pull out and empty the ash tray at the bottom of the boiler.



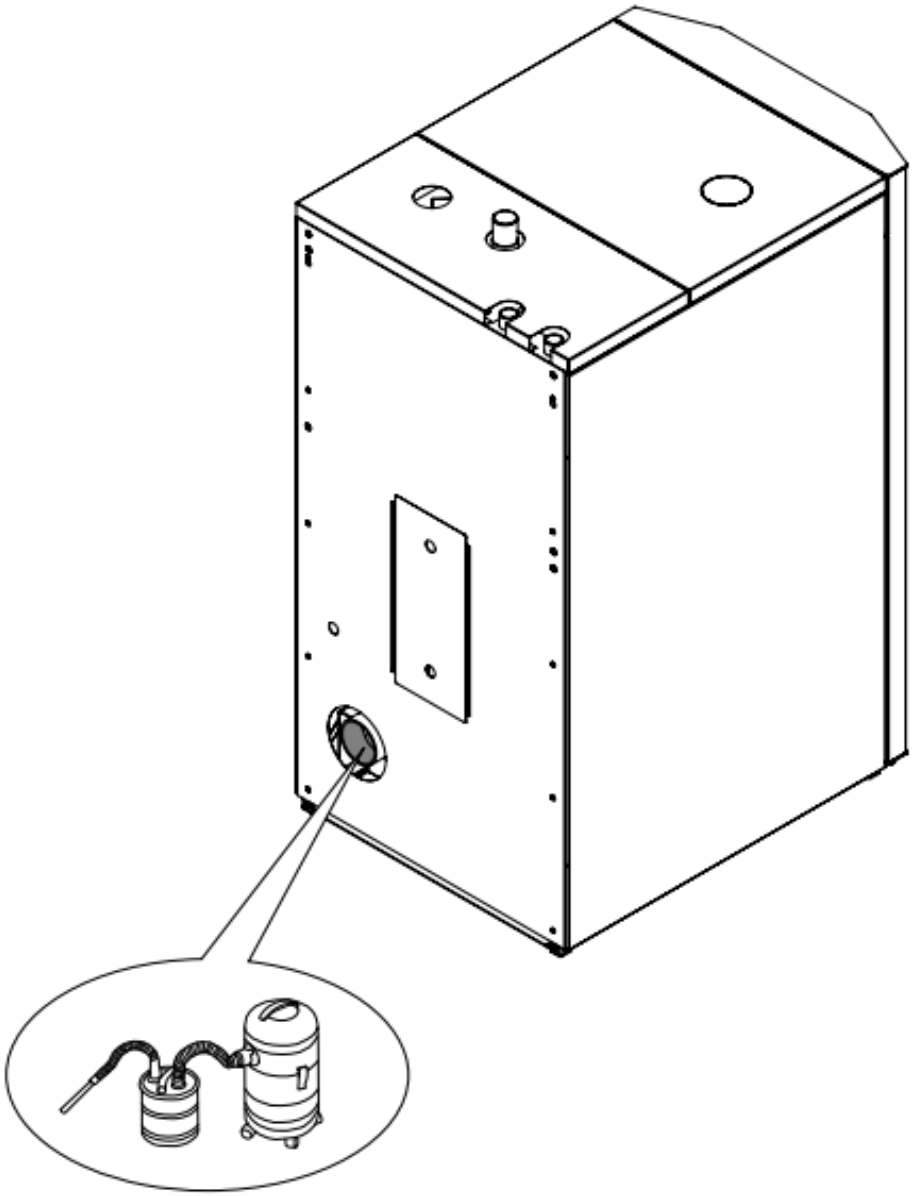
Step 2: Manual Turbulator Scraper Cycle

Remove the top cover. Remove the screws and the top cover of the burning chamber. Use ash vacuum cleaner to clean the turbolators and the burning chamber.



Step 3: Deep Manifold Channel Clearing

Use ash vacuum cleaner to clean the flue gas outlet.



STEP	EVERY 3300 LB. OF FUEL	ONCE PER YEAR
1	X	
2		X
2		X

7.0 Troubleshooting Guide

ERROR CODE	REASON	SOLUTION
Er01 High voltage error1	The temperature of the water is above the maximum for safety.	Boier will automatically turn off. Wait for it and check the water pump for malfunction. Check water safety protection and reboot it by pressing it. This error will not disappear or let you start the product before that.
Er02 High voltage error2	High temperature in the pellet hopper caused by poorly cleaned fire pot, sensor malfunction or backfire to the fuel bunker by any reason.	Fallow the cleaning procedure described in this manual and check for stuck fuel. If the error continues contact your technician.
Er03 Low flue gases temperature	Poor quality pellets, lack of pellets in the hopper, wet pellets.	Check the quantity and quality of the pellets. Check the fuel pot for clogging and the fuel bunker for dust.
Er04 High water temperature in the water jacket	Pressure drop in the installation. Circulation pump malfunction. Badly vented installation.	Check the system for leaks. Check the circulation pump. Check if there is something blocking the air inlet at the room.
Er05 High flue gas temperature	Uncleaned boiler. Sensor malfunction.	Fallow the cleaning procedure described in this manual. If this does not help contact your technician.
Er07 Encoder error	Encoder does not receive signal or fan failure. Broken encoder.	Check the fan cable for damage. Try to disconnect and connect the fan cable.
Er08 Encoder fan error. Fan speed control failed.	The fan cannot reach the set speed. Defective fan. Problem with the electronics. Low voltage of the power grid.	Check the fan cable for damage. Try to disconnect and connect to power grid.
Er09 Low system pressure	The pressure in the system is lower than the minimum for normal exploitation.	Check the water level in the system. Check for leaks.
Er10 High system pressure	The pressure in the system is higher than the maximum for normal exploitation.	Check the system.

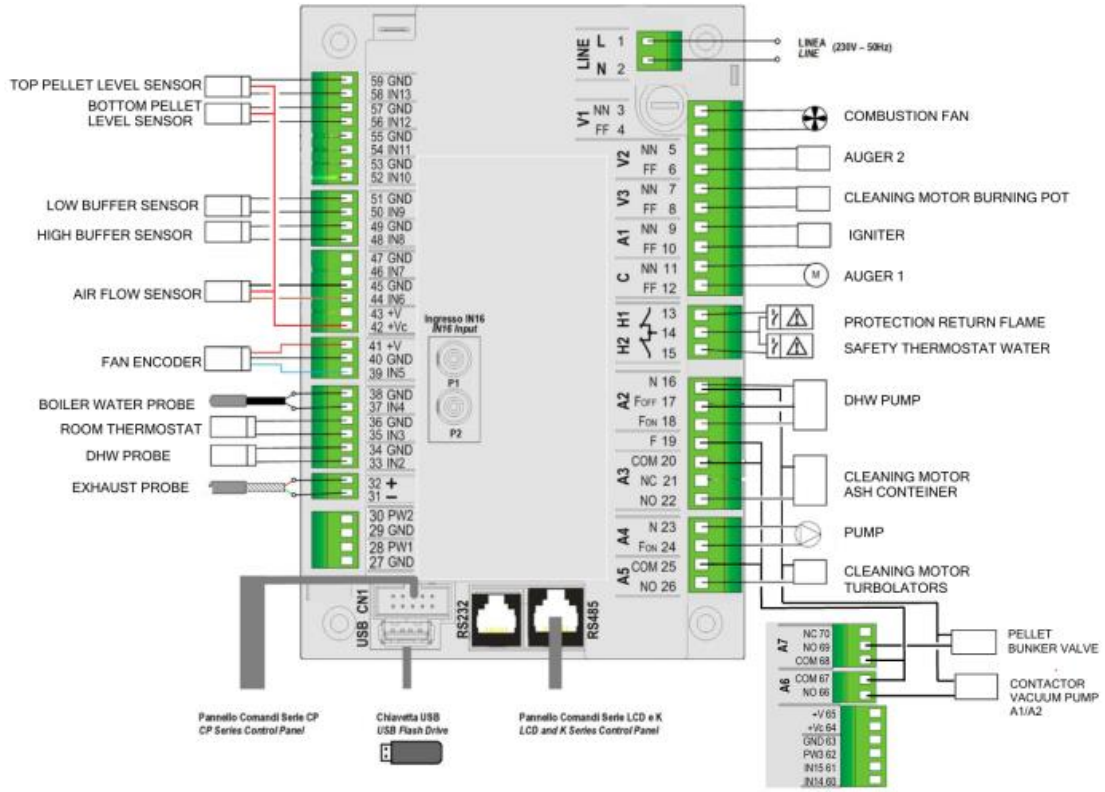
ERROR CODE	REASON	SOLUTION
Er11 Electronics get wrong data.	Due to a power failure the clock and date are not correct. Failure in the electronics.	Set the time and date correctly.
Er12 Ignition failed.	Igniter malfunction. Lack of pellets. Uncleaned fuel pot. Need of adjustment.	Visual inspection of the burning pot during start. Check the pellets quantity and if there is something blocking their way going down. Fallow the cleaning procedure described in this manual for the fuel pot.
Er15 No power supply	Power failure during operation.	Clear the error and check if the pot is clean to continue the work process.
Er16 Error RS485 Communication connection	Faulty connection of the control board with the display or damaged cable between them.	Check the plug and the cables between the control board and the display.
Er23 Water temperature sensor.	Some of the temperature sensors of the stove or buffer is malfunctioning.	Check the sensors are in order. Check their connection to the board.
Er41 Minimum airflow.	Open door. Uncleaned boiler. Blocked or missing draft in the chimney.	Check the door and the seal on it. Fallow the cleaning procedures described in this manual.
Er42 Maximum airflow reached	High pressure in the chimney.	Check the airflow sensor and the fresh air pipe. Please avoid to connect the fresh air pipe to exterior without a proper cap in the end.

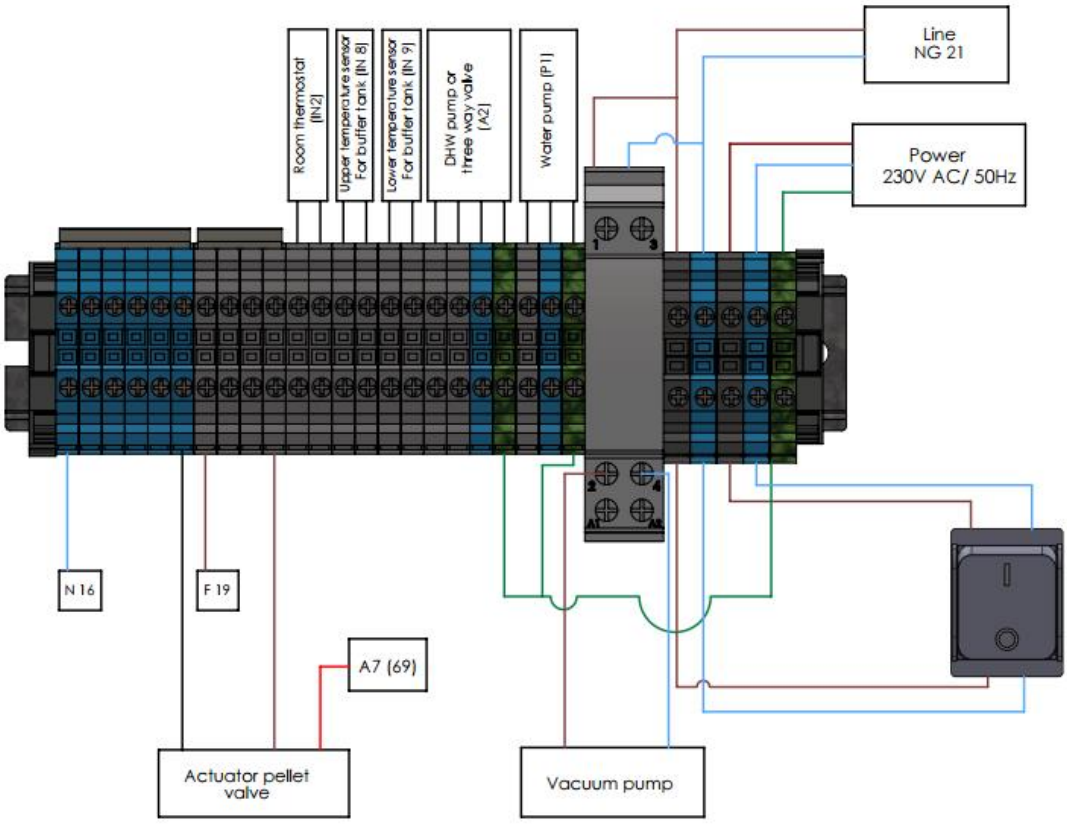
7.1 Alarms

With any error the system goes into Block.

DESCRIPTION	Code
	LCD and K
Safety Thermostat Intervention HV1: signaling even when the stove is off.	Er01
Intervention of the Safety Pressure Switch HV2: signalling with Combustion Fan On.	Er02
Extinguishing for exhaust flue gas temperature decrease.	Er03
Extinguishing for water over temperature.	Er04
Extinguishing for exhaust flue gas over temperature.	Er05
Pellet Thermostat open (backdraft in the brazier).	Er06
Combustion Fan Encoder: lack of Encoder signal (if P25 = 1 or 2).	Er07
Combustion Fan Encoder: failed speed regulation (if P25 = 1 or 2).	Er08
Low water pressure (the error is not reported if the system is in Off or Block state and P1 Pump is Off).	Er09
Water over pressure.	Er10
Date/Time values are not correct due to a continuous lack of voltage power supply.	Er11
Failed Ignition.	Er12
Lack of voltage.	Er15
Communication Error RS485.	Er16
Failed Air Regulation.	Er17
Lack of fuel.	Er18
Boiler Probe or DHW/Buffer tank Probe open.	Er23
Cleaning Motor broken.	Er25
Flow meter broken.	Er39
Min air flow in Check Up (FL20) or in Run mode and Modulation (FL19) not reached.	Er41
Max Air Flow overreached (FL40).	Er42
Door Error.	Er44
Auger Encoder: lack of Encoder signal (if P81 = 1 or 2).	Er47
Auger Encoder: failed speed regulation (if P81 = 1 or 2).	Er48
Service Error. It reports the achievement of the planned operation hours in the 'Maintenance 1' function (parameter T66). It is necessary to call for service.	Service Er40

8.0 Control Board Wiring Diagram





APOLLO

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