

# **OIMMERGAS**

LUXOR V2 16 - 20 - 24 - 28 - 33

Pellet boiler



# INDEX

General information	
Loading the pellet tank	6
Pellet.	6
Instructions for safe and efficient use	
Safety devices	8
Technical features and dimensions	0
LUXOR 16 V2 boiler dimensions.	
LUXOR 20-24 V2 boiler dimensions	
LUXOR 28-33 V2 boiler dimensions	
LUXOR 16-33 V2 boiler technical data	
LUXOK 10-33 V 2 boller technical data	12
Installation	13
Positioning and limitations	13
Boiler room	
Flue exhaust duct connection	
Draught regulator kit (Optional)	14
Foreword	
Flue	
Technical features	16
Dimensioning	16
Maintenance	
Chimney pot	
Chimney components	
Connection to the flue	
Examples of correct installation	
Hydraulic connection	19
Residual head graphics	22
Filling the boiler	
Assembling the control panel	23
Configuration of the boiler hydraulic diagram	24
Control unit wiring diagram	
Boiler ignition	
Control panel	
Ignition	32
Information on display	
• •	
Inspections and maintenance	34
Alarm signal	
Programming menu	
Menu 03 Set Crono	
Faults with electrical devices	
Troubleshooting	
Mechanical or electronic faults	
Faults in connection with the hydraulic system	
Boiler maintenance and cleaning with cast iron brazier	44
Boiler maintenance and cleaning for all models	
Product fiche (in compliance with Regulation 1187/2015/UE).	49



# GENERAL INFORMATION

#### Dear Customer,

whilst thanking you for purchasing one of our boilers, we would like to remind you that pellet boilers are the most innovative central heating solution that is the result of highly advanced technology with top quality processing and a simple and elegant design that is adapted to any technical room, making the environment cosy that is only obtained by the welcoming heat of a flame.

The boilers, which operate exclusively with wood pellets having a maximum diameter of 6mm, are equipped with a vertical pipe heat exchanger.

The boilers convey heat to your system with thermal power that is adjusted according to the technical room to heat: just manually set the water temperature of the central heating system, recommended  $65 \, ^{\circ}\text{C} - 70 \, ^{\circ}\text{C}$ .

The boilers have been provided with sophisticated automatisms and control and safety systems that guarantee efficient and practical operation.

During first ignitions of the boiler, the vapours emitted by the paint may cause a bad smell due to hardening. Therefore, it is advisable to air the room well in order to prevent prolonged persistence in front of the boiler.

IT IS prohibited to install the appliance in bedrooms or areas having explosive environments.



### ATTENTION:

this warning symbol located in various points of this booklet indicates that the message it refers to must be read carefully and understood, since failure to follow what is written can cause serious damage to the boiler and endanger the user.



#### INFORMATION:

this symbol is used to highlight important information for proper boiler operation. Failure to comply with the provisions will compromise use of the boiler and operation will be unsatisfactory.

Installation and maintenance must be carried out by qualified staff in compliance with the laws in force in this regard and pursuant to the instructions of the Manufacturer.

The Manufacturer shall not be held liable in any way should installation be carried out by unqualified people and for failure to comply with the general warnings and installation instructions.

This manual is an integral part of the product: make sure it always accompanies the appliance, even if it is transferred to a new owner or user or the boiler is transferred to a new place. If it is lost, please ask the manufacturer for another copy.

Before installing, using and carrying out maintenance on the product, you must read these instructions carefully.

The technical installer must provide you with the relative instructions before proceeding with first ignition.

This boiler must only be used for its explicitly intended use. Therefore, all liability for any harm to people and/or animals or damage to property caused by improper use of the product will be borne by the user.

The entire range of products is manufactured according to the following directives and regulations:

2014/30 EU (EMCD Directive), 2006/42/EC, 2014/35 EU (Low Voltage Directive), 2011/65/EU; EN 61000-6-2; EN 61000-6-3; EN 60335-1; EN 60335-2-102; EN 62233; EN 50581; EN 303:5-2012

After removing the packaging, make sure the contents are intact and complete. Should there be a discrepancy, contact your boiler's dealer.

Before installing the appliance, it is recommended to wash the system's pipes accurately in order to remove any residues that could stop the appliance from running efficiently.

It the boiler is not used for long periods of time, it is recommended to do the following:

- disconnect the plug from the mains power supply
- close the heat system and DHW water valves
- if there is a risk of freezing, empty the heating and DHW system.



Extraordinary maintenance of the boiler must be carried out at least once a year. This maintenance must be duly programmed with the Technical Support Service, and is the Customer's responsibility.

For safety reasons, it is advisable to remember that:

- during normal product operation, the flame's door must always remain closed
- always keep the combustion tank cover closed
- it is not recommended for children or disabled people to use the boiler unsupervised
- do not touch the boiler barefoot and/or with wet or moist parts of the body
- avoid direct contact with parts of the appliance that tend to overheat during normal operation
- the handle to clean the boiler must always be used when the boiler is cool
- it is forbidden to modify the safety or adjustment devices without authorisation or instructions from the manufacturer
- do not pull, detach, or twist electrical cables that come out from the boiler, even if they are disconnected from the mains power supply
- it is recommended to position the power supply cable in such a way as to avoid contact with hot parts of the appliance
- the power supply plug must always be accessible after installation
- do not block or reduce the combustion air piping, which is essential for correct combustion
- keep packaging parts away from unsupervised children or disabled people
- for any problems, contact your dealer or qualified and authorised staff, and in case of repairs, always request original spare parts
- periodically check and clean the flue exhaust ducts
- an accumulation of unburnt pellets in the burner after failed ignitions must be removed before proceeding with new ignition
- do not use any flammable liquids for ignition
- do not bring the pellet bag into contact with the boiler when filling the pellet tank
- make sure the electric system is suitable
- all local and national laws and European Standards must be complied with when installing and using the appliance
- this appliance must not be used as a waste disposal incinerator and must not be used with different combustion other than pellets
- keep the pellets and flammable materials at a safe distance

In the event of a fire, disconnect electric power supply, use a compliant extinguisher and, if necessary, call the Fire Department. Then contact the Authorised Service Centre.

#### Responsibility

We decline all liability, both civil and criminal, for accidents caused by partial or total failure to comply with the instructions herein.

We decline all liability caused by improper use of the boiler, improper use by the user, unauthorised modifications and/or repairs, and use of non-original spare parts for this model. The manufacturer declines all liability, both civil or criminal, direct or indirect, due to:

- Poor maintenance;
- Failure to comply with the instructions in the manual;
- Use that does not comply with the safety directives;
- Installation that does not comply with the country's regulations in force;
- Installation by unqualified or untrained staff;
- Modification and repairs that are not authorised by the manufacturer;
- Use of non-original spare parts;
- Exceptional events.



# GENERAL INFORMATION



- Only use wood pellets;
- Keep/store the pellets in dry places without humidity;
- Never pour pellets directly onto the brazier;
- The boiler must only be fed with high quality pellets having a 6mm diameter, as per type recommended by the manufacturer;
- The exhaust pipes must be connected to the chimney before electrically connecting the boiler;
- The protection grid situated inside the pellet tank must never be removed;
- The technical room where the boiler is installed must have sufficient air exchange;
- IT IS forbidden to operate the boiler with the door open or with the glass broken;
- Do not use the boiler as an incinerator. The boiler must only be used for its intended purpose. Any other use must be considered improper and therefore dangerous. Do not put any objects into the tank other than wood pellets;
- The surfaces, glass, handle and pipes overheat when the boiler is on: during operation, these parts must be touched with care and with adequate protection;
- Keep fuel and any flammable materials at a safe distance from the boiler.

# Loading the pellet tank

The fuel must be loaded from the upper part of the boiler, opening the door, while the boiler is off.

To facilitate the procedure, complete the operation in two stages:

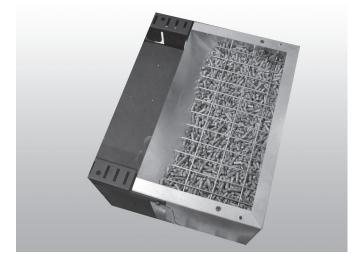
- Pour half the contents into the tank and wait for the pellets to deposit at the bottom;
- Complete the operation by pouring the second half;
- Always keep the cover of the fuel tank closed after loading the pellets;

Since it is a central heating product, the boiler has very hot outer surfaces. For this reason, maximum caution is recommended during operation, in particular:

- Do not touch the flue exhaust;
- Do not carry out any type of cleaning;
- Do not discharge the ashes;
- Do not open the ash drawer;
- Keep children away;



Do not remove the protection grid inside the tank. When loading, do not let the pellet bag come into contact with hot surfaces.



# Pellet

Use of poor quality pellets or other unsuitable materials may damage certain components of the boiler and compromise its correct operation: this may terminate the warranty and free the manufacturer of any liability.

Our boilers must be used with 6mm diameter, 30 mm long pellets having maximum 6% humidity. Store the pellets away from sources of heat, and not in humid areas or explosive environments.

It is recommended to use EN PLUS A1 certified pellets according to ISO 17225-2





# Instructions for safe and efficient use

- The LUXOR V2 range is certified as a boiler pursuant to regulation UNI 303-5 /2012. Its correct use provides for a duly sized Puffer. Therefore, for optimal operation, the boiler must be coupled to a puffer having a minimum volume of 20 litres/kW.
- The device can be used by children at least 8 years old as well as by persons with reduced physical, sensory or mental capabilities, or lack of experience or required knowledge, provided that they are under surveillance, or after they have been instructed relating to the safe use and have understood the potential dangers. Children must not play with the appliance. Cleaning and maintenance destined to be performed by the user cannot be carried out by children.
- Do not use the boiler as a ladder or support structure;
- Do not dry laundry on the boiler. Any clothes rack or similar device must be kept at a safe distance from the boiler
   Fire hazard;
- Carefully explain to old and/or disabled people, and especially all children, that the boiler is made up of material subject to high temperatures, and they must thus be kept away during operation;
- Never touch the boiler with wet hands; this is an electric appliance. Always disconnect the cable before intervening on the unit;
- The door must always be closed during operation;

- The boiler must be electrically connected to a system provided with an earth cable, in accordance with the regulations in force;
- The system must be duly sized according to the boiler's declared electrical power;
- Do not wash the inner parts of the boiler with water.
   Water may damage the electric insulation, causing electric shocks;
- The pellet boiler is not a cooking device;
- The external surfaces may become very hot during operation. Do not touch them unless you are wearing specific protection;
- The appliance's power supply cable plug must only be connected after installing and assembling the appliance, and must remain accessible after installation. It must also be connected to a suitable and accessible bipolar switch.
- Make sure that the electric cables do not come into contact with hot surfaces.



7

# Safety devices



Flue pressure switch: check the pressure in the flue pipe. This blocks the pellet loading auger if the discharge is obstructed or there are significant backpressures, for example, in case of wind, an open combustion chamber door or flue extractor fault. When the pressure switch is triggered, "AL8 MANCA DEPRES" will be displayed.



Gearmotor: if the gearmotor stops due to a "AL8 MAN-CA DEPRES" or "AL7 SICUREZ TERMICA" warning, the boiler continues to operate until the flame goes out as a result of no fuel and until it reaches the minimum cooling level.



Flue temperature probe: this thermocouple detects the flue temperature, maintaining operation or stopping the boiler when the flue gas temperature rises above the pre-set value.



Electric safety: the boiler is protected against sudden current fluctuations (e.g. lightening) by a main 4 A fuse that is found in the control panel situated at the back of the boiler close to the power supply cable. The electronic boards are also protected with other fuses.



Manual reset safety thermostat for the water temperature: if the water temperature exceeds the safety value set at 100 °C, boiler operation stops immediately and the screen will display "AL7 SICUREZ TERMICA". To restart it, you must reset the thermostat manually.



Water temperature probe: if the water temperature approaches the blocking temperature (100 °C), the probe stops the supply of pellets.



Automatic vent valve: this valve discharges air inside the boiler.



Safety valve: this valve intervenes to prevent hydraulic system overpressure.

If boiler or system pressure exceeds 2.5 bar, it discharges water from the circuit.

Attention!

The appliance's manufacturer shall not be held liable for any flooding caused by the triggered safety valve if it has not been correctly fitted outside the product to a suitable collection and discharge system.

**Antifreeze function:** if the probe installed inside the boiler detects water temperature below 5 °C, it automatically enables the circulation pump in order to prevent system freezing.

**Pump anti-block function:** in case of prolonged inactivity of the pump, it is enabled for 10 seconds at regular intervals in order to prevent it from blocking.

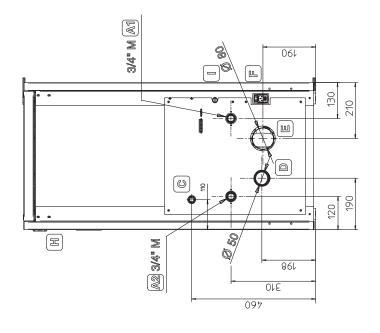
The product is classified as rapid disconnection since it has passed the tests provided for by regulation EN 303-5 Chap. 5.14.

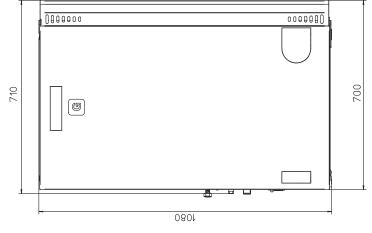


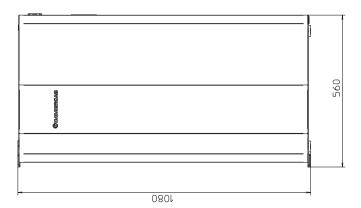
IT IS forbidden to tamper with the safety devices. You must first eliminate the cause that triggered the safety device before it is possible to ignite the boiler and thus restore operation. Refer to the chapter regarding the alarms in order to understand how to interpret each alarm that may appear on the boiler's display.

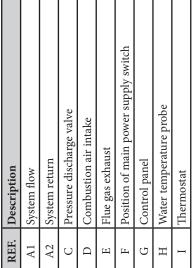


# LUXOR 16 V2 boiler dimensions

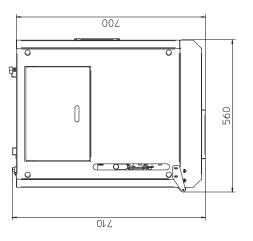




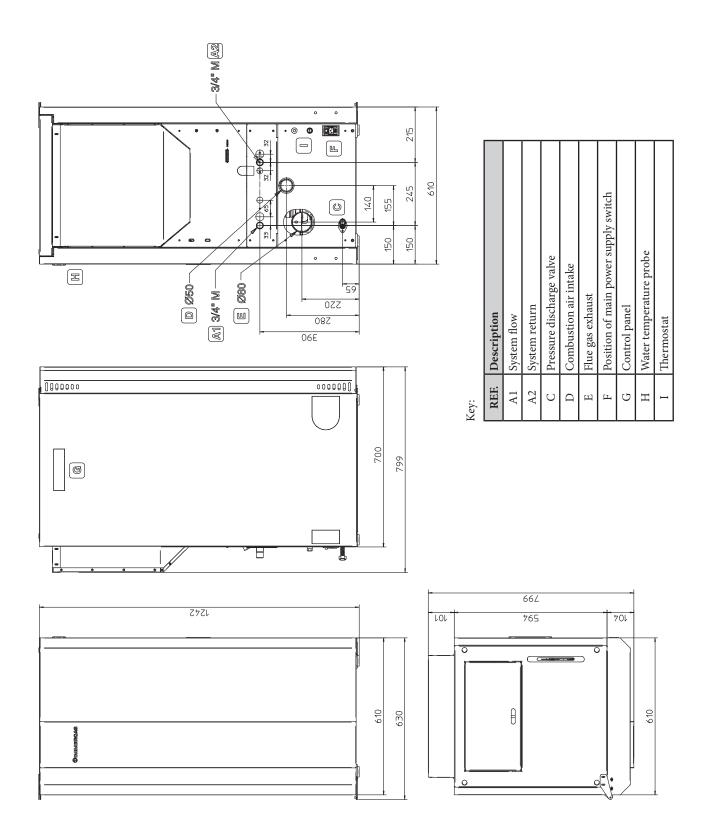




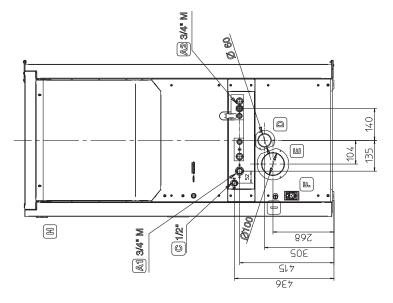


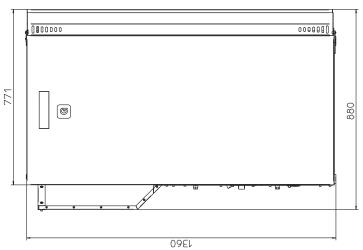


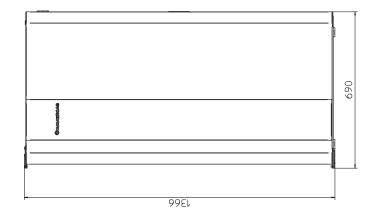
# LUXOR 20-24 V2 boiler dimensions

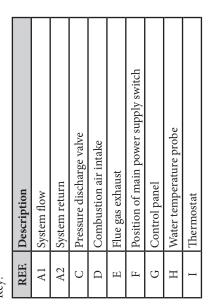


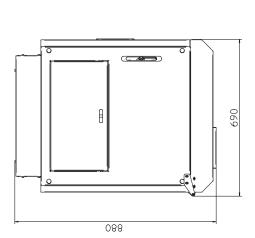
# LUXOR 28-33 V2 boiler dimensions













11

# LUXOR 16-33 V2 boiler technical data

Models	UM	LUXOR 16 V2	LUXOR 20 V2	LUXOR 24 V2	LUXOR 28 V2	LUXOR 33 V2
NOMINAL HEAT INPUT	kW	15.10	19	23	27.1	31.5
NOMINAL WATER HEAT OUTPUT (max min.)	kW	13.8 - 4.1	17.5 - 5.2	21 - 6.3	25 - 6.3	29 - 6.3
EFFICIENCY CLASS		A+	A+	A+	A+	A+
EFFICIENCY (Pmax.)	%	91.2	92.1	91.1	92.2	92.1
PELLET CONSUMPTION (Pmin Pmax.)	kg/h	0.9 - 3.30	1.2 - 3.9	1.4 - 4.7	1.4 - 5.5	1.4 - 6.4
PELLET TANK CAPACITY	l/kg	70 / 46	92 / 60	92 / 60	123 / 80	123 / 80
OPERATION AT MINIMUM / NOMINAL POWER	h	50 - 14	44 - 15.5	42.8 - 12.8	56 - 14.5	56 - 12
FLUE GAS TEMPERATURE (Pmax - Pmin)	ာ့	96.1 - 52	90.5 - 56.6	96.1 - 58.7	114.4 - 63.8	124 - 63.8
MASS FLUE GAS FLOW RATE (Pmax - Pmin)	s/8	9.4 - 3.3	10.4 - 4.7	12.9 – 4.7	15.8 – 4.8	16.9 – 4.8
MINIMUM RECOMMENDED DRAUGHT	Pa	8 - 15	8 - 15	8 - 15	8 - 15	8 - 15
VOLUME THAT CAN BE HEATED (data referred to well insulated areas)	m <sup>3</sup>	290	380	430	540	620
MAXIMUM OPERATING PRESSURE	bar	2.5	2.5	2.5	2.5	2.5
WATER CONTENT	litres	31	50	50.5	09	61
ELECTRIC POWER SUPPLY	V/hz	220 / 50	220 / 50	220 / 50	220 / 50	220 / 50
SPEED / IGNITION ABSORBED POWER	M	34 / 330	35 / 250	35 / 250	36 / 250	36 / 250
FLUE EXHAUST PIPE MM	mm	80	80	80	100	100
EXPANSION VESSEL CAPACITY	litres	8	8	8	8	8
DIMENSIONS (HxLxD)	mm	1080x560x710	1242x630x799	1242x630x799	1366x690x880	1366x690x880
WEIGHT	kg	158	240	241	290	292
MAXIMUM/MINIMUM CO EMISSIONS (at 10% O <sub>2</sub> )	mg/m³	77 / 486	19.3 / 245	26.7 / 245	23.9 / 228.2	33 / 228.2
MINIMUM SYSTEM RETURN TEMPERATURE	O.	56	55	55	56	56
NOISE LEVEL ACCORDING TO EN15036-1	dB	35	36	36	38	38
BOILER CLASS according to EN 303-5:2012		5	5	5	5	5
ENVIRONMENTAL CLASSIFICATION according to Decree 7/11/17 186	stars	4	4	4	4	4
RECOMMENDED HEAT STORAGE TANK VOLUME: 20 litres/kW						
OPERATION WITH REGARD TO FLUE EXHAUST: NEGATIVE PRESSURE	ESSURE					



### POSITIONING AND LIMITATIONS

For all information and any further clarifications, refer to the local national regulations in force.

The minimum volume of the room where to install the appliance is indicated by the manufacturer and, however, it is greater than  $15~\text{m}^3$ .

Check that the room floor is suitable to withstand the weight of the boiler.

In the event of simultaneous installation with other central heating appliances, provide for suitable air inlets for each of them (according to the instructions of each product).



It is not permitted to install the product:

- in areas that have appliances supplied with liquid fuel with continuous or discontinuous operation that take combustion air from the room in which they are installed, or;
- in areas where type B gas appliances are installed to heat the rooms, with or without production of domestic hot water, and in adjacent or communicating rooms, or;
- in areas in which the measured operating negative pressure between the external and internal technical room exceeds 4 Pa.

It is forbidden to position the product in bedrooms, bathrooms, garages and, in general, in places with a fire risk.

### **BOILER ROOM**

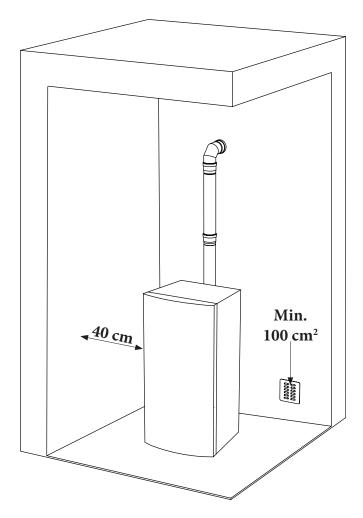
Check that the room meets the requirements and characteristics of regulations in force. Also, the room must at least provide as much airflow as required for regular combustion. Therefore, it is required to provide openings on the walls in the room that meet the following requirements:

Have a minimum free section of 6 cm² for every 1 kW (859.64 kcal/h). The minimum section of the opening must not be less than 100 cm². The section can be calculated by using the following:

 $S = K * Q \ge 100 \text{ cm}^2$ 

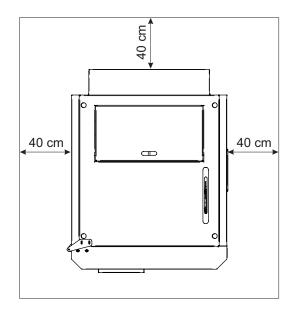
Where "S" is expressed in cm<sup>2</sup>, "Q" in kW, "K" =  $6 \text{ cm}^2/\text{kW}$ 

The opening must be situated in the bottom part of an external wall, preferably on the opposite side of the combustion gas exhaust.



Distance from objects

The boiler must be installed in such a way that it can be inspected from all sides. Therefore, you must respect a minimum distance of 40 cm at the back and sides. It is also recommended to keep the pellets and flammable materials at a safe distance.





# Installation

Objects or parts that are heat sensitive or flammable cannot be stored in contact with the product; these objects must be kept at a minimum front distance of 80 cm from the outermost design point of the product.

#### FLUE EXHAUST DUCT CONNECTION

When making the hole to pass the flue exhaust pipe, you must take the presence of any flammable materials into consideration. If the hole must pass through a wall made of wood or thermolabile material, **the INSTALLER MUST** first use the special wall fitting (minimum 13 cm diam.) and adequately insulate the product's pipe that passes through it using suitable insulating materials (1.3 - 5 cm thick with min. heat conductivity of 0.07 W/m°K).

The same minimum distance must also be respected if the product's pipe must cover vertical or horizontal sections that are close to the thermolabile wall.

In outer sections, it is recommended to use a pipe with a double insulated wall to prevent the onset of condensate.

The combustion chamber operates in negative pressure.

### DRAUGHT REGULATOR KIT (Optional)

The draught regulator constantly compensates for possible draught variations inside the

flue due to outdoor atmospheric conditions.

If the draught inside the flue increases excessively, the oscillating valve (adjustable) opens and air penetrates into the flue from the heated room.

The negative pressure (draught) in the boiler remains constant, thus ensuring perfect combustion.

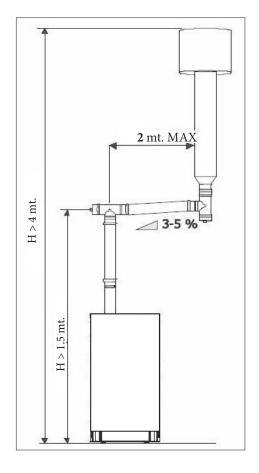
The draught regulator is a device that must be installed next to the generator on the flue exhaust pipe.

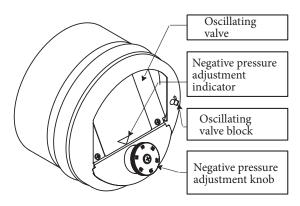
The device is equipped with an oscillating valve that can be calibrated according to the negative pressure values.

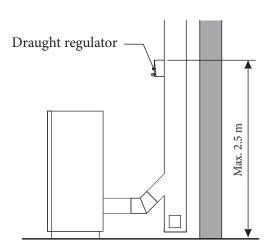
Calibration is adjusted in order to maintain a constant negative pressure ratio.

If the calibrated value is exceeded due to strong negative pressure, the oscillating value opens due to negative pressure channelled in the chimney, reducing excess draught.

It is recommended to install the draught regulator in flue sections that exceed 10 metres.









#### **FOREWORD**

This chapter regarding the Flue was drawn up in accordance with the provisions of European regulations (EN13384 - EN1443 - EN1856 - EN1457).

It provides certain information regarding adequate, correct installation of the flue, but must in no way replace the regulations in force, which the qualified manufacturer must possess. Check the local authorities for any restrictive regulations that concern the combustion air inlet, flue exhaust system, flue, and chimney pot.

The Company declines any liability regarding boiler malfunction if attributable to a wrongly sized flue that does not comply with regulations in force.

#### **FLUE**

A qualified technician must check the flue's efficiency.

The flue or chimney is very important for correct operation of a central heating appliance for solid fuels.

Therefore, it is important that the flue is up to standard and is always kept in perfect efficiency.

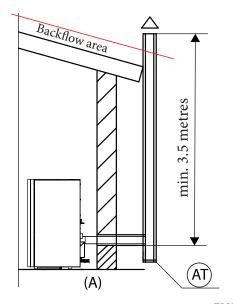
A flue that services a pellet boiler must have minimum category T400 and must withstand soot fire.

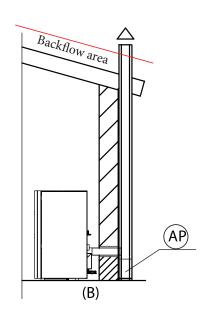
Flue gas exhaust must be conveyed on a single flue with insulated steel pipes (a) or on an existing flue that complies with the intended use (B).

A simple cement shaft must be duly ducted with the relative pipe operating with negative pressure.

Both solutions require an inspection cap (AT) and/or a small inspection door (AP) and a suitable collecting device for any condensate - refer to the figure.

It is forbidden to connect several pellet devices or any other type of device (vent hoods...) to the same flue.





FLUE



# Installation

#### **TECHNICAL FEATURES**

The flue that services a pellet device must meet the following requirements:

- be made with materials that can withstand mechanical stress, heat, action of combustion products and their condensate over time.
- be made with waterproof materials against flue gas, condensate, thermally insulated and suitable to withstand normal mechanical stress over time
- have a vertical performance with axis deviations not exceeding 45° and without constrictions
- Must be suitable for specific operating conditions of the product and provided with CE marking (EN1856-1, EN1443).
- Be sized correctly in order to meet the flue gas draught/ disposal required to regulate product operation (EN13384-1)

- Be adequately insulated to prevent condensate and reduce the effect of flue cooling.
- Must be minimum category T400 and withstand soot fire. In particular, it is recommended to check the data plate of the flue (according to EN1856-1, EN1443) for the safety distances that must be respected in the presence of or passing through of combustion materials and the type of insulating material to use. These provisions must be strictly complied with in order to prevent serious harm to one's health and safeguard the integrity of the building.

The chimney's opening must be in the same room in which the appliance is installed or, at most, in the adjacent room, and to install a soot and condensate collection chamber under the opening, which can be accessed from the metal sealed door.

#### **DIMENSIONING**

The negative pressure (draught) of a flue also depends on its height.

Use suitable tools to check that draught is between 8 Pa and 15 Pa.

The internal section of the flue can be round (it is the best), square or rectangle (the ratio between the internal sides must be  $\leq$ 1.5) with the sides connected with a minimum 20 mm radius.

The sections/lengths of the chimneys listed in the technical data table are indications for correct installation. Any alternative configurations must be correctly dimensioned according to the general calculation method regarding UNI EN13384-1 or other approved efficiency methods.

Below are a few examples of flues available on the market:



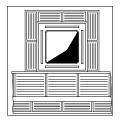
AISI 316 steel chimney with double insulated chamber with ceramic fibre or equivalent resistance up to 400°C.

VERY GOOD



Refractory chimney with double insulating chamber and external sleeve in lightweight concrete made from a clay type of honeycomb material.

GOOD



Traditional square clay chimney with empty insulating inserts.

with internal rectangular sections whose ratio between the largest and smallest side is greater than 1.5 (e.g. 20x40 or 15x30).

Avoid chimneys

**AVERAGE** 

**POOR** 



### **MAINTENANCE**

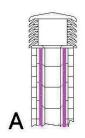
The flue must always be clean since unburnt soot or oil deposits reduce the section and block the draught, thus compromising proper operation of the boiler and, if in large quantities, may catch fire.

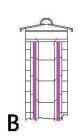
It is compulsory to clean and check the flue and chimney pot by a qualified chimney sweep at least once a year. After the inspection/maintenance, ask the technician to leave a written report stating the system is safe.

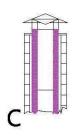
Failure to clean the appliance will compromise the system's safety.

#### **CHIMNEY POT**

The chimney pot is a vital element for the heating appliance to operate well: it is recommended to have a windbreaker (A) type of chimney pot.



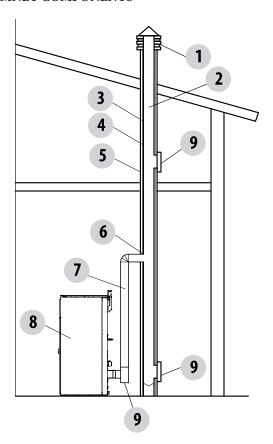




The area provided for flue gas exhaust openings must be minimum double the section of the flue/dusted pipe and adjusted in such a way that flue exhaust is ensured, even if windy.

It must prevent rain, snow and any animals from entering. The atmosphere outlet height must be outside the backflow area caused by the shape of the roof and any obstacles nearby.

# **CHIMNEY COMPONENTS**



Key:

REF.	Description
1	Chimney pot
2	Outflow route
3	Flue pipe
4	Thermal insulation
5	External wall
6	Chimney fitting
7	Flue duct
8	Heat generator
9	Inspection door



17

# Installation

### CONNECTION TO THE FLUE

Connection between the appliance and the flue must be made with a flue duct compliant with EN 1856-2. The connection section must be maximum 2 m long horizontally, with a minimum slope of 3% and with a maximum number of three 90°C curves (that can be inspected - the appliance's T fitting outlet must not be calculated).

The diameter of the flue duct must be equal to or greater than the appliance's outlet.

Use flue ducts with silicon gaskets or similar sealing devices that can withstand the appliance's operating temperatures (min T400 class P1).

It is forbidden to use metal flexible pipes made of cement fibre or aluminium. For changes in direction, it is recommended to always use a T fitting with an inspection cap, which facilitates regular cleaning of the pipes.

Always make sure that the inspection caps are closed and sealed with their relative gasket intact after cleaning.

It is forbidden to connect the same flue duct to multiple appliances, or with discharge from overhead hoods. It is forbidden to install the combustion product's exhaust directed to the wall, or towards closed spaces and open air.

The flue duct must be minimum 400 mm away from flammable construction or heat sensitive elements.

In particular, it is recommended to check the flue's data plate for the safety distances to respect in the presence of combustion materials and the type of insulating material to use. These provisions must be strictly complied with in order to prevent serious harm to one's health and safeguard the integrity of the building.

# **EXAMPLES OF CORRECT INSTALLATION**

- 1. Installation of a Ø150mm flue with boring in order to pass a pipe increased by:
  - minimum 100mm around the pipe, if connecting with non-flammable parts such as cement, bricks, etc.; or minimum 300mm around the pipe (or as provided on the data plate), if connecting with flammable parts such as

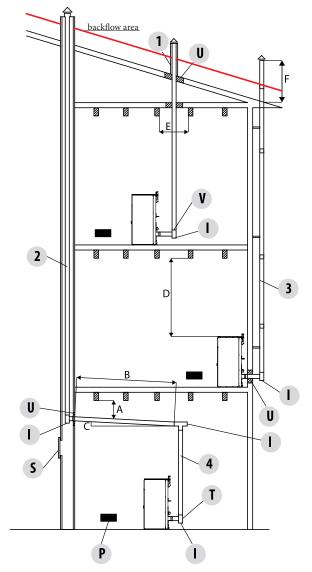
wood, etc.

In both cases, insert suitable insulation between the flue and the floor.

It is recommended to check and respect the information on the flue's data plate, especially the safety distances from combustible materials.

The aforesaid rules also apply for holes made on the wall.

- 2. Old flue, minimum Ø150mm ducting with an external door to clean the chimney.
- 3. External flue made exclusively of stainless steel insulated pipes, meaning with a minimum Ø150mm double wall: everything must be secured well to the wall. With a windbreaker chimney pot.
- 4. Piping system with T fittings that facilitate cleaning without needing to disassemble the pipes.



Key:

REF.	Description
U	Insulating MATERIAL
V	Reduction from 100 to 80 mm, if required
I	Inspection cap
S	Inspection door
P	Air inlet
Т	T-fitting with inspection cap



#### HYDRAULIC CONNECTION

Install the boiler in the selected place, making sure it complies with the provisions.

The boiler's structure or block must only be handled vertically with trolleys.

The materials used for packaging are neither toxic nor harmful. Therefore, they do not require special disposal processes.

After removing the packaging, make sure the boiler is complete and not damaged. If in doubt, contact your dealer.



The boiler must be connected to the hydraulic system by specialised staff <u>ONLY</u> that is able to install the device perfectly in compliance with the provisions in force in the country where it is installed.

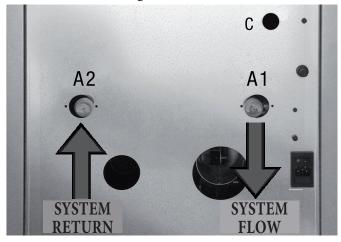
# Provide a suitable load tap on the hydraulic system.

The manufacturer declines any liability in the event of damage to property or harm to people or in the event of breakdown if the aforesaid warnings are not respected. An anti-condensation valve must be installed on solid fuel boiler return. The valve is not supplied with the boiler. The thermostatic diverter valve prevents the return of cold water to the heat exchanger and the resulting formation of condensate; prolonged contact with condensate will irreparably damage the heat exchanger. The lack of an anti-condensate device invalidates the warranty.

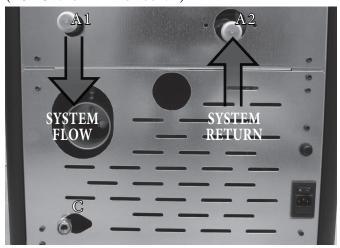
Valves with different settings are commercially available; the manufacturer recommends using the model with a setting > 50 °C.

The LUXOR V2 range is provided with an 8-litre expansion vessel. With regard to extended systems, you must consider an additional, duly sized vessel on the system next to the generator or on the puffer.

Boiler connection diagram (LUXOR 16 V2)



Boiler connection unit (LUXOR 20 - 24 - 28 - 33 V2)



The safety valve (C) must always be connected to a water drain pipe. The pipe must be able to withstand high water temperatures and pressure.

The safety valve must be connected to a draining system in order to prevent water from overflowing and wetting the structure and floor in case of over-pressures.



# Installation

#### Recommendations

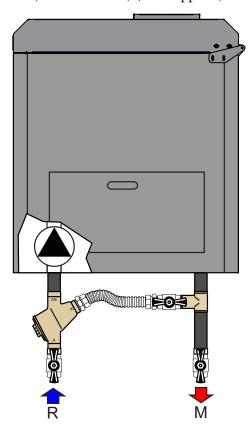
If installation of the boiler provides for interaction with another existing system complete with a central heating appliance (gas boiler, methane boiler, diesel oil boiler, etc.), contact qualified staff that can meet system compliance according to current provisions of law in this regard.

# System washing

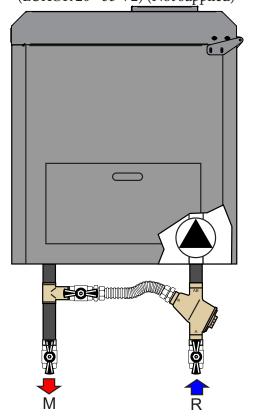
In compliance with local, national regulations in force, in order to protect the heating system from damaging corrosion, scaling or deposits, it is very important to wash the entire system before connecting the boiler in order to remove any residues and deposits. After washing the system, it is recommended to use inhibitors in order to protect it against corrosion and deposits. Always install shut-off valves upstream of the boiler in order to insulate it from the water system should it be necessary to move it for routine and/or unscheduled maintenance. These are most useful on the system flow and return pipes if the heating system is on a higher floor than the boiler.



Boiler thermostatic valve assembly diagram (LUXOR 16 V2) (Not supplied)



Boiler thermostatic valve assembly diagram (LUXOR 20 - 33 V2) (Not supplied)



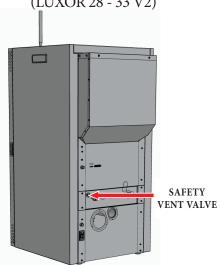
Position of safety valve drain (LUXOR 16 V2)



Position of safety valve drain (LUXOR 20 - 24 V2)



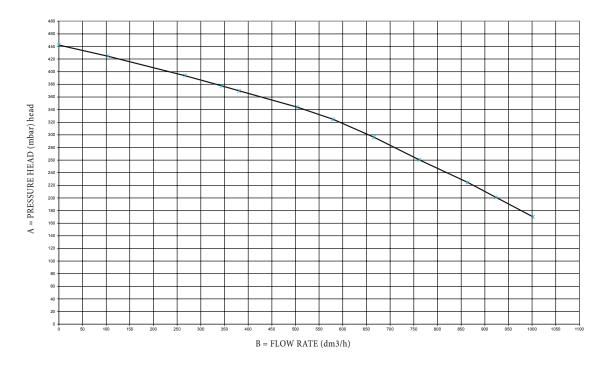
Position of safety valve drain (LUXOR 28 - 33 V2)





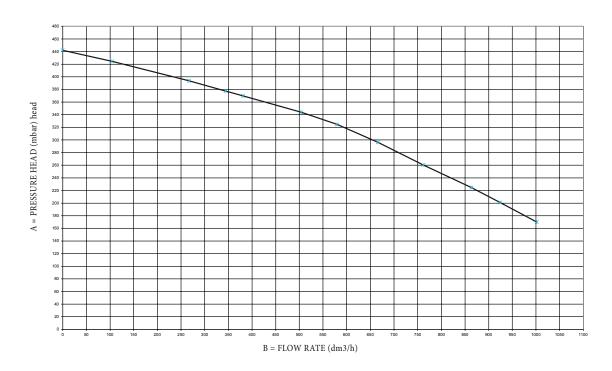
# **GRAPHICS OF RESIDUAL HEAD**

# LUXOR 16 - 20 - 24 V2



A = RESIDUAL HEAD (mbar) B = FLOW RATE (dm³/h)

# LUXOR 28 - 33 V2





22

#### FILLING THE BOILER

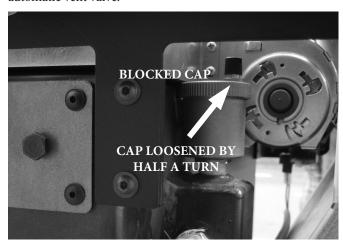
Attention!

Do not mix the central heating water with antifreeze or anticorrosion substances at incorrect concentrations!

This may damage the gaskets and cause noise to develop during operation. The manufacturer will not be held liable in case of damage caused to people, animals or property due to failure to observe the above

After executing all hydraulic connections, check the pressure of the seals by filling the boiler.

During this operation, any air in the boiler is vented from the automatic vent valve.



System loading pressure when COLD must be 1 bar.

If pressure during system operation drops below the aforesaid minimum values due to evaporation of gas dissolved in the water, the User must adjust the load tap in order to bring it to its initial value.

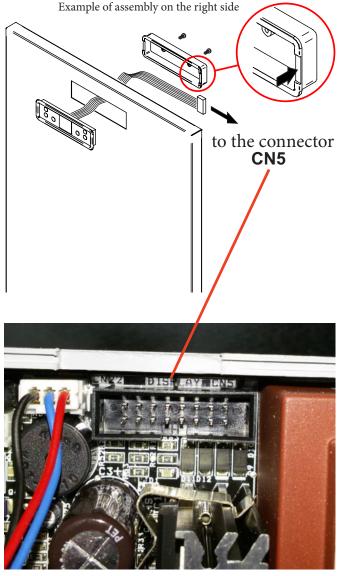
For correct operation of the boiler when HOT, boiler pressure must be 1.5 bar.

# ASSEMBLING THE CONTROL PANEL ATTENTION!

The control panel is not assembled on the boiler, but is supplied with it.

To assemble it, proceed as follows:

- Remove the relative side (pressure fitted)
- Remove the pre-ducted area with a suitable tool
- Position the control panel in the housing provided on the side
- Block the control panel with the protective cover and two screws, making sure to position the flat cable in the groove on the edge.
- Connect the control panel cable on connector CN5 of the main board (refer to the wiring diagram)





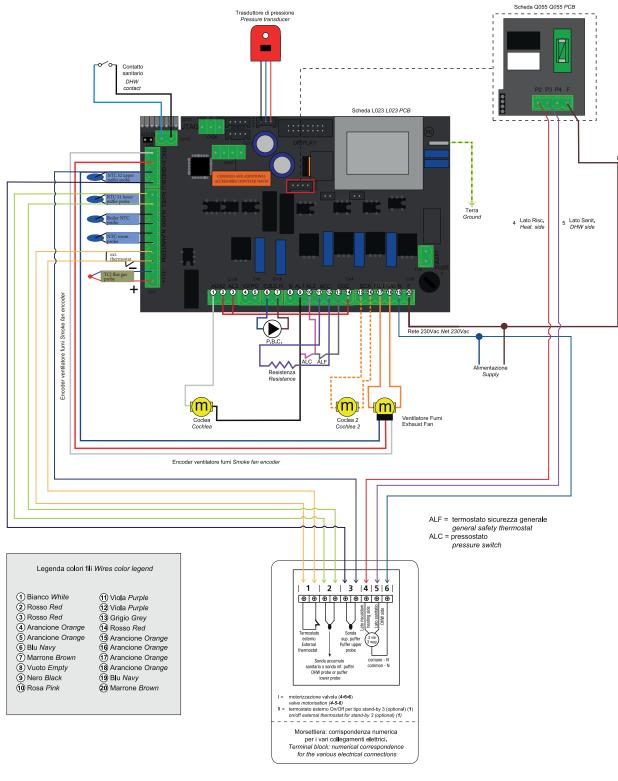
# CONFIGURATION OF THE BOILER HYDRAULIC DIAGRAM

# By a specialised technician

Before switching on the boiler, it is necessary to configure the hydraulic diagram on which we want to work. The boiler is set up to receive the potential-free contact of an external thermostat (open/closed, the thermostat must not supply voltage to the back.

If the thermostat turns on the board and causes faults, the warranty becomes void), two temperature probes and a motorised valve. All these components can be connected via the terminal block on the back of the boiler.

# **CONTROL UNIT WIRING DIAGRAM**



# For the specialised technician:

To configure the hydraulic diagram it is necessary to press the SET key and then with the power key scroll to menu 09 "Technician calibrations" . Press the SET key again to enter the menu and enter the access key held only by the technician authorised by the manufacturer. Confirm the password using the SET key and use the power key to access menu 3 "hydraulic diagram". Confirm with the SET key and use the temperature keys and to select the desired hydraulic diagram number. Then confirm with the SET key.

# For the end user:

It is possible to change the operating principle of the boiler according to the season by choosing between summer and winter. To choose the season press SET, choose season will be displayed. Then press the set key again and choose the season using keys 1 and 2. Once selected, press the ON/OFF key to exit.

The choice of season changes the operation of the boiler, see next chapter.

Below are the operating principles of the various hydraulic diagrams.

Important observations:

- DHW will always have priority
- There are three types of stand-by:
- Type 01: (NOT USED)
- Type 02: the water temperature in the boiler has reached the set SET H2O
- Type 03: (NOT USED)

# How to select the Stand-by type (Operation carried out by a specialised technician):

Press the SET key; press the key to go to menu 09. Press the SET key. Enter the access key and confirm it by pressing the SET key again. Pressing the key will take you to menu 9-5. The different standby modes mentioned above will appear on the display, choose the mode using the keys.

• NOTE.

- The default setting is hydraulic diagram 00, WINTER season with stand-by mode 02.
- When the boiler is switched off manually or by programming, automatic switch-on from stand-by will not be possible.

# How to activate or deactivate the stand-by mode:

Press the SET key. With the key, move to menu 05 and confirm with the SET key. Use key to choose whether to enable (ON) or disable (OFF) the boiler stand-by function.

Press the ON/OFF key to exit

Let's take a closer look at the boiler behaviour according to the hydraulic diagram, the season chosen and the stand-by mode activated.

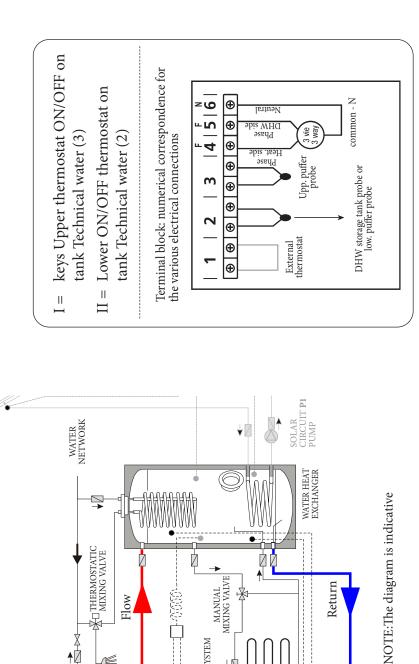


Diagram 02: The boiler is connected to a technical water puffer.

The boiler is switched off when the upper contact (thermostat) is met.

The boiler is switched on when the lower contact (thermostat) is not met.

The central heating water will then be drawn from this puffer by booster pumps which are not controlled by the boiler control unit.



MANUAL MIXING VALVE

CENTRAL HEATING SYSTEM

PUMP

≰}

ON/OFF Thermostat puffer (low) ON/OFF Thermostat puffer (high

Flow

**↑**□ **→ ×** 

DHW SYSTEM WITH RECIRCULATION

Return

a) Press the 🕍 key to set the water temperature in the boiler. Increase or decrease degrees with the 🖔 and 🕻 🔾 keys.

Boiler flow temperatur Water network

> 65°c

b) Press the key to set the desired temperature in the room (using the probe on the board).

Increase or decrease degrees with the and work

c) Press the  $\lozenge$  key to set the working power and adjust it with the  $\lozenge$  and  $\lozenge$ 

Re-starting from the stand-by status occurs automatically when more heat is required to return to meet the stand-by condition (when this is set to ON) or when there is a demand for hot water in the puffer.

Hydraulic Diagram		Stand-By	Standby type	Season	Boiler circulator condition	Boiler status
PUFFER IN CONTACT	LOW AND HIGH THERMOSTAT DO NOT CALL	OFF	01/02/03	WINTER/ SUMMER	OFF	MODULATES AND IF H2O PROBE>80° FORZA STAND-BY
PUFFER IN CONTACT	LOW THERMOSTAT CALLS AND HIGH THERMOSTAT DOES NOT CALL	OFF	01/02/03	WINTER/ SUMMER	ON IF H2O > PARAM.25	OPERATION AND IF PROBE H2O>80° MODULATES
PUFFER IN CONTACT	LOW AND HIGH THERMOSTAT CALL	OFF	01/02/03	WINTER/ SUMMER	ON IF H2O > PARAM.25	OPERATION AND IF PROBE H2O>80° MODULATES
PUFFER IN CONTACT	LOW THERMOSTAT DOES NOT CALL AND HIGH THERMOSTAT CALLS	OFF	01/02/03	WINTER/ SUMMER	ON IF H2O > PARAM.25	OPERATION AND IF PROBE H2O>80° MODULATES
PUFFER IN CONTACT	LOW AND HIGH THERMOSTAT DO NOT CALL	NO	01/02/03	WINTER/ SUMMER	OFF	STAND-BY
PUFFER IN CONTACT	LOW THERMOSTAT CALLS AND HIGH THERMOSTAT DOES NOT CALL	NO	01/02/03	WINTER/ SUMMER	ON IF H2O > PARAM.25	OPERATION AND IF PROBE H2O>80° MODULATES
PUFFER IN CONTACT	LOW AND HIGH THERMOSTAT CALL	NO	01/02/03	WINTER/ SUMMER	ON IF H2O > PARAM.25	OPERATION AND IF PROBE H2O>80° MODULATES
PUFFER IN CONTACT	LOW THERMOSTAT DOES NOT CALL AND HIGH THERMOSTAT CALLS	NO	01/02/03	WINTER/ SUMMER	ON IF H2O > PARAM.25	OPERATION AND IF PROBE H2O>80° MODULATES

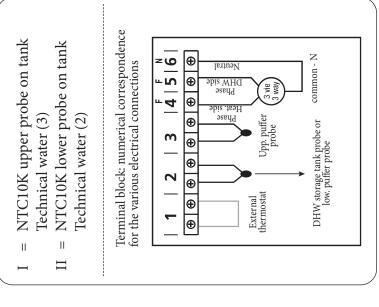


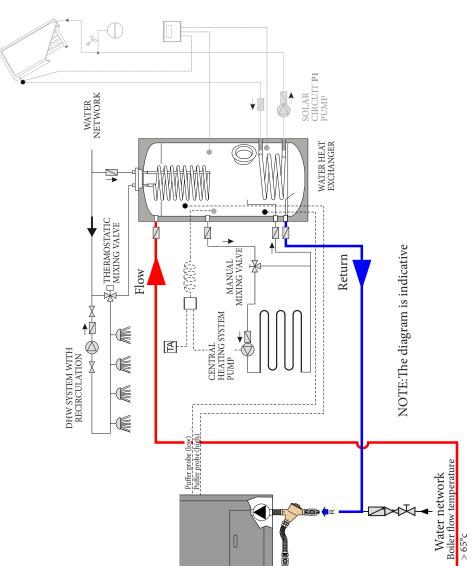
Diagram 04: The boiler is connected to a technical water puffer.

The boiler is switched off when the upper probe is met.

The boiler is switched on when the lower probe is not met.

The central heating water will then be drawn from this puffer by booster pumps which are not controlled by the boiler control unit.





a) To set the temperature in the upper part of the puffer press key **long**. Use the **long** and **long** keys to select the desired degrees

key and with the lonand and low keys choose the desired degrees temperature on the lower part of the puffer press the 🏻 b) To set the

c) Press the  $\wedge \bigcirc$  key to set the working power and adjust it with the  $\wedge \bigcirc$  and  $\wedge \bigcirc$  keys

Re-starting from stand-by status occurs automatically when the temperature detected by the lower probe of the puffer is lower than the set temperature (b)

Hydraulic Diagram		Stand-By	Standby type	Season	3 way	Boiler circulator condition	Boiler status
2-PROBE PUFFER (4)	SI AND S2 > SET PUFFER	OFF	01/02/03	WINTER/ SUMMER	OFF	OFF	MODULATES AND IF H2O PROBE>80° FORZA STAND-BY
2-PROBE PUFFER (4)	S1 AND S2 < SET PUFFER	OFF	01/02/03	WINTER/ SUMMER	NO	ON IF H2O > S1 AND S2 AND IF H2O> PR PUMP ON	PROBE H2O>80° MODULATES
2-PROBE PUFFER (4)	SI AND S2 > SET PUFFER	NO	01/02/03	WINTER/ SUMMER	OFF	OFF	STAND-BY
2-PROBE PUFFER (4)	S1 AND S2 < SET PUFFER	NO	01/02/03	WINTER/ SUMMER	NO	ON IF H2O > S1 AND S2 AND IF H2O > PR PUMP ON	PROBE H2O>80° MODULATES

It is recommended to set Stand-by to ON

WATER NETWORK

 $\rightarrow$ 

THERMOSTATIC

€

Puffer

¥.

Flow

Puffer probe ACS probe

DHW SYSTEM WITH RECIRCULATION

Diagram 05: The boiler is connected to a technical water puffer. The boiler is switched off when the upper probe is met.

The boiler is switched on when the lower probe is not met.

The central heating water will then be drawn from this puffer by booster pumps which are not controlled by the boiler control unit.

NTC10K probe on tank ACS II =(2)III = NTC10K probe on Technical water puffer (3) Terminal block: numerical correspondence for the various electrical connections

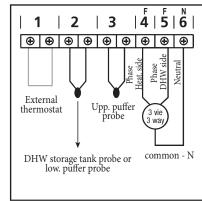
WATER HEAT EXCHANGER

Return

MANUAL MIXING VALVE

Valve motorisation

(4-5-6)

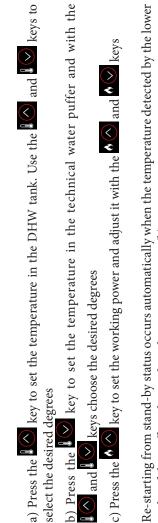


a) Press the & and key to set the temperature in the DHW tank. Use the and we have to

Water network

c) Press the  $^{6}$  $\bigcirc$  key to set the working power and adjust it with the  $^{6}$  $\bigcirc$  and  $^{6}$  $\bigcirc$ 

Re-starting from stand-by status occurs automatically when the temperature detected by the lower probe of the puffer is lower than the set temperature (b)



Hydraulic Diagram		Stand-By	Standby type	Season	Jump	Boiler status
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE < SET ACS AND PUFFER PROBE > SET PUFFER	OFF	01/02/03	WINTER	ON IF H20+5 > PUFFER PROBE	MODULATES AND IF H2O PROBE>80° FORZA STAND-BY
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS AND PUFFER PROBE < SET PUFFER	ON	01/02/03	WINTER	ON IF H2O > SON ACS AND IF H2O> PR PUMP ON	OPERATION AND MODULATES PROBE H2O>80°
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS AND PUFFER PROBE < SET PUFFER	OFF	01/02/03	WINTER	ON IF H2O > PUFFER PROBE AND IF H2O> PR PUMP ON	OPERATION AND MODULATES PROBE H2O>80°
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS AND PUFFER PROBE < SET PUFFER	ON	01/02/03	WINTER	ON IF H2O > ACS PROBE AND IF H2O> PR PUMP ON	OPERATION AND MODULATES PROBE H2O>80°
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS AND PUFFER PROBE > SET PUFFER	OFF	01/02/03	WINTER	ON IF H20+5 > PUFFER PROBE	MODULATES
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS AND PUFFER PROBE > SET PUFFER	ON	01/02/03	WINTER	ON IF H2O > SON ACS AND IF H2O> PR PUMP ON	STAND-BY
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS	OFF	ONLY 2 (H2O)	SUMMER	ON IF H2O > SON ACS AND IF H2O> PR PUMP ON	STAND-BY IF ACS PROBE > SET ACS+1 AND FORCE ST-BY TO ON
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE < SET ACS	OFF	ONLY 2 (H2O)	SUMMER	ON IF H2O > SON ACS AND IF H2O> PR PUMP ON	MODULATES IF PROBE H2O > SET ACS +10
PUFFER + PROBE ACS STOR- AGE TANK	ACS PROBE > SET ACS	ON	ONLY 2 (H2O)	SUMMER	ON IF H2O > SON ACS AND IF H2O> PR PUMP ON	STAND-BY IF ACS PROBE > SET ACS+1
CENTRAL HEATING + ACS TO PROBE	ACS PROBE < SET ACS	ON	ONLY 2 (H2O)	SUMMER	ON IF H2O > SON ACS AND IF H2O> PR PUMP ON	MODULATES IF PROBE H2O > SET ACS +10

N.B.: If the "SUMMER" control is set, the technical water puffer is always considered met.

# Installation

### **BOILER IGNITION**

### Pellet loading

Combustion fuel is loaded from the upper part of the boiler by opening the door. Pour the pellets into the tank; when empty, it contains four/five 15 kg bags.

To facilitate the procedure, complete the operation in two stages:

- pour half the contents of the bag into the tank and wait for the pellets to deposit at the bottom.
- complete the operation by pouring the second half.



Remove all packaging parts from the boiler's furnace and door.

It may burn (instruction booklets and various adhesive labels).



Never remove the protection grid inside the tank; when loading, do not let the bag of pellets come into contact with hot surfaces.



The brazier must be cleaned prior to every ignition.

# QUADRO COMANDI - (CONTROL PANEL)



Key  $\circlearrowleft$  is used to ignite and/or switch off the boiler and to exit the program.

Keys and are used to adjust the temperature, for displays and programming functions.

Keys and are used to adjust the heat power.

Keys and are used to set the temperature and the programming functions.

The top and bottom display are used to view various messages.

# Control panel warning

Before boiler ignition, make sure the pellet tank is loaded, the combustion chamber is clean, the glass door is closed, the electric outlet is connected and the switch at the back is in position "1".

### **ACCENSIONE - (IGNITION)**

Press  $\circlearrowleft$  for a few seconds until the boiler starts.

LED	SYMBOL	DESCRIPTION
1		The LED is On when parameter UT0 1 in the menu is not OFF, thereby setting weekly or daily programming.
2		The LED is enabled every time pellet loading is in progress.
3		The LED flashes when the console receives a temperature/power modification signal from the infrared remote control.
4		The LED is ON when the room temperature reaches the value set in the SET Acqua menu
5	SET	The LED flashes to signal that you are accessing the user/technician menu, or that you are modifying the temperature settings.
6		The LED is ON when the water circulator is operating.



It is recommended to use non-wetted wood pellets of 6 mm diameter, certified EN PLUS A1 according to ISO 17225-2.



First ignition may also fail since the auger is empty and does not always manage to load the necessary amount of pellets in the brazier in time for regular ignition of the flame.

If this should occur, CANCEL THE TRIGGERED FAILED IGNITION ALARM. REMOVE THE PELLETS LEFT IN THE BRAZIER AND REPEAT IGNITION.

It is good practice to ensure the technical room is well ventilated during initial ignition since the boiler emits a bit of smoke and smell of paint.

### INFORMATION ON DISPLAY



# SPENTO - (OFF)

The Boiler is off.



# **ACCENDE - (ON)**

The boiler is in the first ignition phase.

The glow plug and flue gas extractor are active.



# **CARICA PELLET - (PELLET LOADING)**

At this stage of the ignition process the boiler starts loading pellets into the brazier. The glow plug, flue gas extractor and auger motor are active.



# **FUOCO PRESENTE - (FIRE PRESENT)**

At this stage of the ignition process the boiler starts loading pellets into the brazier. Flue gas extractor and auger motor are active.



### LAVORO - (OPERATION)

The boiler is in operation, in this case at power 3.

The detected room temperature is 21°C. During normal operation the flue gas fan, auger motor and room fan are active.



# PULIZIA BRACIERE - (BRAZIER CLEANING)

The boiler is cleaning the brazier.

The flue gas extractor runs at maximum speed and the pellet loading is at minimum. Every 60 minutes of boiler operation, cleaning is carried out automatically for 30 seconds



# Inspections and maintenance

# ALARM SIGNAL

If a boiler operating fault is triggered, the system informs the user of the type of fault. The table below summarises the alarms, type of problem and possible solution:

Dis	play	Type of problem	Solution	
ALAR 1	BLACK OUT	No current	When the current returns, the boiler executes a cooling cycle after which, the boiler restarts automatically	
ALAR 2	SONDA FUMI	The flue probe is broken or disconnected from the board	Contact the authorised technical service centre	
ALAR 3	HOT FUMI	Flue temperature too high	Switch off the boiler, allow it to cool down and carry out routine cleaning. If the problem persists, contact an authorised service centre to clean the boiler and flue	
ALAR 4	ASPIRAT GUASTO	Flue extractor fault or block	Contact the authorised technical service centre	
ALAR 5	MANCATA ACCENS	The boiler cannot ignite during the first ignition	Fill the pellet tank. Repeat ignition	
ALAR 6	MANCANO PELLET	Boiler switch-off during the work phase	Fill the pellet tank.	
ALAR 7	SICUREZ TERMICA	The water temperature exceeds 90 °C. The circulation pump is blocked or the hydraulic system has no water	Check for supply in the pump. Check that the pump impeller is not blocked by limescale	
ALAR 8	MANCA DEPRESS	Clogged flue	Clean the flue or make sure there are no gri obstructed in flue exhaust outlet	
ALAR B	ERRORE TRIAC COC	The auger loads too many pellets	Contact the authorised technical servicentre	
ALAR C	SONDA ACQUA	Faulty water probe	Contact the authorised technical servicentre	
ALAR D	HOT ACQUA	Water temperature too low/high	Reset the water safety thermostat at the back of the boiler. If the problems persists, contact the authorised service centre	
ALAR E	PRESS ACQUA	Water pressure too high	Check the pressure value by holding down the SET keyif 'low', act on the loading unit; -If "high", vent excess pressure and check the efficiency of the expansion vessel If the problems persists, contact the authorised service centre	
SERVICE		The boiler worked for 1300 hours. Additional maintenance required	Contact the authorised technical service centre	

Checks must be carried out by the user and only if a solution cannot be found should you contact the Technical Service Centre.



### **PROGRAMMING MENU**

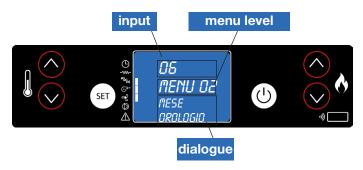
# Menù 02 Set Orologio - (Set Clock)

To access the set clock press the "SET" key (3), with the - key (5) scroll through the submenus until you reach MENU 02 - SET OROLOGIO (SET CLOCK) and with keys 1 and 2 select the current day. Press the "SET" (3) key to confirm.

Then use keys 1 and 2 to set the hour and press "SET" (3) to move on to setting the minutes using keys 1 and 2. By pressing set again, it is possible to access the various submenus for setting the date, day, month and year. To do this, repeat the above operations, using keys 1, 2 and 3.

The following table summarises the structure of the menu, focusing in this section only on the selections available to the user.

level 1	level 2	level 3	level 4	value
02 - set clock				
	01 - day			day week
	02 - hours			time
	03 - minutes			minute
	04 - day			day
	05 - month			month
	06 - year			year



Set current time and date. The board is fitted with a lithium battery that gives the internal clock an autonomy of more than 3 to 5 years.

### Menù 03 Set Crono - (Set Chrono)

Press the "SET" key (3) and then the 5 key to access the desired menu; press "SET" (3) to enter.

Then enter the M-3-1 menu and use keys 1 and 2 to choose whether or not to enable the chrono-thermostat (on/off) which allows programming of the automatic ignition of the boiler. Once the chrono-thermostat has been enabled/disabled, press key "4" (OFF) and continue to scroll through the submenus using key 5. Then choose which submenu to access for daily, weekly, weekend programming.

To set the ignition hours and days, repeat the above steps:

- access the submenu via "SET" (3)
- adjust the days, hours and enabling (on/off) with keys 1 and 2
- Use "SET" key (3) to confirm
- Exit the submenus/menus with shutdown key 4.

The following table summarises the structure of the menu, focusing in this section only on the selections available to the user.

level 1	level 2	level 3	level 4	value
03 - set chrono				
	01 - enable chrono			
		01 - enable chrono		on/off
	02 - day program.			
		01 - chrono day		on/off
		02 - start 1 day		time
		03 - start 1 day		time
		04 - start 2 day		time
		05 - start 2 day		time



# Inspections and maintenance

level 1	level 2	level 3	level 4	value
03 - set chrono				
	03 - week. program.			
		01 - chrono week		on/off
		02 - start program. 1		time
		03 - stop program. 1		time
		04 - Monday prog. 1		on/off
		05 - Tuesday prog. 1		on/off
		06 - Wednesday prog 1		on/off
		07 - Thursday prog 1		on/off
		08 - Friday prog 1		on/off
		09 - Saturday prog 1		on/off
		10 - Sunday prog 1		on/off
		11 - start program. 2		time
		12 - stop program. 2		time
		13 - Monday prog. 2		on/off
		14 - Tuesday prog. 2		on/off
		15 - Wednesday prog 2		on/off
		16 - Thursday prog 2		on/off
		17 - Friday prog 2		on/off
		18 - Saturday prog 2		on/off
		19 - Sunday prog 2		on/off
		20 - start program. 3		time
		21 - stop program. 3		time
		22 - Monday prog. 3		on/off
		23 - Tuesday prog. 3		on/off
		24 - Wednesday prog 3		on/off
		25 - Thursday prog 3		on/off
		26 - Friday prog 3		on/off
		27 - Saturday prog 3		on/off
				on/off
		28 - Sunday prog 3		
		29 - start program. 4		time
		30 - stop program. 4		time
		31 - Monday prog. 4		on/off
		32 - Tuesday prog. 4		on/off
		33 - Wednesday prog 4		on/off
		34 - Thursday prog 4		on/off
		35 - Friday prog 4		on/off
		36 - Saturday prog 4		on/off
		37 - Sunday prog 4		on/off
	04 - program week-end			
		01 - chrono week-end		
		02 - start 1		
		03 - stop 1		
		04 - start 2		
		05 - stop 2		



## MENU 03 SET CRONO - (SET CHRONO)

## Sub-menu 03 - 01 - abilita crono - (enable chrono)

Allows all chrono-thermostat functions to be enabled and disabled globally.



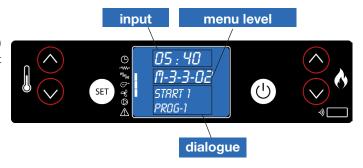
**Sub-menu 03 - 02 - program giornaliero - (daily program)** Allows to enable, disable and set the daily chrono-thermostat functions.



it is possible to set two operating ranges delimited by the set times according to the following table where the OFF setting tells the clock to ignore the command:

selection	meaning	possible values
START 1	activation time	ora - OFF
STOP 1	deactivation time	ora - OFF
START 2	activation time	ora - OFF
STOP 2	deactivation time	ora - OFF

**Sub-menu 03 - 03 - program settimanale - (weekly program)** Allows to enable, disable and set the weekly chrono-thermostat functions.



The weekly programmer has 4 independent programmes whose final effect is made up of the combination of the 4 individual programmes. The weekly programmer can be activated or deactivated. Furthermore, setting OFF in the time field causes the clock to ignore the corresponding command.



Careful programming should be carried out, generally avoiding overlapping activation and/or deactivation hours on the same day in different programs.



# Inspections and maintenance

PROGRAM 1				
menu level	selection	meaning	possible values	
03-03-02	Start Program 1	activation time	ora - OFF	
03-03-03	Stop Program 1	deactivation time	ora - OFF	
03-03-04	Lunedı Program 1		on/off	
03-03-05	Martedi Program 1		on/off	
03-03-06	Mercoledi Progr 1	day	on/off	
03-03-07	Giovedi Program 1	reference day	on/off	
03-03-08	Venerdi Program 1		on/off	
03-03-09	Sabato Program 1		on/off	
03-03-10	Domenica Progr 1		on/off	

PROGRAM 2				
menu level	selection	meaning	possible values	
03-03-11	Start Program 2	activation time	ora - OFF	
03-03-12	Stop Program 2	deactivation time	ora - OFF	
03-03-13	Lunedi Program 2		on/off	
03-03-14	Martedi Program 2		on/off	
03-03-15	Mercoledi Progr 2	day	on/off	
03-03-16	Giovedi Program 2	reference day	on/off	
03-03-17	Venerdi Program 2	refer	on/off	
03-03-18	Sabato Program 2		on/off	
03-03-19	Domenica Progr 2		on/off	

PROGRAM 3				
menu level	selection	meaning	possible values	
03-03-20	Start Program 3	activation time	ora - OFF	
03-03-21	Stop Program 3	deactivation time	ora - OFF	
03-03-22	Lunedi Program 3	reference day	on/off	
03-03-23	Martedi Program 3		on/off	
03-03-24	Mercoledi Progr 3		on/off	
03-03-25	Giovedi Program 3		on/off	
03-03-26	Venerdi Program 3		on/off	
03-03-27	Sabato Program 3		on/off	
03-03-28	Domenica Progr 3		on/off	

PROGRAM 4				
menu level	selection	meaning	possible values	
03-03-29	Start Program 4	activation time	ora - OFF	
03-03-30	Stop Program 4	deactivation time	ora - OFF	
03-03-31	Lunedi Program 4		on/off	
03-03-32	Martedi Program 4		on/off	
03-03-33	Mercoledi Progr 4	day	on/off	
03-03-34	Giovedi Program 4	reference day	on/off	
03-03-35	Venerdi Program 4	refer	on/off	
03-03-36	Sabato Program 4		on/off	
03-03-37	Domenica Progr 4		on/off	

Sub-menu 03 - 04 - program week-end (week-end program) Allows to enable, disable and set the chrono-thermostat functions on weekends (days 5 and 6, i.e. Saturday and Sunday).



#### **Nota Bene:**

- in order to avoid confusion and unwanted start-up and shut-down operations, activate only one program at a time if you do not know exactly what you want to achieve;
- deactivate the daily program if you want to use the weekly program. Always keep the weekend program deactivated if you use the weekly one in programs 1, 2, 3 and 4.
- Activate weekend programming only after deactivating weekly programming;

# Menu 04 - scegli lingua (select language)

Press the SET key to access the menus and press (5) until you reach MENU 04 - SCEGLI LINGUA (SELECT LANGUAGE). Then press the SET key to access the menu. Select the desired language using the keys (1) and (2).



#### **ELECTRICAL DEVICES FAULT**

#### No ignition

If the flame does not start during the ignition phase, or the flue gas temperature does not reach an adequate temperature in the time set for ignition, the boiler with switch off and "AL 5 MANCATA ACCENS" will appear on the display.

Press the "On/Off" key to reset the alarm. Wait for the cooling cycle to complete, clean the brazier and proceed with ignition once again.

## Switch-off during the work phase

This happens in the event of unexpected boiler switch-off during normal operation (for example, pellets finished in the tank or due to a pellet loading gearmotor fault).

The boiler continues to operate until any pellets in the brazier have finished burning, then "AL6 MANCANO PELLET" will appear on the display and the boiler switches off.

Press the "On/Off" key to reset the alarm. Wait for the cooling cycle to complete, clean the brazier and proceed with ignition once again.

These alarms are to signal that before ignition, you must make sure the brazier is completely free, clean and placed correctly.

#### Blackout

If there is a blackout for more than 1 minute, the boiler may emit a small amount of smoke inside the house: this is not a safety hazard.

When the electricity returns, the boiler will display "AL1 BLACK OUT". When the cooling cycle is complete, the boiler will restart automatically and go back to the operating status before the blackout.

Do not attempt to ignite the boiler before the necessary time, since it could block it.

If it is blocked, switch off the switch at the back of the boiler for 1 minute, switch on the boiler again and wait for 10 minutes before attempting ignition again.

The power supply outlet connected to the boiler must be equipped with "earthing according to the regulations in force". The Manufacturer declines all liability for damage to property and harm to people caused by installation negligence.

#### Manual reset thermostat



## System pressure safety

The system pressure is electronically controlled and must be within an operating range of 0.5 to 2.3 bar.

If this does not occur, the boiler will present a fault which will be signalled on the display with the message "AL E PRESS ACQUA".

Press and hold the SET key to check the system pressure value.



#### Intervention in case of danger

In the event of a fire, disconnect electric power supply, use a compliant extinguisher and, if necessary, call the fire department and then contact the Authorised Service Centre.



## TROUBLESHOOTING

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All repairs must only be carried out by a specialised technician with the boiler off and the power supply outlet disconnected.

Operations marked in bold must be carried out by specialised staff only.

# Check correct combustion by the shape and colour of the flame

Anomaly	Possible Causes	Solutions
The flame is enlarged at the base with a faint aspect and the tip is not pulled upwards.	<ol> <li>Bad regulation that determines:</li> <li>too many pellets loaded.</li> <li>poor fan speed</li> <li>The flue pipe is either obstructed or has pressure that obstructs normal flue gas evacuation</li> </ol>	Redefine boiler regulation     Clean the flue gas pipe and check the pressure switch that measures correct negative pressure of the flue gas
Enlarged and overhanging flame with an orange and yellow colour with dark tips	Incorrect combustion     Flame lacking oxygen	<ol> <li>Redefine boiler regulation</li> <li>Check that the aeration pipe to the brazier is not clogged.</li> <li>Modify the control that adjusts the suction air value</li> </ol>

With normal combustion, the flame must have a tapered, compact shape and be "lively" with tips that are mainly vertical or pressed against the back of the furnace. The flame must give the impression of being pulled upwards.

# MECHANICAL OR ELECTRONIC FAULTS

Anomaly	Possible Causes	Solutions
Pellets are not input into the combustion chamber	<ol> <li>The pellet tank is empty</li> <li>The auger is blocked by sawdust</li> <li>Auger gearmotor fault</li> <li>Defective P.C.B.</li> <li>One of the manual reset thermostats tripped</li> </ol>	<ol> <li>Fill the pellet tank</li> <li>Empty the tank and manually clean the auger from the sawdust</li> <li>Replace the gearmotor</li> <li>Replace the P.C.B.</li> <li>Reset the safety thermostat at the back of the boiler after having checked the cause</li> </ol>
The boiler does not ignite	1. Glow plug out of place 2. No electricity 3. Ignition suction parameter to modify 4. Blocked pellet or water probe 5. Fuse fault 6. Obstruction of nests or foreign bodies in the chimney pot or chimney	<ol> <li>Check the correct position of the glow plug in the brazier</li> <li>Make sure the power supply outlet is connected and the main switch is in position "I".</li> <li>Modify the control that regulation air suction during ignition (technical parameters setting)</li> <li>Wait for the water or pellet tank to cool and start the boiler again</li> <li>Replace the fuse</li> <li>Eliminate any foreign bodies from the chimney pot or flue gas exhaust pipe.</li> <li>It is recommended to call a chimney sweep</li> </ol>



The fire goes out or the boiler stops automatically	<ol> <li>The pellet tank is empty</li> <li>Pellets are not input</li> <li>Triggered pellet temperature safety probe</li> <li>The door is not closed completely or the gaskets are worn</li> <li>Water tank temperature too high</li> <li>Unsuitable pellets</li> <li>Poor supply of pellets</li> <li>Dirty combustion chamber</li> <li>Clogged discharge</li> <li>Faulty flue gas extraction motor</li> <li>Faulty or defective pressure switch</li> </ol>	<ol> <li>Fill the pellet tank. If it is a first ignition, it may be the case that combustion does not arrive in time and in the programmed amount, since it must travel from the tank to the brazier</li> <li>After repeated ignitions, there is no flame despite a regular flow of pellets. The problem may be linked to the boiler's components or attributable to bad installation</li> <li>Let the boiler cool down completely, reset the thermostat until the block is removed and ignite the boiler again; if the problem persists, contact technical service</li> <li>Close the door or replace the gaskets with new original ones</li> <li>Check correct operation of the water circulation pump and replace the component, if necessary</li> <li>Change the type of pellet with one recommended by the manufacturer</li> <li>Check the flow of pellets by technical service</li> <li>Clean the combustion chamber by following the instructions on the booklet</li> <li>Clean the flue pipe</li> <li>Check and replace the motor, if necessary.</li> <li>Replace the pressure switch</li> </ol>
The boiler operates for a few minutes and then switches off	<ol> <li>Incomplete ignition phase</li> <li>Temporary blackout</li> <li>Clogged flue pipe</li> <li>Faulty or defective temperature probes</li> <li>Faulty glow plugs</li> </ol>	<ol> <li>Repeat the ignition phase</li> <li>Refer to the instructions above</li> <li>Clean the flue pipe</li> <li>Check and replace the probes</li> <li>Check and replace the glow plug, if necessary</li> </ol>
The pellets accumulate in the brazier, the glass of the door is dirty and the flame is weak	I. Insufficient combustion air     Damp or unsuitable pellets     Flue gas suction motor fault     Incorrect adjustment. Incorrect air and pellet ratio	<ol> <li>Make sure the air inlet in the room is present and free. Make sure the combustion air filter on the Ø 5 cm air inlet pipe is not obstructed. Clean the brazier and make sure all holes are open. Clean the combustion chamber and flue gas pipe</li> <li>Change the type of pellet</li> <li>Check and replace the motor, if necessary</li> <li>Change the operating time of the auger from the controls (technical parameters setting)</li> </ol>
The flue gas suction motor does not work	<ol> <li>The boiler has no power supply</li> <li>Faulty motor</li> <li>The motherboard is faulty</li> <li>The control panel is faulty</li> </ol>	<ol> <li>Check the mains voltage and protective fuse.</li> <li>Check the motor and condenser and replace it, if necessary</li> <li>Replace the P.C.B.</li> <li>Replace the control panel</li> </ol>
The air convection fan never stops	The heat temperature control probe is defective or faulty     Fan fault	Check probe operation and replace it, if necessary     Check motor operation and replace it, if necessary
Set to automatic, the boiler always operates at maximum power	Room thermostat set to maximum     Temperature detection probe fault     Control panel defective or faulty	<ol> <li>Set the thermostat temperature again</li> <li>Check and replace the probe, if necessary</li> <li>Check and replace the panel, if necessary</li> </ol>
The boilers starts "by itself"	Incorrect chrono-thermostat     programming	1. Check the chrono-thermostat settings



The power does not change even when regulating the power manually	The board is set as automatic power variation proportionally to the temperature	
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# FAULTS IN CONNECTION WITH THE HYDRAULIC SYSTEM

Anomaly	Possible Causes	Solutions	
Temperature increase failure with boiler operating	Incorrect combustion adjustment     Dirty boiler/system     Insufficient boiler power	<ol> <li>Adjustment check</li> <li>Check and clean the boiler</li> <li>Make sure the boiler is in proportion with the system's requirements</li> </ol>	
Condensate in boiler	I. Incorrect maximum temperature adjustment of the water in the boiler     Insufficient combustion consumption	<ol> <li>Adjust the boiler to a higher temperature. The maximus temperature of the water in the boiler is 65° C and it is a possible to set it below 40° C or above 80° C. It is recommend to never set the temperature below 60° C in order to preventhe onset of condensate in the boiler. Adjust the pump post to temperatures above 60° C</li> <li>Check the boiler's setting (technician parameter settings) order to avoid excessive consumption of combustion, ensithe envisaged central heating performance and keep product intact</li> <li>Check the correct operation of the mandatory anti-condensation valve.</li> </ol>	
Cold system in winter, but the boiler is boiling	The circulator does not turn since it is blocked     System with air inside	Release the circulator by removing the cap and turning to shaft with a screwdriver     Check its electrical connections and replace it, if necessary     2. Vent the system	
No hot water comes out	1. Blocked circulator (pump)	1. Release the circulator (pump)	
The boiler is boiling dur- ing "modulation", meaning it reaches the temperature set on the boiler's ther- mostat	I. If the thermostat value is too high     If an excessive power is set compared to the system	Lower the boiler's temperature     Reduce the operating power value	
The boiler goes into "modulation" upon reaching the temperature set on the boiler's thermostat and also when the boiler's low water temperature	Parameter regarding the maximum flue gas temperature for modulation to modify     Dirty boiler: the flue gas temperature is too high.	<ol> <li>Set the parameter so that minimum modulation is activated at 230° C</li> <li>Clean the shell and tube</li> </ol>	
High variability of domestic hot water temperature	Water flow rate too high	1. Decrease water flow rate (from 4/6 litres per minute)	



# Low domestic hot water flow

- 1. Insufficient water pressure in the network
- 2. Tap or mixer clogged with limescale
- 3. Water unit clogged
- 4. The heat exchanger does not work
- 5. Presence of air in the system: pump cavitating due to the presence of air, water does not circulate.
- 1. Check the setting of the pressure reducing valve
- 2. Installing a water demineraliser
- 3. Check and clean the DHW kit
- 4. Replace the plate heat exchanger
- 5. Bleed the system, remove air by venting the radiators.

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Never switch off the boiler by disconnecting the power supply.

Always let the switching off phase complete, otherwise it may damage the structure and cause subsequent ignition problems.

## BOILER MAINTENANCE AND CLEANING WITH CAST IRON BRAZIER



All cleaning operations of all parts must be carried out with a completely cold boiler with the power supply plug disconnected in order to prevent thermal shocks. The boiler requires little maintenance if used with certified, high quality pellets. Maintenance varies according to the conditions of use (repeated ignitions and switch-offs) and depending on the performance required. IT IS recommended to check the boiler regularly to verify its good condition.

Parts	Daily	Every 2-3 days	Yearly
Cast iron brazier	$\Diamond$		
Cleaning the ash collection compartment with an ash vacuum		<b>♦</b>	
Cleaning the ash drawer		<b>♦</b>	
Heat exchanger (turbulators )	$\Diamond$		
Deflector tile		<b>♦</b>	
Cleaning the internal heat exchanger compartment / flue gas fan compartment			•
Complete heat exchanger			•
"T" exhaust cleaning			•
Flue gas pipe			•
Combustion circuit/flue gas seal gasket (combustion chamber door, ash drawer, fan, upper heat exchanger door)			•
Internal parts			•
Flue			•
Circulation pump			•
Hydraulic components			•
Electro-mechanical components			•

♦ by the user

• by TAC (authorised Technical Assistance Centre)

## BY THE END USER

Daily check

The boiler requires simple, thorough cleaning in order to always ensure efficient performance and normal operation. Use the special tool to clean the brazier from ashes or scale that may obstruct the air passage holes. If the pellets finish in the tank, unburnt pellets may accumulate in the brazier.

Always empty the brazier from residues before every ignition. Remember that a brazier positioned and cleaned correctly can ensure perfect ignition and operation of your pellet boiler. When placing the crucible, be precise when checking that its edges adhere perfectly to their housing and that the hole coincides with the pipe dedicated to passing the resistance.

There must be no combustion residues in the contact area between the edges of the crucible and the support surface on the crucible support.

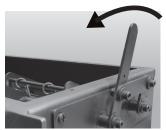




# HEAT EXCHANGER CLEANING (WITH THE BOILER OFF)

Scale acts as insulation and the thicker it is, the less heat is transmitted to the water and the structure in general. It is therefore very important to clean the shell and tube, also known as heat exchanger, to avoid the onset of its scaling and prevent clogging and jamming of the cleaning device. Simply pull and push the lever rapidly 5-6 times so that the springs can remove any soot deposited on the pipes.





#### **CHECKS EVERY 2-3 DAYS**

Clean the compartment around the brazier (the fire surface) from ashes, being careful of hot ashes. It is only possible to use a suitable dustbuster to vacuum particles of a certain size when the ashes are completely cold.

Cleaning the ash drawer and combustion chamber, including the glow plug duct.



# DEFLECTOR CLEANING - STAINLESS STEEL AND SATIN SURFACES

It is not usually required to treat these surfaces and is sufficient to avoid cleaning them with abrasive materials. With regard to steel surfaces, it is recommended to clean them with a paper towel or a clean, dry cloth soaked in non-ionic surfactant detergents (<5%).

A glass or mirror detergent spray is also good.



The detergent must not come into contact with skin and eyes. If this happens, wash under running water and go to the closest health clinic.

#### **CLEANING PAINTED PARTS**

Do not clean painted parts with damp cloths when the product is running or hot. This is to avoid a thermal shock of the paint and its consequent detachment. Silicon paints have technical properties that can withstand very high temperatures. However, there is a physical limit (380 °C - 400 °C) beyond which the paint loses its properties and starts to "whiten", or (over 450 °C) "vitrify" and may peel off and detach itself from the steel surface. If these effects occur, it means the temperature has reached well beyond those in which the product should operate correctly.



Do not use abrasive or aggressive products or materials. Clean with a paper towel or damp cotton cloth.

#### CLEANING THE LOWER ASH DRAWER

It is recommended to clean the ash drawer from residues that fell during operation. The ash drawer can be accessed by removing the two wing nuts that secure the inspection drawer. Remove the drawer, empty it and only clean the walls and corners with an ash vacuum or with special tools. Then reassemble the drawer and secure the wing nuts, making sure to seal it, which is very important during operation.



## Inspections and maintenance

## **CLEANING THE DEFLECTOR TILE EVERY 2-3 DAYS**

The boiler is provided with a steel element that must be removed to clean the combustion chamber.



## **DECOMMISSIONING**

When the boiler is not used, it must be disconnected from the mains power supply.

For additional safety, especially in the presence of children, we recommend removing the power supply cable from behind.



Also, before putting the boiler away, it is recommended to remove the pellets completely from the tank, using an ash vacuum with a long pipe, since if you leave the pellets insides the boiler, they may absorb humidity, coagulate and make boiler ignition difficult when restarting it in the new season. If the control panel display does not start when pressing the main switch at the back of the boiler, this could mean the service fuse may need to be changed.

A fuse box compartment is found under the power supply outlet at the back of the boiler.

Use a screwdriver to open the cover of the compartment and replace the fuse (3.15 AT delayed). Reconnect the power supply plug and press the main switch.

# MAINTENANCE AND CLEANING FOR ALL **MODELS**

#### BY A SPECIALISED TECHNICIAN

These operations must be carried out by a qualified technician, or by the user who is responsible for any damage maintenance. This maintenance is to be carried out when the boiler is cold and is not connected to the power supply. This maintenance is carried out by an authorised service centre and is borne by the customer.

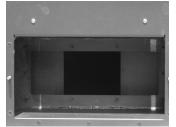
## ANNUAL CHECK (BOILER 20/24 ONLY)

## CLEANING THE INTERNAL TURBULATORS /FLUE GAS FAN COMPARTMENT

A second cover is provided inside the chamber where the ash drawer is situated. This accesses the compartment at the base of the pipe dedicated to flue gas exchange and flue gas suction fan outlet. Use an ash vacuum to clean this compartment thoroughly.

Make sure the ceramic fibre gasket is intact.





## CLEANING THE INTERNAL TURBULATORS /FLUE GAS FAN COMPARTMENT (BOILER 28/33 ONLY)

Remove the right side of the boiler. It is now possible to see the flue gas extractor fan. The side part of the flue gas box is provided with a plate; remove this plate to access the flue gas compartment. Use an ash vacuum to remove any residues that are in the flue compartment and thoroughly clean the part on your left, which accesses the end part of the vertical pipe heat exchanger.





#### **ANNUAL CHECK**

#### **CLEANING THE FLUE GAS FAN**

Remove the fastening screws and extract the flue gas fan in order to clean it.

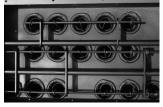
Perform this operation with maximum delicacy so as not to bend the fan's blades.

## **CLEANING THE FLUE PIPE**

Clean the flue exhaust system, especially next to the "T" fittings, curves and any horizontal sections. IT is necessary to check and remove any deposits of ash and soot before they block the flue passage.

## CLEANING THE HEAT EXCHANGER

Lift the upper door that covers the shell and tube by removing the screws. Remove the 16 springs and clean the 16 pipes of the heat exchanger with a cleaning rod.





IT IS only possible to clean them once the springs have been removed from each pipe. This operation is simple; remove the springs from the horizontal pin they are secured to.





To do this, the horizontal pin can be removed from a hole situated on the wall of the boiler's structure

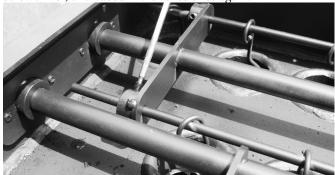




The upper section to the heat exchanger is now free from any obstacles so that it can be cleaned thoroughly.

Once a year, it is recommended to also clean the upper chamber of the heat exchanger. For correct cleaning, it is recommended to vacuum the ashes, remove all horizontal connections with a

screwdriver, and vacuum the ashes once again.



The operation can be completed by removing the boiler's wall with the aid of a screwdriver and extracting all horizontal connections.





After cleaning the upper compartment of the heat exchanger section, reassemble the upper closing cover.

This cover must be closed with the normal screws, as well as with a ceramic fibre rope strand in order to ensure the boiler's airtightness.

This general cleaning must be carried out at the end of the season in order to facilitate general removal of all combustion residues without waiting too long, since humidity and over time can make these residues compact.

Check the seal of the ceramic fibre gaskets on the boiler's door. Then clean the flue exhaust system, especially next to the "T" fittings and any horizontal sections.



For safety reasons, the frequency with which to clean the flue exhaust system is determined according to the frequency of use of the boiler. In the event of failed or inadequate cleaning, the boiler may have operating problems, such as:

- bad combustion
- blackening of the glass
- brazier clogging with an accumulation of ashes and pellets
- deposits of ashes and excess scale on the heat exchanger, resulting in poor performance.

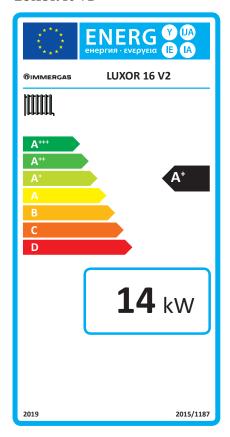
The internal electro-mechanical components must only be checked by qualified staff having technical skills related to combustion and electricity.

During annual regular maintenance (stipulating a programmed service contract), it is recommended to carry out a visual and functional check of the following components:

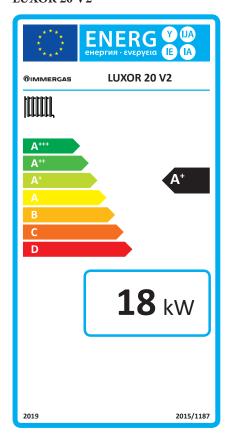
- gearmotor
- flue gas exhaust fan
- flue probe
- heat exchanger fan
- ignition glow plug
- pellet reset thermostat
- room probe
- pressure switch
- P.C.B.
- panel P.C.B. protection fuses.

# PRODUCT FICHE (IN COMPLIANCE WITH EU REGULATION 1187/2015/UE).

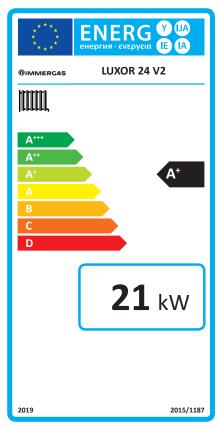
## LUXOR 16 V2



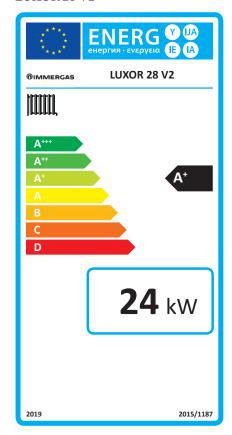
## LUXOR 20 V2



# LUXOR 24 V2



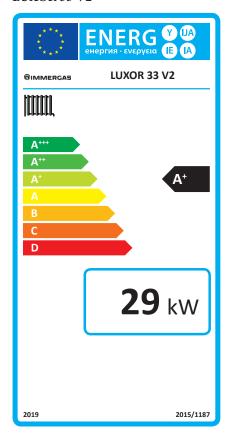
## LUXOR 28 V2





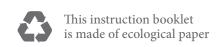
# Inspections and maintenance

# LUXOR 33 V2



50







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