nobis

YOUR STOVE, OUR PASSION

EN - Installation, use and maintenance manual

POLYGON 25-28-32



Dear Customer. Thank you for choosing a product from our range.
You are invited to read this manual carefully before using it, to take full advantage of all its features, in complete safety.
This manual contains information necessary for correct installation, start-up, use, cleaning and maintenance of the product.
Keep this manual in an appropriate place having carefully consulted it.
Improper installation, maintenance not carried out correctly and improper use of the product relieve the manufacturer of any liability towards people or property.
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1 INTRODUCTION

Nobis boilers are designed and built in compliance with the reference European standard EN 303-5 (solid fuel boilers with manual and automatic loading). The products also comply with the essential requirements of Directive 2014/35/EU (Low Voltage) and Directive 2014/30/EU (Electromagnetic Compatibility).
Printing, translation and even partial reproduction of this manual are considered bound by the authorization of the manufacturer. The content of the operating logics and the explanatory figures must be considered non-disclosureable.
Always consult authorized technicians in case of doubts and/or concerns regarding the operation of the product.
The manufacturer reserves the right to modify at any time and without notice the technical and/or functional specifications and characteristics of the product.

1.1 SYMBOLS

The following manual contains symbols which highlight the importance of particular descriptions or concepts;

INFORMATION: Compliance with the specifications guarantees correct operation of the product.

ATTENTION: Symbol used to identify particularly important information

DANGER: The presence of this symbol indicates utmost attention is required, to guarantee user and product safety.

1.2 PLANNED USE

The product in this manual, is a
fireplace for domestic heating,
feed by automatic loading and exclusively with wood pellets.

The product was designed and manufactured to work in safety if the following conditions occur:
- installation by specialist staff according to the specific reference standards;
- use within the limits declared on the product data sheet and in this manual;
- compliance with technical procedures described in the manual;
- carrying out routine maintenance within the times and methods indicated in this manual;
- prompt execution of extraordinary maintenance if necessary (malfunctioning);
- activity and maintenance of safety devices (do not remove or bypass this devices).

1.3 IMPROPER USE

The product must be intended for the use for which it was expressly designed; for any other use, the manufacturer cannot
be held in any way liable for damage caused to people, animals or property.
Improper use is intended as:
- use of the product as an incinerator;
- use of the product with fuel other than wood pellets with a diameter of 6 mm;
- use of the product with liquid fuel;
- use of the product with the fire door open and/or glass broken and/or ash pan removed and/or pellet tank open.

Any other use of the appliance other than that planned must be authorised in advance
in writing by the manufacturer.
Furthermore, the manufacturer cannot be held in any way liable for errors in installation, adjustment or maintenance of
the product.

1.4 IMPORTANCE OF THE MANUAL

The manual has the purpose of providing essential rules for correct installation, use and maintenance of the product.
PRESERVATION: Keep the manual in a place that is easy and quick to find;
DETERIORATION OR LOSS: Consult the official site to download the manual;
PRODUCT TRANSFER: In the event of sale between private individuals of the product, the owner is obliged to
deliver the product with the following manual.

1.5 GENERAL SAFETY WARNINGS

Non-compliance with the provisions of this manual can cause damage to people, animals and property.
- Installation, testing of the system, functionality testing and initial calibration of the product must only be carried out by qualified and authorised staff.
- The product must be connected to a single chimney flue that guarantees the draught declared by the manufacturer and which complies with the installation standards outlined in the assembly location of the product.
- The premises where the product is installed must be adequately ventilated (air intake).
- Do not touch the hot surfaces without adequate protective equipment, to avoid burns.
- When in operation, the external surfaces reach high temperatures.
- It is forbidden to make changes to the product unless expressly communicated in writing by the manufacturer.
- In the event of fire in the chimney flue, contact the Fire Brigade immediately.

- The product can be used by children over 8 years of age and people with reduced physical, sensor or mental capacity, or without experience or the necessary know-how, provided they are supervised, or have received instructions on the safe use of the appliance and have understood the dangers involved. Children must not play with the appliance.
- Cleaning and maintenance intended to be carried out by the user must not be carried out by children without supervision.
- Do not dry washing on the the product.
- Fuel and flammable materials must be kept a necessary distance from the product. Danger of fire.
- The product must be electrically connected to a system equipped with a sufficient ground system.
- In the event of a fault on the switch on system, do not force switch on using flammable materials and consult an authorised technician.
- For the no hermetic product, installation is forbidden in small rooms and bedrooms.
- Installation is forbitten in surroundings with explosive atmospheres.

1.6 LEGAL WARRANTY

The user, to benefit from the legal warranty, must strictly comply with the provisions indicated in this manual. In particular:
- always work within the use limitations of the product;
- always carry out routine maintenance;
- authorise people to use the machine with proven capacity, attitudes and who are adequately trained for the purpose;
- use original spare parts and specifically for the appliance model.

It is also necessary to provide a:
- fiscal receipt with the purchase date;
- a certificate of compliance issued for installation by authorised staff.

Non-compliance with the provisions contained in this manual will imply immediate expiry of the warranty on the product and on any spare parts assembled later.

1.7 EXCLUSIONS FROM THE WARRANTY

The warranty excludes all malfunctions and/or damage to the appliance resulting from the following causes:
- damage caused by transport and/or movement;
- all parts resulting as being faulty due to negligence or careless use, wrong maintenance, non-conforming installation with that specified by the manufacturer (refer to the installation and use manual supplied with the appliance);
- further damage caused by wrong intervention by the user in an attempt to solve the initial fault;
- aggravated damage caused by further use of the appliance by the user once the defect was noted;
- in the presence of a boiler, any corrosion, scale or breakages caused by stray current, condensate, abrasion or acidity in the water, scale removal treatments carried out improperly, no water, sludge or limescale deposits;
- inefficiency of the chimneys, chimney flues or parts of the system on which the appliance depends;
- damage caused by tampering with the appliance, atmospheric agents, natural disasters, vandalism, electrical discharge, fire, faulty electrical and/or plumbing system.

The following are also excluded from the warranty:
- parts subject to normal wear such as gaskets, glass, coverings and grates in cast iron, painted, chrome-plated or gold-plated parts, handles and electrical cables, lights, switch on resistor, indicator lights, knobs, all parts that can be removed from the fireplace (e.g. refractory, brazier);
- colour variations of painted and ceramic parts, as well as the ceramic cracks since they are natural features of the material and use of the product;
- masonry works;
- parts of the system (if present) not supplied by the manufacturer;

Any technical intervention on the product to eliminate the aforementioned defects or resulting damage should therefore be agreed with the Technical Support Centre, which reserves the right to access or refuse the relevant job and in any case they will not be carried out under warranty, but rather Technical Support will provide the possible conditions to specifically agree upon and according to rates in force for the works to carry out. The user will also be responsible for the expenses which will be necessary to resolve any wrong technical intervention, tampering or however damaging factors for the appliance not attributable to the original defects. Notwithstanding the restrictions imposed by legislation and regulations, every warranty to contain atmospheric and acoustic pollution is also excluded.

1.8 SPARE PARTS

Only use original spare parts.
Do not wait for the components to wear from use before replacing them.
This measure promotes prevention of accidents caused by people, animals or property in the event of product malfunctioning caused by faults.
You are advised to contact authorised staff to replace spare parts, worn parts and for extraordinary maintenance of the the product.

1.9 IDENTIFICATION PLATE

The plate placed on the back of the product outlines all the characteristic data of the appliance, including the manufacturer's data, the serial number and the CE marking.

1.10 DISPOSAL OF THE PRODUCT

Demolition and disposal of the product is the exclusive responsibility of the owner, who should do so in compliance with legislation in force in his country on safety matters, with respect of and safeguarding the environment.
At the end of its useful life, the product must not be disposed of as urban waste.
It can be delivered to specific differentiated waste collection centres made available by municipal administrations, or dealers who provide this service.
Disposal of the product as differentiated waste means possible negative consequences for the environment and health are avoided, deriving from inadequate disposal. Furthermore, it allows recovery of materials composing the product to obtain important savings in energy and resources.

1.11 HERMETIC PRODUCT

The products manufactured with a perfectly hermetic structure do not consume oxygen in the environment, since they take all the air from outside the home (if correctly installed) and can therefore be positioned inside all homes with a high level of insulation, such as "passive houses" or "with high energy efficiency". Thanks to this technology, there is no risk of smoke emissions in the environment and no ventilation grates are necessary.
As a result, no cold air flows are created in the environment making it less comfortable and reducing the overall efficiency of the system. Hermetic products can also be installed in the presence of forced ventilation or in premises which can go into negative pressure compared to outside.

2 CHARACTERISTICS OF THE PELLETS

Wood pellets are fuel made of pressed sawdust, often recovered from carpentry processing waste. The material used cannot contain any foreign substance such as glue, varnish or synthetic substances.
Sawdust, after drying and cleaning of impurities, it is pressed using a matrix: due to the high pressure, the sawdust heats activating the natural binders in the wood; by doing so, the pellet maintains its shape even without adding artificial substances. The density of wood pellets varies based on the type of wood and can exceed 1.5 - 2 times that of natural wood.
The cylinders have a diameter of 6mm and a variable length of 10 to 40mm.
Their density is equal to approx. 650 kg/m3. Due to the low water content (< 10%), they have a high energy content.
The main quality certifications for pellets on the European market today guarantee the fuel is within class A1
according to ISO 17225-2:2014 (formerly EN 14961). Examples of these certifications are for example EN-Plus, DINplus, Ö-Norm M7135, and guarantee they comply in particular with the following characteristics:

- heating power: 4.6 ÷ 5.3 kWh/kg;
- water content: ≤ 10% of weight;
- percentage of ash: max 1.2% of weight (A1 under 0.7%);
- diameter: 6±1/8±1 mm;
- length: 3÷40 mm;
- content: 100% untreated wood without any additional binder substances (percentage of bark max 5%);
- packaging: in sacks made from eco-compatible or bio-degradable.

The manufacturer recommends, for its products, use of class A1 certified fuel according to the standard En ISO 17225-2:2014, or certified DIN PLUS (more restrictive than class A1) or O-NORM M7135.

Pellets must be kept in a dry environment which is not excessively cold. You are also advised to keep some bags of pellets where the product is installed and operating, to dry them of any humidity present.
Non-compliance with this aspect reduces the thermal power of the fuel and means greater maintenance must be done on the product.

3 INSTALLATION

All local and national legislation and European standards must be met when installing and using the the product.

The assembly position must be chosen based on the environment, the discharge and the chimney flue. Check, with your local authority, if there are more restrictive provisions regarding the oxidising air intake, the smoke discharge system including the chimney flue and chimney pot.
The manufacturer cannot be held in any way liable in the event of installation non-compliant with legislation in force,
of incorrect premises air exchange or electrical connection non-conforming with standards and/or inappropriate use of the appliance.
Installation must be carried out by a qualified technician, who will issue the purchaser with a Declaration of Conformity for the system and will assume complete responsibility for final installation and resulting good operation of the product.
In particular, he should ascertain:
- there is an adequate oxidising air intake and good smoke discharge compliant with the type of product installed;
- other stoves or devices installed do not cause negative pressure in the room where the product is installed (only for hermetic appliances, a maximum of 15 Pa depression in the surroundings is permitted);
- when the product is on, there is no smoke back draught in the surroundings;
- smoke evacuation is implement in total safety (dimensioning, smoke seal, distances from flammable materials..).

Once the position is decided where to install the product, you need to pay attention:
- if the floor is made of combustible material, you should use protection in suitable material (steel, glass...) which also protects the front part from any falling burning fuel during cleaning operations:
- that the floor guarantees adequate load capacity.
  if the existing building does not meet this requirement, you should take appropriate measures (for example a load distribution plate).

3.1 AIR INTAKE

The installation premises of non-hermetic appliances must be sufficiently ventilated with specific openings, with particular attention on the position (they must NEVER be blocked), which consent air reintegration in the environment.
The air must be taken directly from outside (not from other rooms, garage, etc.) and must have a net useful section equal or higher than 80 cm^2 pellet burning stoves and thermostoves (EN 14785) and 100 cm^2 for boilers (EN 303-5).
The air intake is not necessary for installation of the hermetic appliances that take air directly from outside. Check and comply with the ventilation requirements for simultaneous operations with other combustion devices and in the presence of forced ventilation systems or hoods (refer to section 6.4 of UNI 10683).

3.2 SMOKE CHANNEL AND FITTINGS

The term smoke channel indicates the piping connecting the appliance to combustion with the chimney flue.
For heat generating appliances with an electric fan to expel the smoke, the following installation instructions must be followed, provided by the manufacturer concerning the maximum length and number of curves the smoke channels can have.
If no indications are given for maximum values or deriving from preliminary calculations according to UNI EN 13384-1, the following provisions must be applied:
- comply with the product standard EN1856-2;
- the horizontal sections must have a minimum slope of 3% upwards;
- the length of the horizontal section must be minimal and its projection on plan must not exceed 4 metres;
- the number of changes of direction including introduction in the chimney flue and excluding that by effect of using a "T" element in the appliances with rear smoke output, must not exceed 3;
- the changes of direction must not have an angle over 90°(45° curve recommended);
- the section must have a constant diameter equal to the output of the fireplace up to the fitting in the chimney flue;
- it is forbidden to use flexible metal and fibre cement piping, furthermore the piping must guarantee pressurised sealing;
- the smoke channels must not cross premises in which installation is forbidden of combustion appliances;
- Use watertight piping with silicone gaskets.

In any case, the smoke channels must be sealed by combustion and condensate products, as well as insulated if passing inside the installation premises.
Assembly is not permitted of draught manual adjustment devices on forced draught appliances.

You need to install a first vertical smoke channel section of at least 1 metre to guarantee correct smoke ejection.

3.3 CHIMNEY FLUE

When installing the chimney flue, the following provisions must be applied.

- comply with the product standard EN 1856-1;
- it must be installed using materials suitable to guarantee resistance to normal mechanical and chemical stress, and have a correct insulation, to avoid the formation of condensate, therefore it must be hermetically insulated;
- have a mainly vertical state and not be choked along its length;
- be correctly spaced using air cavities and insulated from flammable materials,
- the changes in direction must be at most 2 and with an angle not exceeding 45°;
- the chimney flue inside the home must however be insulated and can be inserted in a cavity provided it complies with the relevant piping standards;
- the smoke channel should be connected to the chimney flue using a "T" joint with an inspectionable collection chamber for collection of fuel residue and, in particular, for condensate collection.

It is not possible to connect the appliance to a chimney flue shared with other combustion appliances or in the presence of hood exhausts.

It is forbidden to use direct wall discharge or towards closed spaces or any other form of discharge not planned by legislation in force in the country of installation (In Italy, only roof discharge is permitted)

You are advised to check the safe distances which must be complied with in the presence of combustible materials and the type of insulating material to use (data available directly on the chimney flue plate)

3.4 CHIMNEY POT

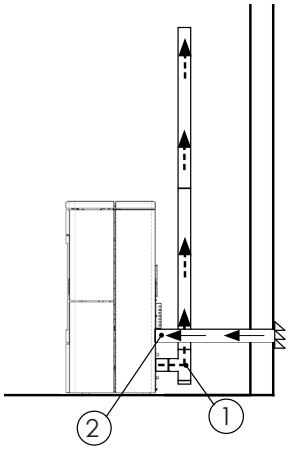
The standard UNI 10683 states the stack must meet the following characteristics:

- the smoke outlet section must be at least double the inner section of the chimney;
- shaped to prevent water or snow penetration;
- be built in such a way that wind cannot affect the smoke outlet (wind-proof cap);
- the opening measurement, which is measured between the lower coverage protective layer and the lower point of the smoke outlet section into the atmosphere, must be outside the back draught area;
- Be built far from antennas or satellite dishes and must never be used as a support.

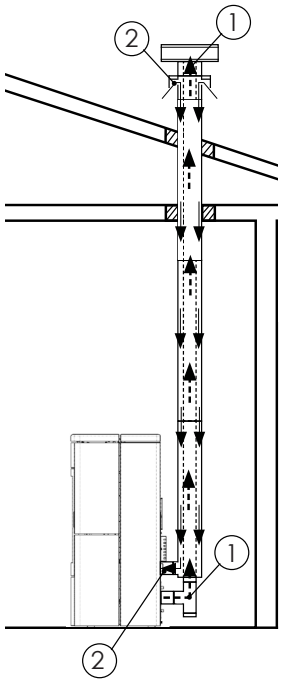
3.5 HERMETIC PRODUCT INSTALLATION

In the event of installation of a hermetic product, you can install one of the following types of connection with the piping:

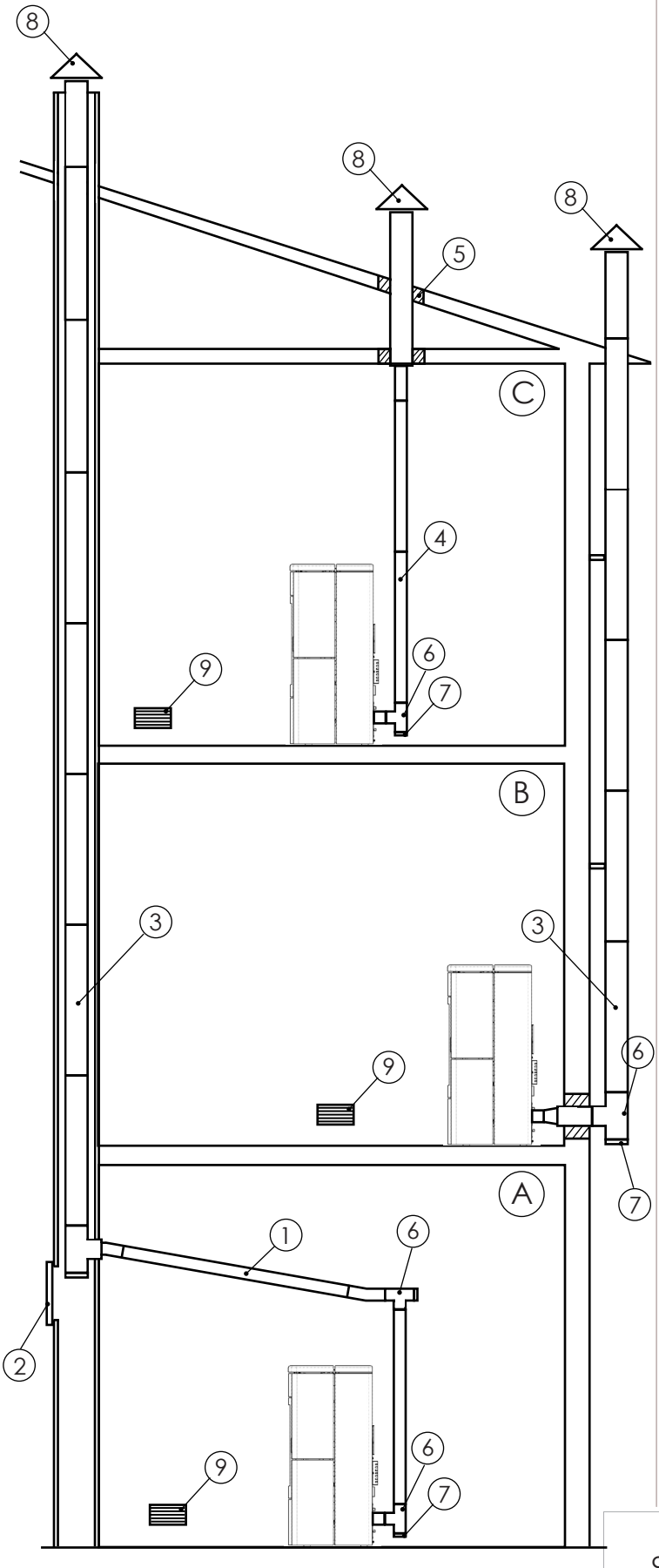
- smoke discharge (1) and recovery of oxidising air directly from outside (2)



- smoke discharge (1) and oxidising air channelling (2) taking advantage of its coaxial discharge to expel the smoke and pick the air; therefore, installation is not necessary of a grate to recirculate the air inside the premises where the the product.



For coaxial installation or air sampling directly from the outside, it is recommended not to exceed 2.5 / 3 linear meters in order to ensure correct oxygen supply to combustion.



3.6 EXAMPLES OF CORRECT INSTALLATION

installation of the product (A) necessary for the horizontal section for connection to an existing chimney flue. Based on a slope of 3-5%, to reduce ash deposit in the horizontal pipe section which must not be over 3m (1). The existing chimney flue must be inspectionable (2).

Installation of the product (B) requires an insulated chimney flue (3) with an internal diameter of no less than 100mm, since all the smoke piping was assembled outside the home.

Installation of the product (C) requires a single wall chimney flue (4) for the section inside the home. Relating to the part placed in the attic, you are advised to install a chimney flue Ø120mm, with perforation for passage of the piping, extended to:

- minimum 100mm around the pipe if in contact with inflammable parts such as cement, bricks, etc.;
- minimum 300mm around the pipe (or as described in the plate data) if in contact with flammable parts such as wood etc.

In both cases, insert adequate insulation (5) between the chimney flue and the attic.
You are advised to check and comply with the plate data of the chimney flue, in particular the safe distances from combustible materials.
The previous rules also apply for holes made on walls.

On the lower part of the chimney flue, for all 3 installations, a "T" fitting (6) was assembled with an inspection plug (7), as well as on the inlet of the chimney flue.

The upper part of the chimney flue, for all 3 installations, has a wind-proof chimney pot (8) assembled.

In the home, for all 3 installations, a grate is planned to guarantee correct oxygenation of the premises where the product is positioned.

Grate not necessary if appliance is hermetically sealed.

It is not recommended to install a 90° curve as an initial section which would quickly cause ash to block smoke passage, causing draught problems in the appliance.

In the event of particular atmospheric conditions and/or hostile draught conditions, the product can overcome these situations provided due installation measures are in place, for example a wind-proof chimney pot.

3.7 DOCUMENTATION TO ISSUE

When installation is concluded, the installation technician must deliver to the user:
- the use and maintenance booklet of the appliance supplied by the manufacturer;
- the technical documentation of the accessories used and subject to maintenance;
- the documentation relevant to the evacuation system of combustion products;
- The system booklet (where planned);
- the documentation certifying installation;

The useful documentation for installation liability must include:
- a detailed description (also including photo graphs) of the presence of other heat generators;
- Declaration of Conformity of the system to standard (M.D. 37/08);
- general description, or diagram or photographic documentation of the changes made to the system, if intervention was necessary during installation;
- Use of certified material with the CE mark (305/2011);
- possible instructions relating to the warranty;
- the date and signature of the installation technician;

NOBIS SRL cannot be held in any way liable in the event of non-compliance with the installation and start-up standards of its products.

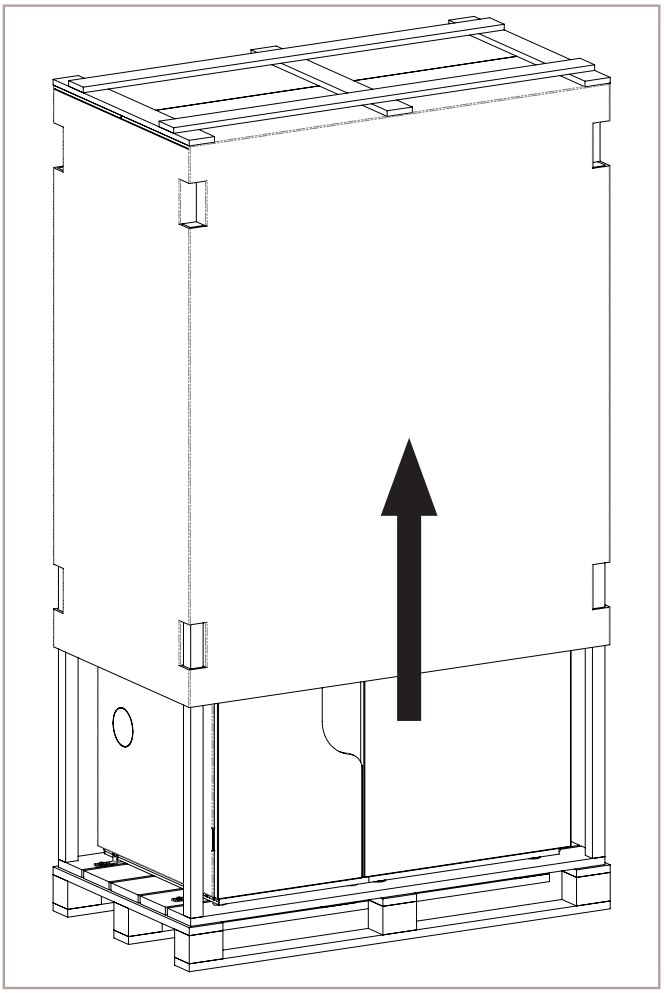


Fig.1

3.8 PRODUCT UNPACKING

Packaging is composed of boxes in recyclable cardboard according to the RESY standards and wooden pallets. All packaging materials can be re-used for similar use or, if necessary, disposed of as urban waste, in compliance with legislation in force.
Remove the strap binding the pallet to the packaging and lift the cardboard **Fig.1**; remove the plastic bag around the product, ensuring it is intact.
The body must always be moved in a vertical position using trolleys.
Pay particular attention so that the door and its glass are protected against mechanical impact which would compromise their integrity.
If possible, unpack the product near the area where it will be installed.
To remove the appliance from the pallet, you can remove the two screws placed under the pallet (13 hex key) to release the appliance from the wooden base. **Fig.2**
Position the equipment and proceed with its connection to the chimney flue.
Find, using the 4 adjustment feet, the right level so that smoke discharge and the pipe are connected correctly.

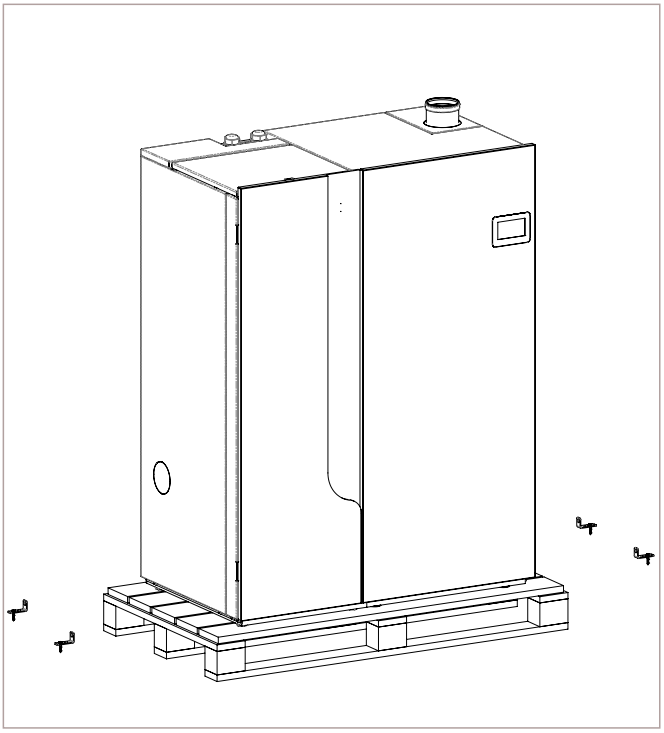
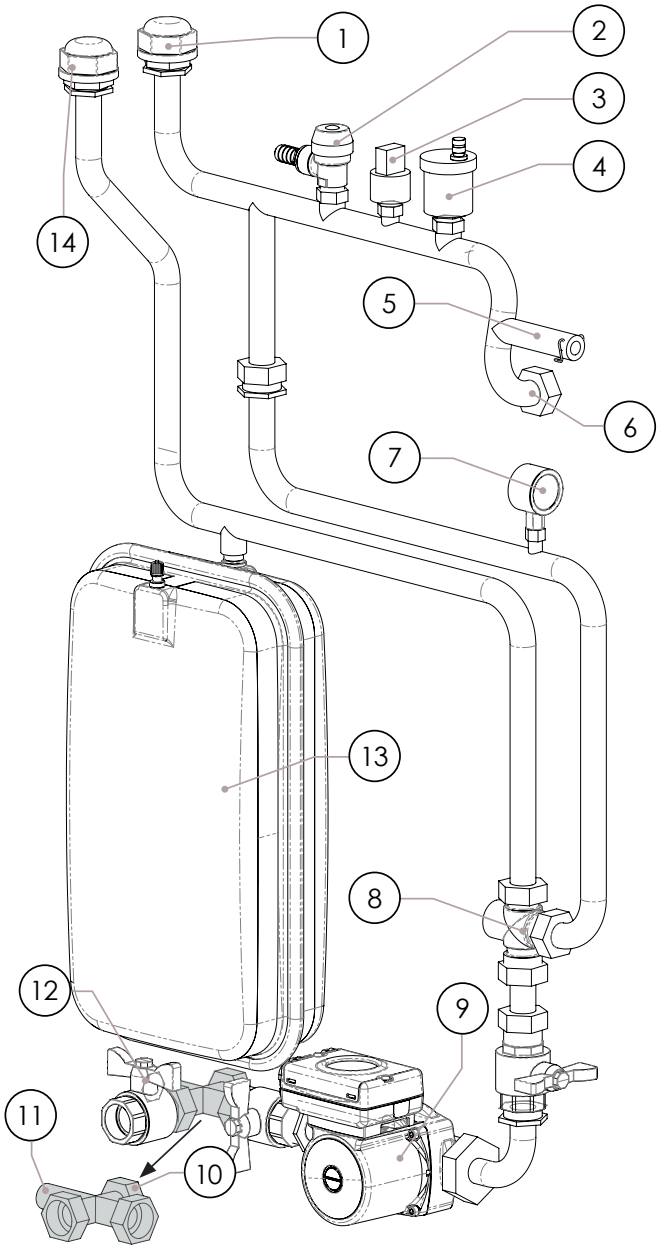


Fig.2

3.9 HYDRAULIC CONNECTION

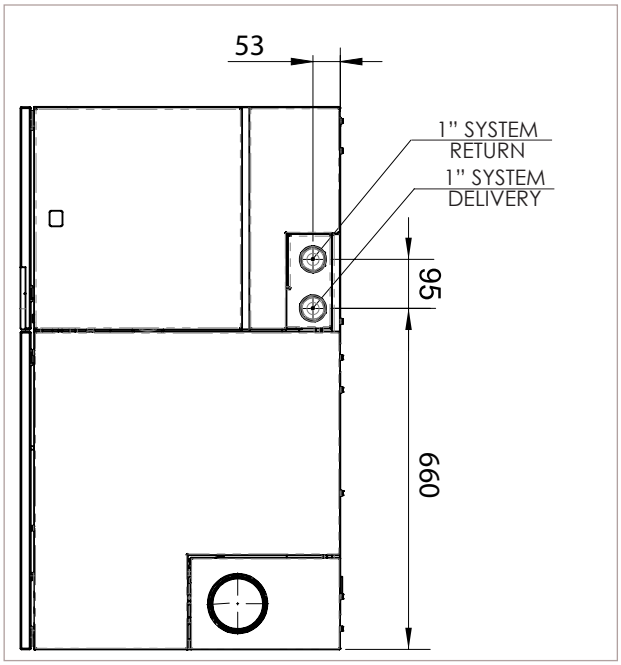
This section illustrates all the steps to carry out the appliance's hydraulic connection to the domestic system.



LIST OF COMPONENTS:

① System delivery connection 1";
② 3 Bar relief valve;
③ Digital pressure transducer;
④ Jolly valve (automatic drain);
⑤ Sump for syst. delivery probe + manual reset thermal switch;
⑥ System-delivery boiler connection;
⑦ Analog pressure transducer;
⑧ Anti-condensation valve 55°C;
⑨ Head circulator (10mt);
⑩ System return connection in the boiler;
⑪ Sump for system return sensor;
⑫ Connection for system filling/discharge;
⑬ Expansion vessel (12lt);
⑭ System return connection1" ;

The connection between the product and the hydraulic system must be carried out exclusively by specialized personnel able to perform the installation to perfection, respecting any existing provisions in the Country of Installation.



In order to remove any residues and deposits, wash the entire system before connecting the product. Always install gate valves upstream of the product so as to isolate it from the water system, should it be necessary to move or relocate it to perform routine and/or extraordinary maintenance operations. Connect the appliance using flexible pipes to avoid overtightening it to the system and to allow slight movements.

3-bar DRAIN VALVE

The inspectable safety valve is located on the back of the product. It is mandatory to connect a rubber pipe to the safety drain, which can withstand a temperature of 110 °C (not supplied), to be taken outside for possible water outlet.

The appliance manufacturer is not responsible for any flooding caused by the intervention of the safety valves in case of inaccurate connection to the outside of the product and to a proper collection and drain system.

SYSTEM CLEANING
Connections must be easy to disconnect by means of swivel fittings.
To preserve the heating system from harmful corrosion, scaling or deposits, flushing the system using appropriate products - in accordance with the UNI 8065 standard (treatment of water in heating systems for civil use) - before installing the appliance is paramount.

EXPANSION VESSEL
The product is equipped with an expansion vessel to compensate for the increase in water pressure inside the boiler in case of overheating. Therefore, it is necessary to reckon whether the expansion vessel the product is equipped with is capable enough. Otherwise, adding a supplementary expansion vessel must be taken into account.

SYSTEM FILLING
To fill the system, install a pipe in the dedicated inlet and, by opening the tap, proceed with the filling. During this operation, the venting of any air present in the system is guaranteed by an automatic air vent "Jolly valve" (supplied with the product).
To allow the valve to vent, it is recommended to loosen the gray cap of one turn. The COLD system loading pressure must be 1 bar.
If, while operating, system pressure happens to drop (during evaporation of gases dissolved in the water) below minimum values - as indicated above - the User must act on the filling tap to bring it back to the initial value. For a proper HOT work of the appliance, the pressure in the boiler must be 1.5 bar. To monitor system pressure, fit a pressure gauge or display instantaneous pressure in STOVE STATUS. Always close the tap after the filling operation has been carried out completely.

It is normal to hear noises and gurgling sounds: it means that the air in the system has not been completely removed.

WATER FEATURES
The characteristics of the water used for filling the system are very important to avoid mineral salt deposits and scaling along the pipes inside the boiler and in the exchangers.
Therefore, please pay attention to:
- Water hardness in the plant to prevent any issues due to scaling.
- Installation of a water softener if water hardness makes it necessary.
- Fill the system with treated water (demineralized).
- Possible installation of an anti-condensation circuit.
- Installation of hydraulic shock absorbers to avoid the so called "water hammer" effect along pipes and joints.

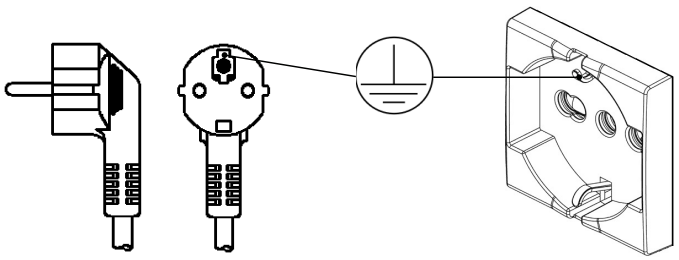
It should be remembered that scales drastically reduce performance due to their low thermal conductivity.

3.10 ELECTRICAL CONNECTION

The product power supply cable must only be connected after concluding installation and assembly of the product, it must not be in contact with hot parts and must remain accessible after installation.
To carry out electrical connection, proceed as described below:
- connect the power supply cable on the back of the appliance;
- connect the cable plug to the current socket on the wall.

You can connect a programmable thermostat to the appliance make adjustments or to switch the product on and off. For connection and management of the "outer thermostat" function, refer to the specific chapter in the following pages of this manual.

It is compulsory for the system to be grounded and have a differential switch in compliance with legislation in force. Furthermore, check that the socket is compatible with the type of plug on the power cable used.



4 EXAMPLES OF HYDRAULIC DIAGRAMS

DIAGRAM 00 - DIRECT CONNECTION TO THE SYSTEM

1 - Pellet stove
2 - Thermometer
3 - Pressure gauge
4 - Anti-condensation valve
5 - System separator
6 - System manifold
7 - Mixed distribution group
8 - Direct distribution group
9 - Gas boiler
10 - Water duct
11 - Sanitary water
12 - Wall thermostat
13 - Floor heating
14 - Heating with radiators
15 - Three-way heating valve
16 - DHW storage tank (Boiler)
17 - DHW flow switch
18 - Mixing valve
19 - Technical water storage tank (hot water tank)

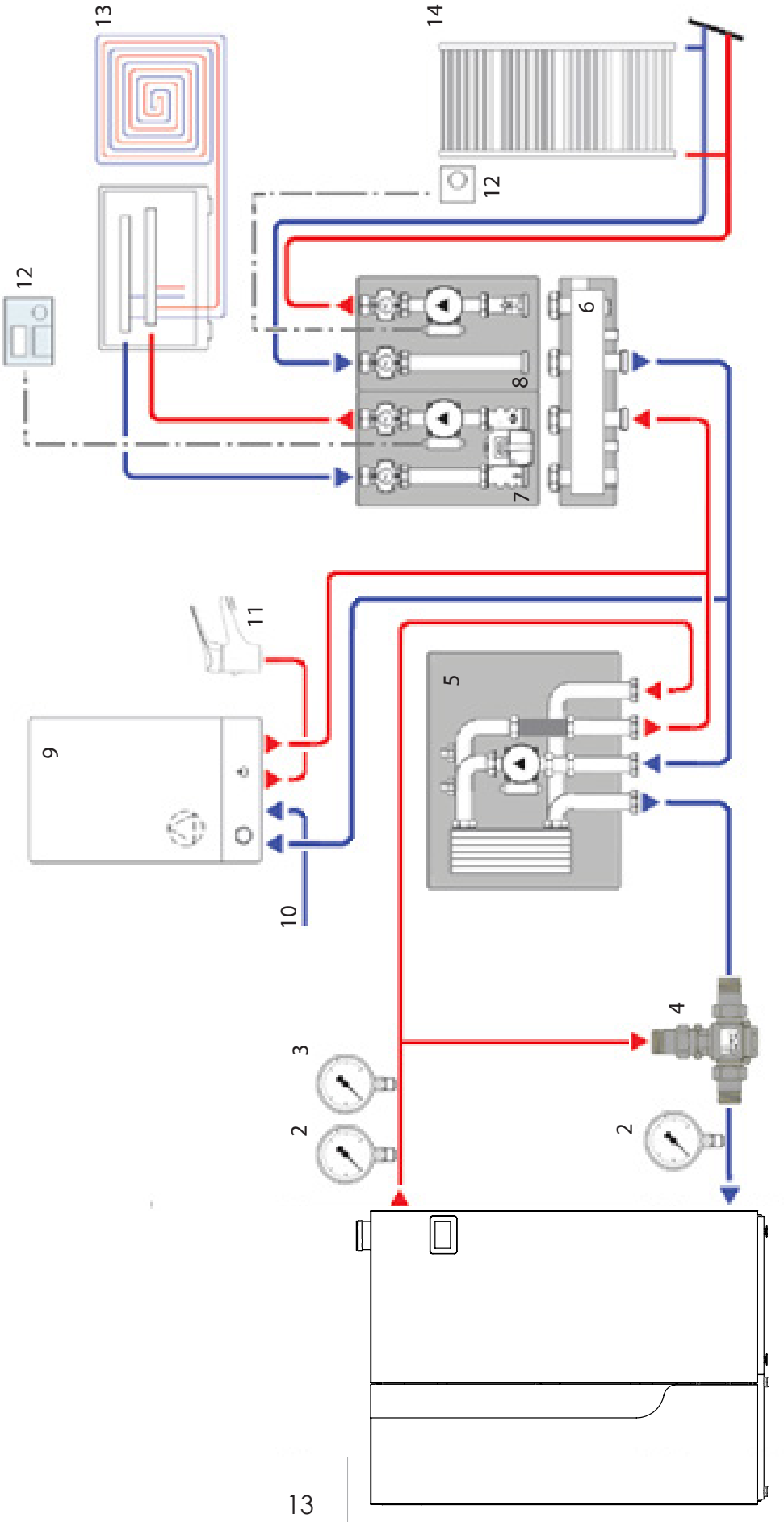


DIAGRAM 01 - DIRECT CONNECTION TO THE SYSTEM + DHW TANK

1 - Pellet stove
2 - Thermometer
3 - Pressure gauge
4 - Anti-condensation valve
5 - System separator
6 - System manifold
7 - Mixed distribution group
8 - Direct distribution group
9 - Gas boiler
10 - Water duct
11 - Sanitary water
12 - Wall thermostat
13 - Floor heating
14 - Heating with radiators
15 - Three-way heating valve
16 - DHW storage tank (Boiler)
17 - DHW flow switch
18 - Mixing valve
19 - Technical water storage tank (hot water tank)

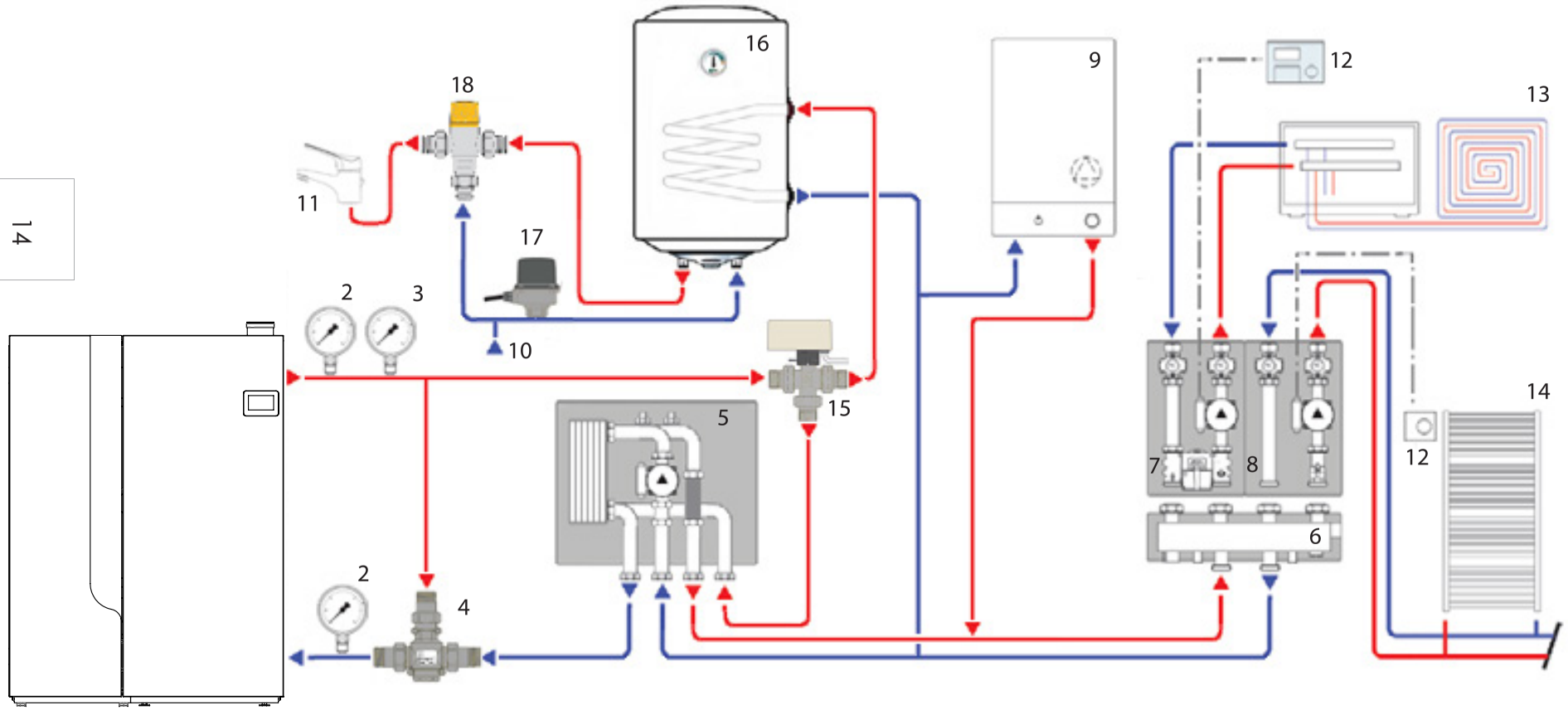


DIAGRAM 02 - TECHNICAL WATER TANK (PUFFER)

1 - Pellet stove
2 - Thermometer
3 - Pressure gauge
4 - Anti-condensation valve
5 - System separator
6 - System manifold
7 - Mixed distribution group
8 - Direct distribution group
9 - Gas boiler
10 - Water duct
11 - Sanitary water
12 - Wall thermostat
13 - Floor heating
14 - Heating with radiators
15 - Three-way valve (heating/domestic)
16 - DHW storage tank (Boiler)
17 - DHW flow switch
18 - Mixing valve
19 - Technical water storage tank (hot water tank)

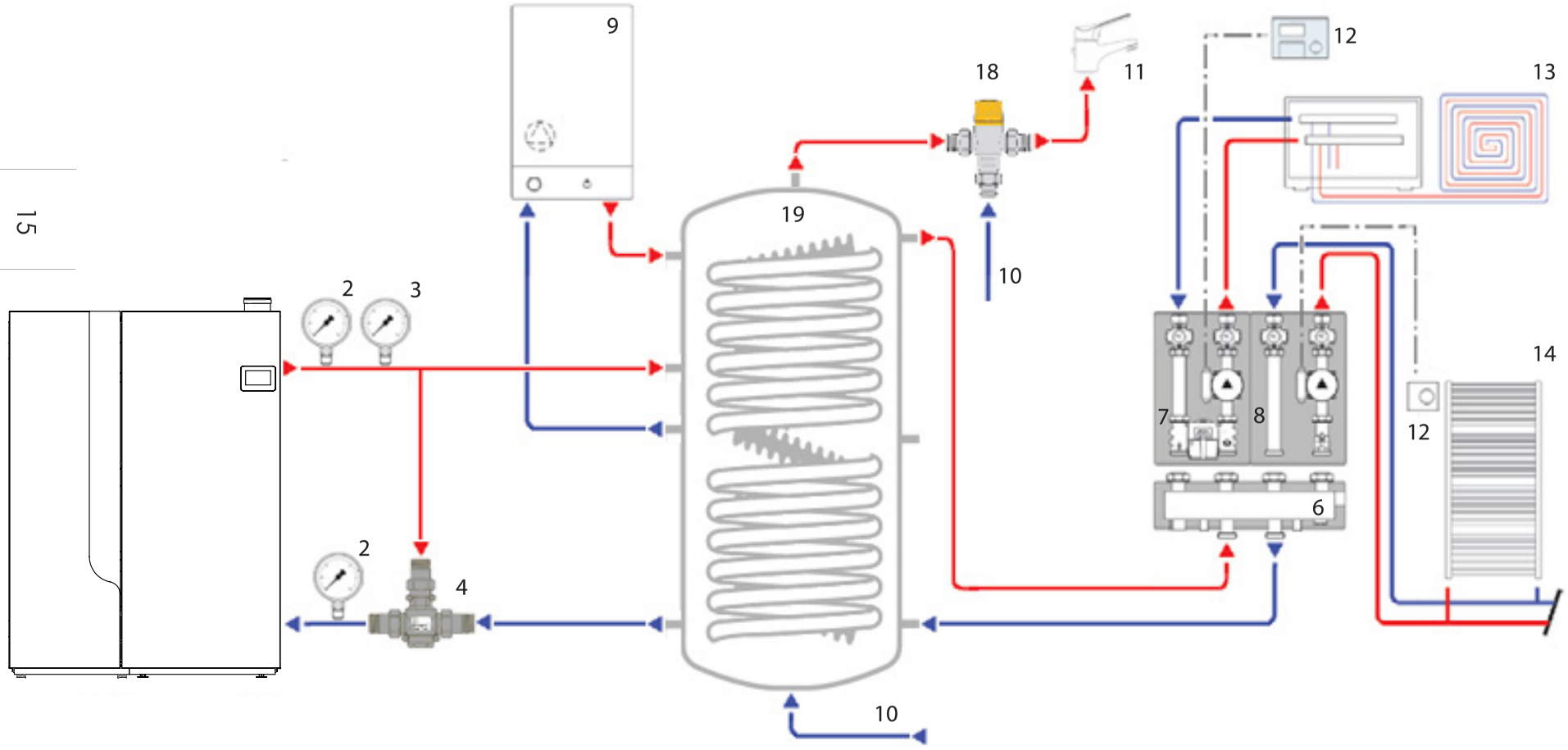
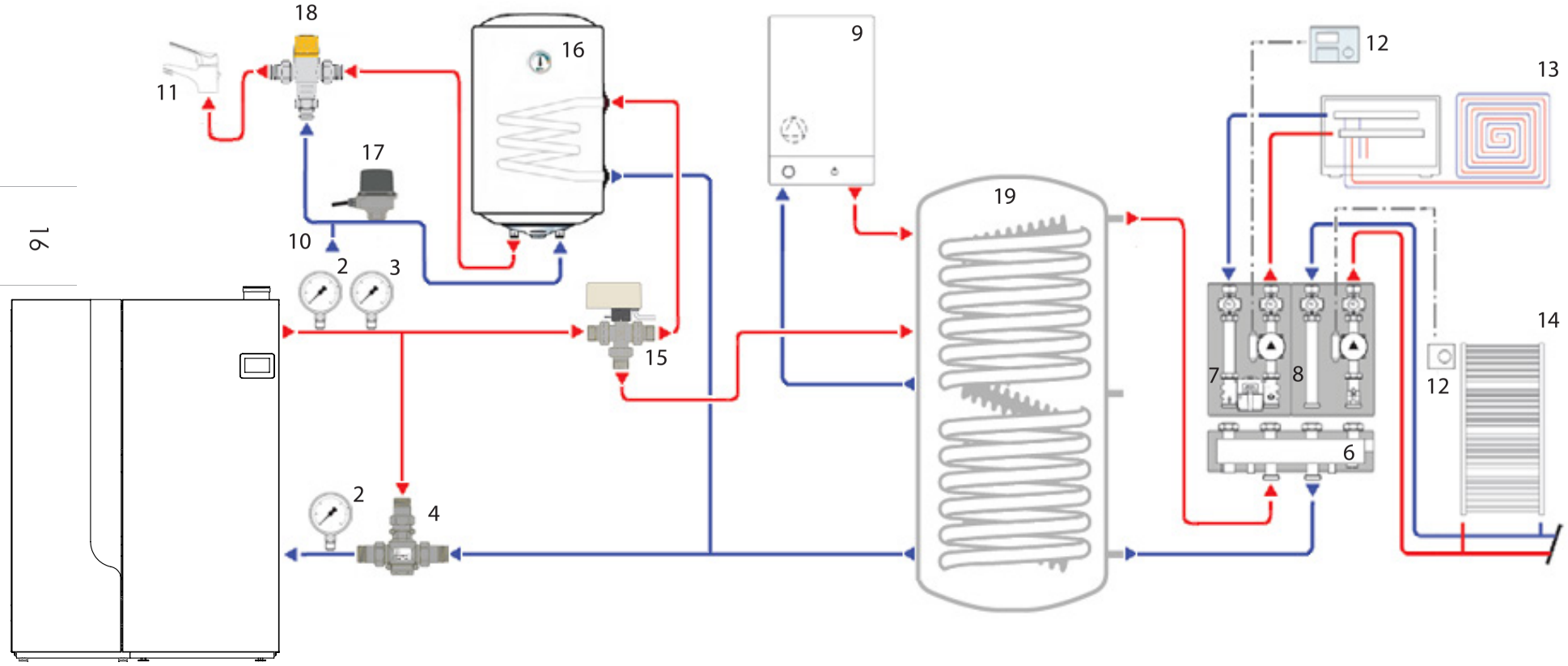


DIAGRAM 03 - TECHNICAL WATER (PUFFER) + DHW TANK

1 - Pellet stove
2 - Thermometer
3 - Pressure gauge
4 - Anti-condensation valve
5 - System separator
6 - System manifold
7 - Mixed distribution group
8 - Direct distribution group
9 - Gas boiler
10 - Water duct
11 - Sanitary water
12 - Wall thermostat
13 - Floor heating
14 - Heating with radiators
15 - Three-way heating valve
16 - DHW storage tank (Boiler)
17 - DHW flow switch
18 - Mixing valve
19 - Technical water storage tank (hot water tank)



5 MAINTENANCE

The maintenance operations, excluding routine cleaning (explained in the relevant paragraph), must be carried out by authorised, technical staff. Remember, before carrying out any maintenance operation, implement the following precautions:

- all parts of the product must be "cold";
- ensure there is no form whatsoever of combustion (for example ash still hot);
- use of safety devices as per the directive;
- remove the plug from the electrical socket;
- having terminated maintenance, reset the product paying attention to re-activate all the safety devices.

5.1 SMOKE SYSTEM MAINTENANCE

The chimney flue must always be cleaned, since deposits of soot or fuel residue reduce the section blocking its draught, compromising good operation of the product and, if in large quantities, can catch fire. It is compulsory to have a qualified chimney sweep clean and check the chimney flue and the stack at least once a year or after prolonged stoppage due to non-use of the appliance. At the end of the control/maintenance, ask for a report to be issued stating the system is safe.
Lack of cleaning prejudices safety of the system.

5.2 PRODUCT MAINTENANCE

Carry out at least once a year or on each "Service Hours" signalling (signal that appears on screen when the working hours have been exceeded, over which excellent product operation is not guaranteed). In this phase, the authorised technician should:

- completely and accurately clean the smoke pipes;
- check the sealing status of all the gaskets;
- remove broken pellet residue inside the pellet tank;
- re-assemble all parts of the appliance;
- check correct operation and good quality combustion

6 TECHNICAL DATA

This chapter issues to the end user all the information relating to the technical data of the product, the dimensions, the installation measurements, the minimum distance to comply with from wallsand furniture, sofas, etc.

6.1 PRODUCT DATA SHEET

PRODUCT DATA SHEET			
EU 2015/1186			
Brand	NOBIS		
Model	POLIGON 25	POLIGON 28	POLIGON 32
Product class (EN 303-5/2012)	5	5	5
Energy efficiency class	A+	A+	A+
Direct thermal power (kW)	24.7	27.0	29.0
Energy efficiency index	118.8	118.9	118.9
Useful efficiency (Nominal power %)	92.0	92.1	92.2
Useful efficiency (Reduced power %)	91.6	91.6	91.6
Comply with the warnings and instructions for installation and periodic maintenance of the instructions manual.			

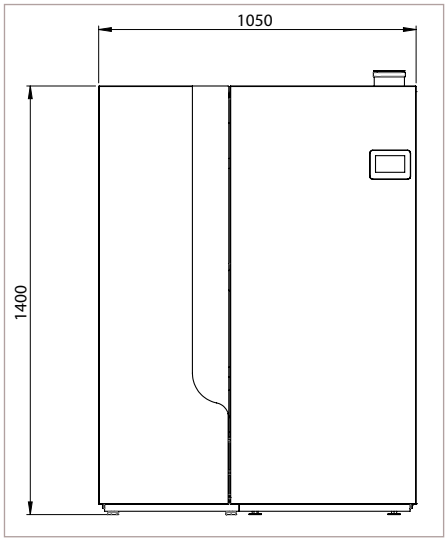
6.2 TECHNICAL FEATURES

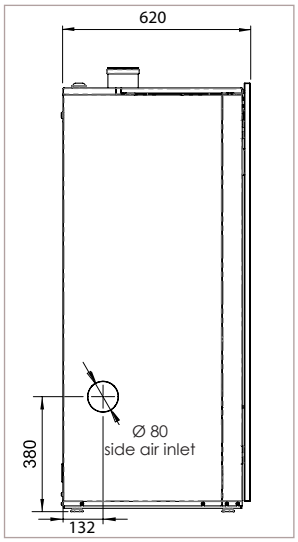
Model	POLIGON 25		POLIGON 28		POLIGON 32	
	Reduced	Nominal	Reduced	Nominal	Reduced	Nominal
Weight (kg)	450		450		450	
Water quantity (lt)	75		75		75	
Min. draft (mbar - Pa)	0.10 - 10		0.10 - 10		0.10 - 10	
Max. water pressure (bar - kPa)	2.5 - 250		2.5 - 250		2.5 - 250	
Ø air inlet (mm)	80		80		80	
Ø smoke outlet pipe (mm)	100		100		100	
Vol. max. heating* (m^3)	607		663		712	
Power introduced *(kW)*	7.9	26.9	7.9	29.3	7.9	31.5
Total output power *(kW)*	7.2	24.7	7.2	27	7.2	29
Yeld *(%)*	91.6	92	91.6	92.1	91.6	92.2
CO 10% O_2 *(mg/m^3)*	15	21	15	23	15	24
Tank capacity (kg)	75	125	75	125	75	125
Pellet consumption *(kg/h)*	1.63	5.60	1.63	6.11	1.63	6.56
Burning time *(h) with 75kg*	46	13.4	46	12.3	46	11.4
Burning time *(h) with 125kg*	76.7	22.3	76.7	20.5	76.7	19
Pellet type	Pellet Ø6/8 mm size 3/40mm					
Absorbed electrical power (W)	425		425		425	
Electrical power supply (V-Hz)	230 - 50		230 - 50		230 - 50	
Discharge gas flow *(g/s)*	9.3	17.4	9.3	19.1	9.3	20.6
Smoke temperature *(°C)*	64	89	64	92.3	64	95

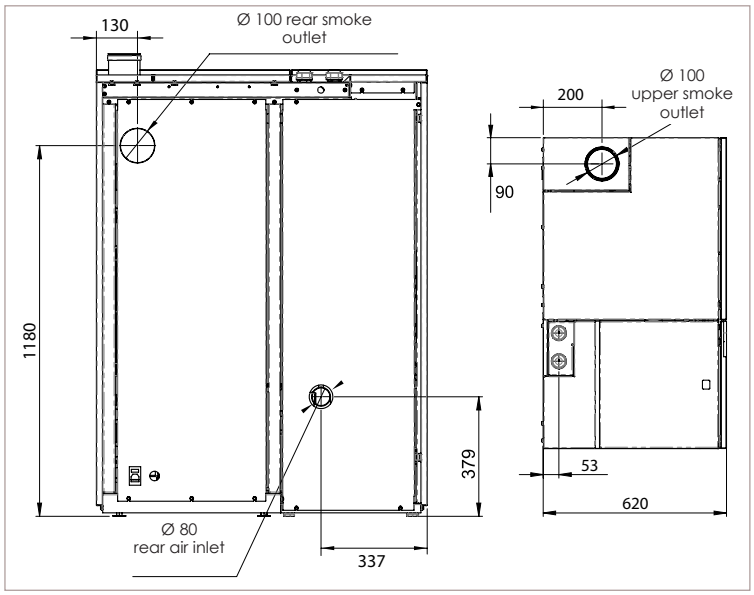
* this value can vary based on the type of energy class of the home and the type of pellet used.

The data outlined are approximate and non-binding and can vary based on the type of pellet used. The manufacturer reserves the right to make changes for the purpose of improving product performance.

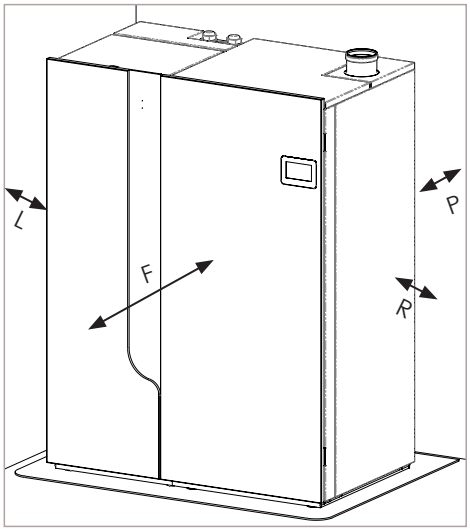
6.3 DIMENSIONS







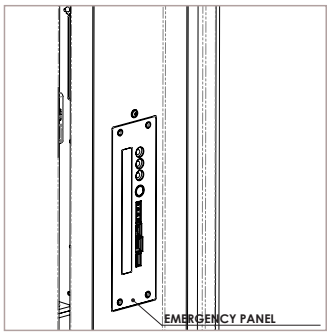
6.4 SAFETY DISTANCE

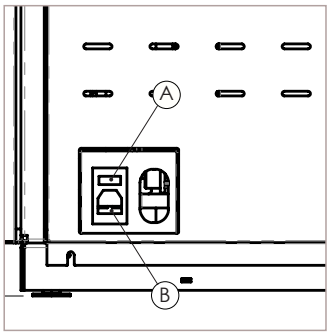


Min. distance from flammable materials		
R	Right-hand side	150 mm
L	Left-hand side	150 mm
P	Rear	100 mm
F	Front	1000 mm

7 PRODUCT CONFIGURATION

Once all the installation, covering assembly (where present as a kit) and electrical connection are in place, with utmost attention, access the rear part of the product to power it.

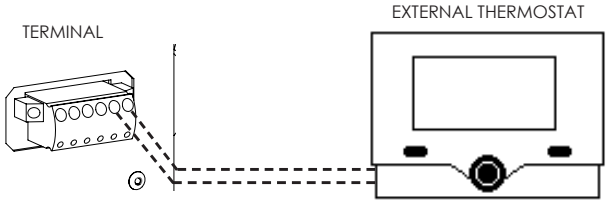




The "I/O"Ⓐ switch in the figure above must be positioned on "I". In the event of a power failure, check the condition of the fuse placed under the switchⒷ(4A fuse *EU configuration*).

7.1 THERMOSTAT CONFIGURATION

To adjust temperature, an external thermostat has to be connected to the product (see image below). By means of the thermostat, combustion modulation, as well as switch-on/off operation of the product can be managed. As this is a complex operation (the thermostat terminals must be connected to the boiler terminal block, which is located inside the appliance, under the right panel), it must be carried out by a specialized technician during the installation phase.

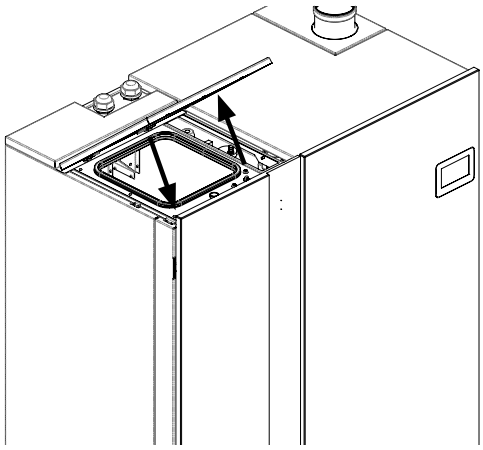


Following electrical connection, to allow the control unit to recognize the thermostat, enable the specific function from the USER PREFERENCES menu (see the "ENABLE EXTERNAL THERMOSTAT" paragraph).

7.2 PELLET LOADING

Fuel is loaded by inserting pellets from the upper part of the product, opening the door. Ensure the content of the bag of pellets does not fall around the edges of the tank, paying particular attention to centring, during the loading phase. Also avoid the pellet packaging coming in contact with hot surfaces.

Make sure to close the tank hatch properly after loading pellets. Closure is controlled by an electronic sensor (where supplied). In the event of non-closure, a signal will warn the user. In the event the warning is ignored, the system will trigger an alarm.

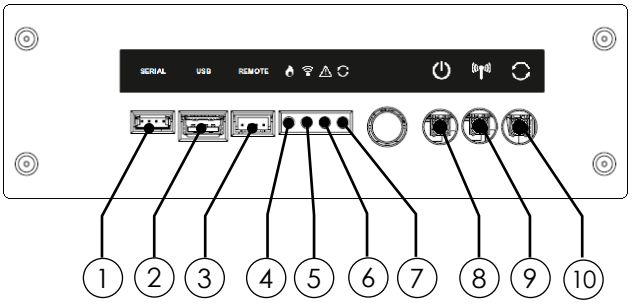


8 DESCRIPTION OF THE COMMAND CONSOLE

Before turning on the appliance, it is recommended to read thoroughly the following chapter (use of the two command consoles below and their functions).

8.1 DESCRIPTION OF THE EMERGENCY CONSOLE

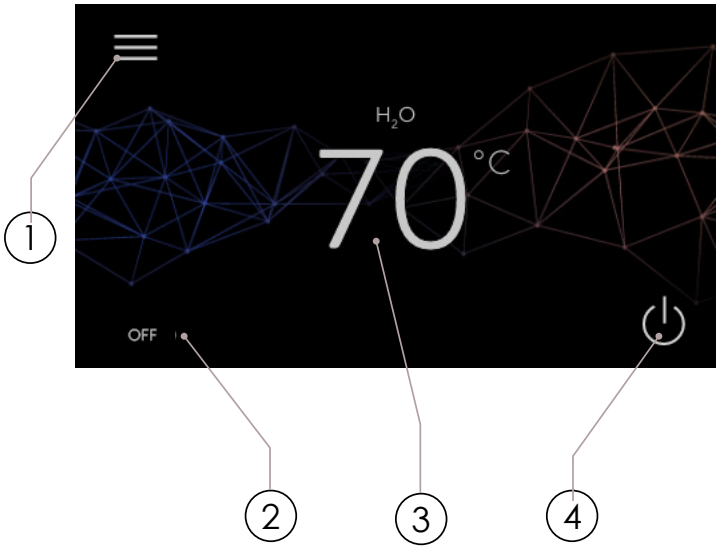
The appliance is equipped with an emergency console, (to be found on the back of the product), which allows to manage the basic functions in case of failure or malfunction of the display.



1	Serial connection (authorised staff ONLY)
2	USB (authorised staff ONLY)
3	Display cable connection
4	GREEN LED - the product is working
5	YELLOW LED - not applicable
6	RED LED - alarm status active
7	BLUE LED - System updating
8	Product turn on/off button
9	Not applicable
10	Manual update button (authorised staff ONLY)

8.2 DESCRIPTION OF THE TFT DISPLAY

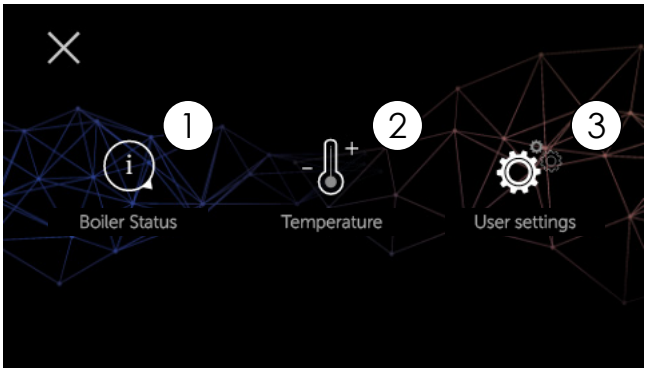
THe display appears as follows:



1	Access to the user menu
2	Boiler status
3	Display boiler water temperature
4	Turn on/off the product

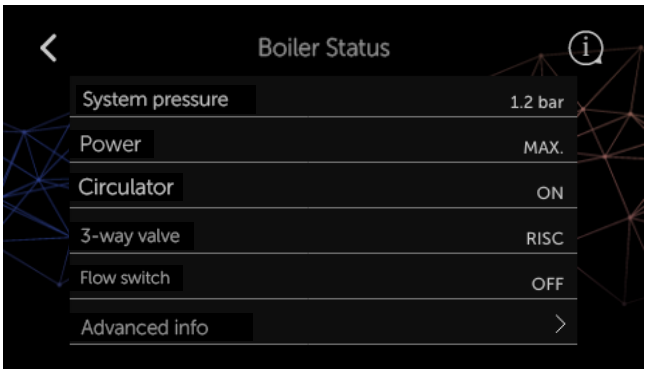
9 MENU NAVIGATION

Tap the menu icon to access the user settings screen.

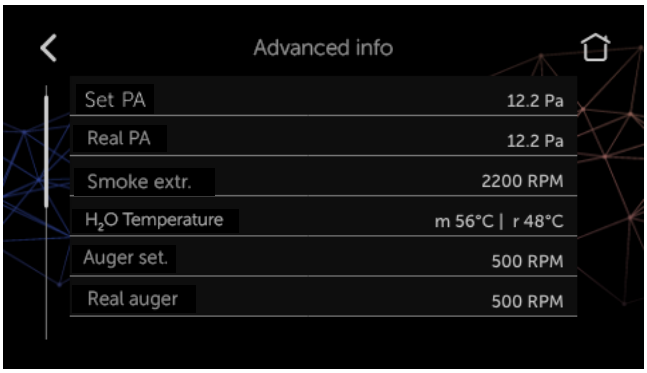


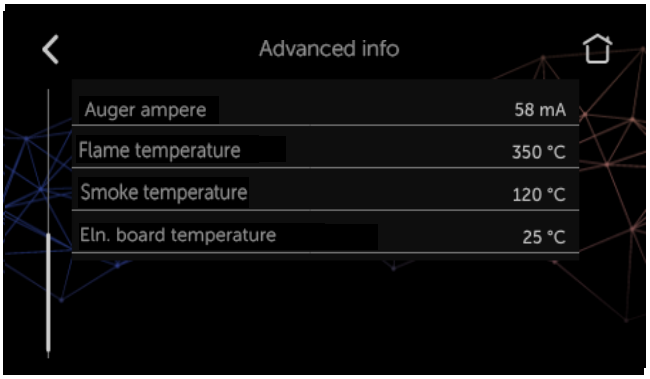
Tap the X icon to return to the main screen.

① **Display "boiler status"**
By tapping on this icon, you can check the correct operation of the most important parameters of the device. Below are the screens that display the list of actual product data, useful for the assistance service during the checking phases.

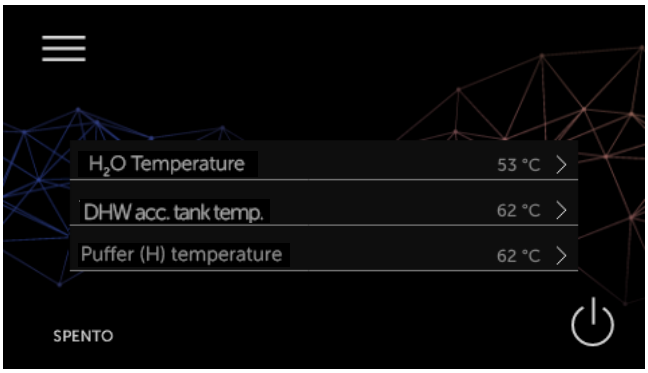


System Pressure: it indicates the actual system pressure read by the transducer, placed on the product system delivery.
Power: it shows the real power of the device;
Circulator: the word ON indicates that the circulator is active and it lets water circulate in the domestic system.
3-way valve: it indicates a possible three-way valve; installed in the presence of a DHW exchanger or a DHW tank.
Flow controller: it indicates the status of the flow controller, in the presence of a DHW exchanger or a DHW tank;
Advanced information: it contains other values related to the product status, only useful for the installer.

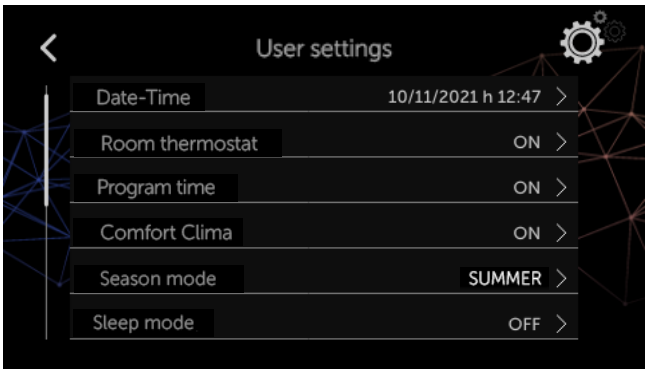


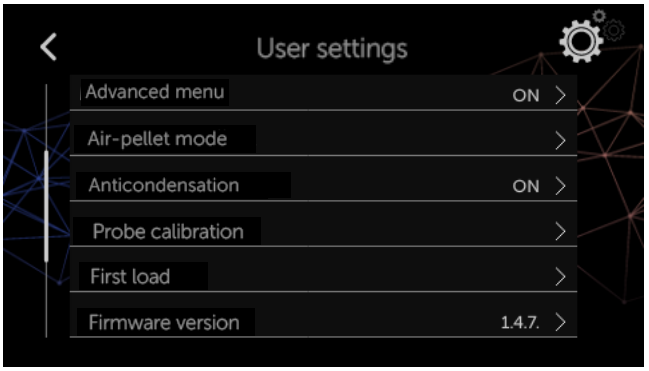


② **Display and change temperature settings**
This icon is used to display and change the boiler water temperature. In the presence of advanced system diagrams, it is possible to check and modify the temperature of the DHW accumulator or the CEC accumulator.



③ **Display and change "User preferences"**
this icon you can check and modify parameters that improve certain aspects of user comfort and/or boiler operation.







10 INSTRUCTIONS FOR FIRST USE

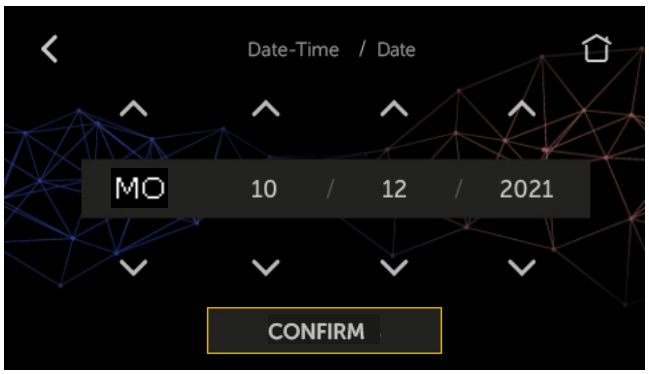
This chapter describes certain operations to be carried out when the appliance is first switched on.

10.1 DATE AND TIME SETTING

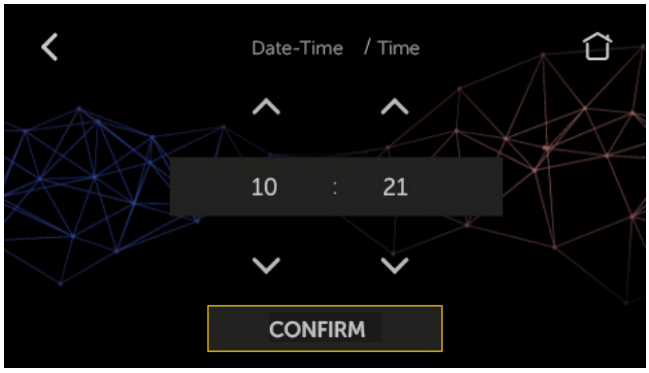
The setting of the date and time are essential to start the boiler automatically. From the menu icon, go to "User Preferences" and select "Date & Time" .



① Press the ">" icon relative to the DATE to access the screen. Press "Λ or V" to change the value and press "CONFIRM" to return to the "Date and Time" screen.



② Tap the TIME ">" icon to access the screen. Press "Λ or V" to change the value and press "CONFIRM" to return to the "Date and Time" screen



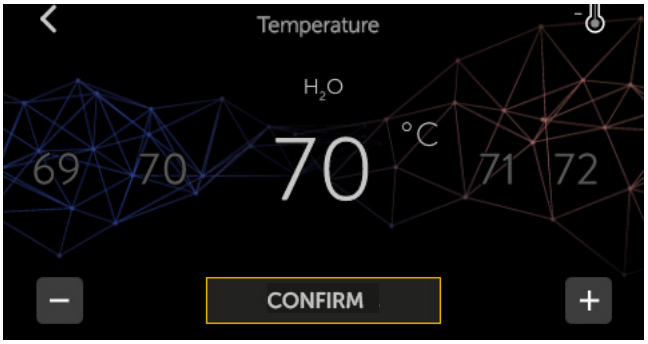
③ Press the ">" icon relating to DST to access the screen and activate or deactivate the function. Press "CONFIRM" to return to the "Date and Time" screen.



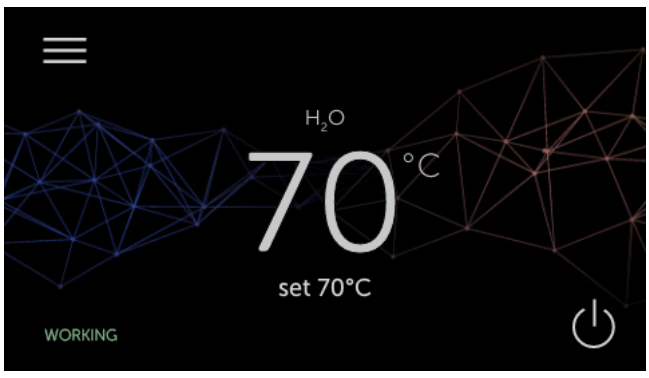
To return to the previous data without saving the modified data, press the "<" key.
To return to the STAND-BY screen, press the "home" icon.

10.2 BOILER WATER TEMPERATURE SETTINGS

There are two ways to display the following screen:
- in the STAND-BY screen, press actual temperature;
- from the menu icon, access "temperature settings".



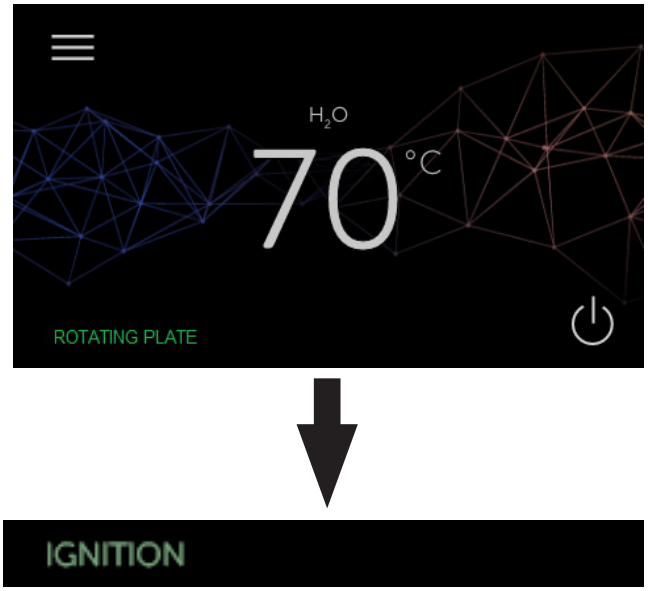
Press the "+ and –" icon to modify the value and press "CONFIRM" to return to the STAND-BY screen. Hold down the "+ and –" key for a long time to accelerate the scrolling of the value.



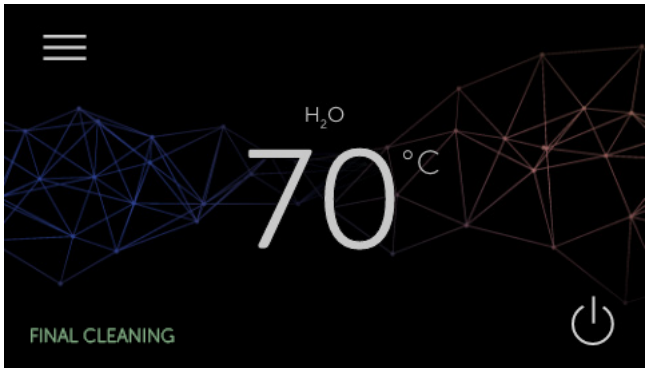
To return to the previous data without saving the modified data, press the "<" key.

10.3 PRODUCT ON/OFF

To turn on the product, long press the ⏻ key until the writing appears
"Active Cleaner", followed by an acoustic signal.
This mode, which precedes the start-up of the boiler, is intended to move all the mechanisms responsible for cleaning the combustion chamber, before moving to the "Ignition" mode.



After long pressing ⏻ you'll hear an acoustic signal: this means the product is going to shut down and reset any alarms.



To vacuum the inside of the combustion chamber and the brazier, always use an ash vacuum cleaner. FIRE HAZARD.

When starting the product for the first time, it is possible to smell unpleasant odors or see fumes caused by the evaporation or drying of certain materials used. Keep the rooms well ventilated until after a few hours of use, this phenomenon disappears on its own.

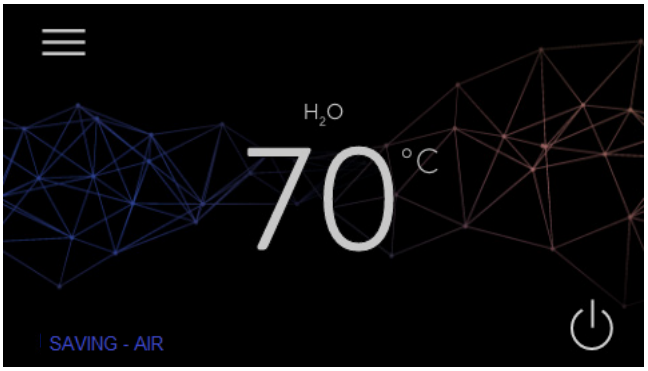
11 WORK PHASE

The products in our range include a work phase with 2 operating powers. Once the previously set room temperature has been reached, the product operates as follows.

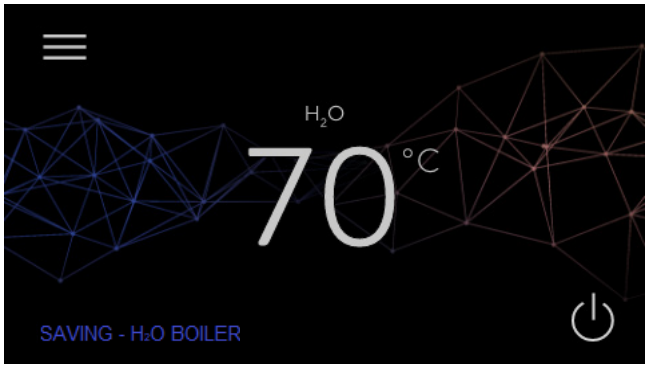
11.1 ECO MODE

Once the room temperature or the set boiler water temperature is reached, the output is reduced in ECONOMY mode, where fuel consumption is minimal.

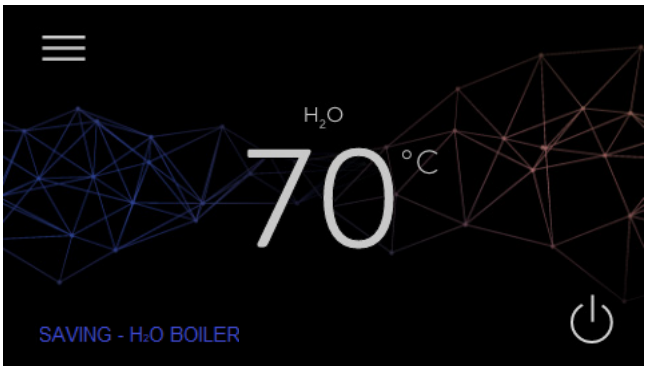
ECONOMY mode screen: room temperature reached by any connected and configured room thermostat



ECO mode screen: boiler water temperature reached:



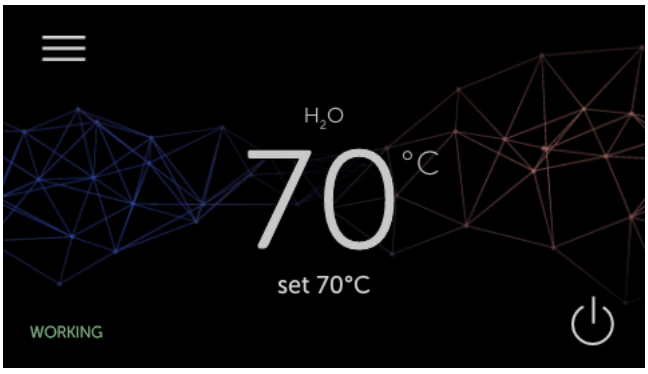
ECO mode screen with both values reached:



11.2 COMFORT CLIMA

As described in the previous paragraph, the device must meet the thermal comfort required by the user. If the house belongs to a good energy class, this function ensures fuel savings. This saving comes from the fact that the device switches on and off, respectively when it must reach or has reached the set temperature.
Below is the procedure for enabling the function, changing the values and what they mean. From the menu icon, navigate to "User Preferences" and select "Comfort Clima".

Activation of the function



It is possible to activate the mode which allows the product to be switched off and on again.

① **Function management (room temp. or boiler H_2O)**

It is possible to choose whether or not to switch off the product when room temperature (AIR) is reached rather than when the water temperature settings (WATER) in the boiler are reached (at the user's choice).
Press the ">" icon relative to "Management" to enter the screen, where you can select the desired setting. Press "CONFIRM" to return to the "Climate comfort" screen.



② **Delayed switch-off**

Useful time to determine if room/boiler water temperature actually remains at the set value, before the device switches off.
Press the ">" icon relating to "Delayed stop" to access the screen, press "+ or –" to modify the value and press "CONFIRM" to return to the "Comfort CLima" screen.



③ **Delta restart**

This parameter determines the thermal gradient that triggers the restart of the device.
Press the ">" icon relative to "Restart" to access the screen, press "+ or –" to modify the value and press "CONFIRM" to return to the "Comfort Clima" screen.



To return to the previous data without saving the modified data, press the "<" key.
To return to the STAND-BY screen, press the "house" icon.

STATUS SCREEN:
it is necessary to display screen ① for the device to switch off in COMFORT CLIMA condition.

Screen ② must be displayed for the device to start in COMFORT CLIMA condition.



The use of an external thermostat is recommended with its own hysteresis value, which can be set up to a maximum of 3°C. The device can start and stop several times during the day; this could compromise the life of the ignition resistor.

11.3 "BOILER WATER" H_2O STAND-BY

The "H_2O Stand-by" mode is activated when the water temperature reaches 85°C; this function takes over to protect the circuit, in particular when no COMFORT CLIMA function is active for the boiler water. The device restarts automatically after cooling, provided there is an ignition request (eg. room temperature request).

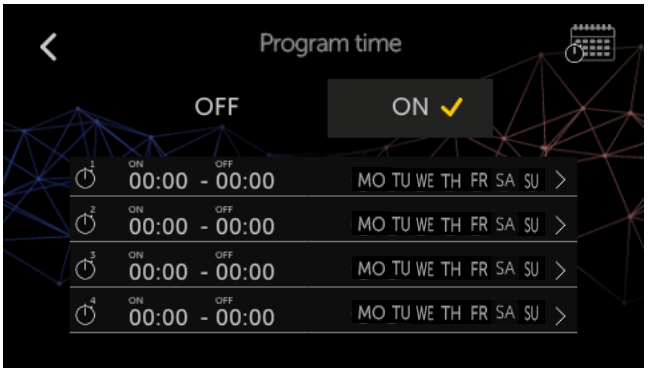
12 DESCRIPTION OF MENU FUNCTIONS

This chapter describes user menu functions useful for improving certain aspects of user comfort and/or product operation.

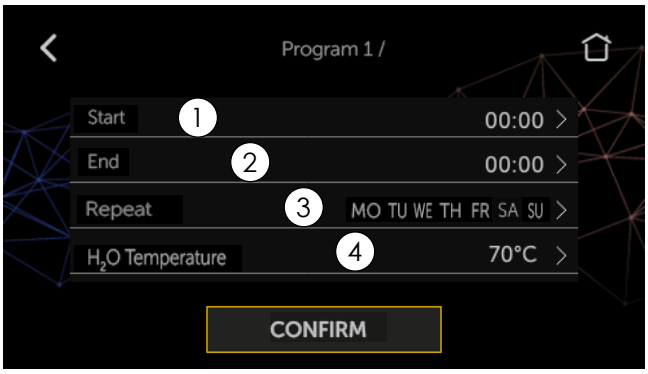
12.1 PROGRAMMABLE THERMOSTAT

The chronothermostat function is used to program the automatic switching on and off of the product for each day of the week. There are 4 independent programs (PROGRAM 1 - 2 - 3 - 4).
Below is the procedure from the STAND-BY screen, to access the corresponding menu.
Below is the procedure for enabling the function, changing the values and what they mean. From the menu icon, navigate to "User Preferences" and select "Time Setting".

Activating the function and setting the programs

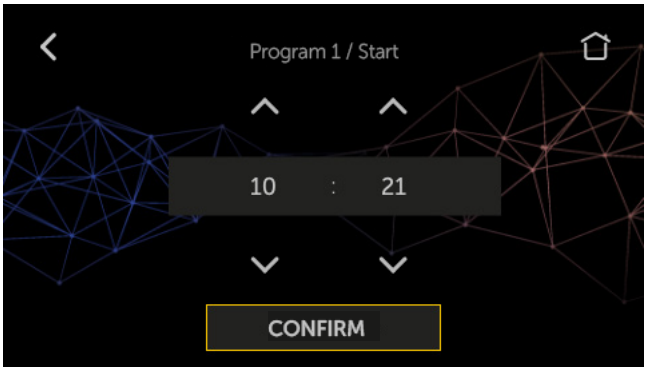


It is possible to activate and deactivate all the configured programs. To define a program, access the dedicated screen using the ">" key.



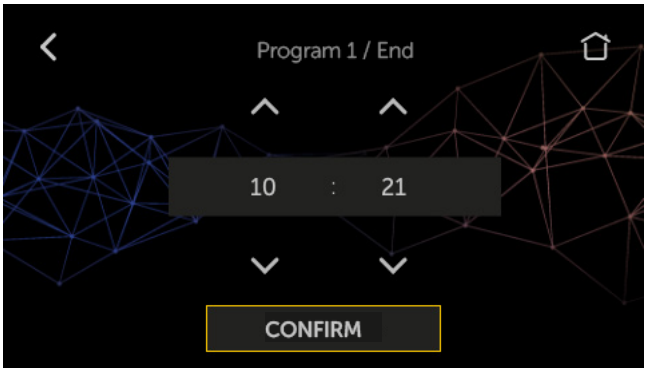
① **Program start time setting**

Press ">" icon relative to "Start" to enter the screen, press "Λ or V" icon to change the value. Press "CONFIRM" to return to the "Time SettingS" screen.



② **Setting the program end time**

Press the ">" icon relative to "Finish" to enter the screen, press the "Λ or V" icon to modify the value. Press "CONFIRM" to return to the "Time Setting" screen.



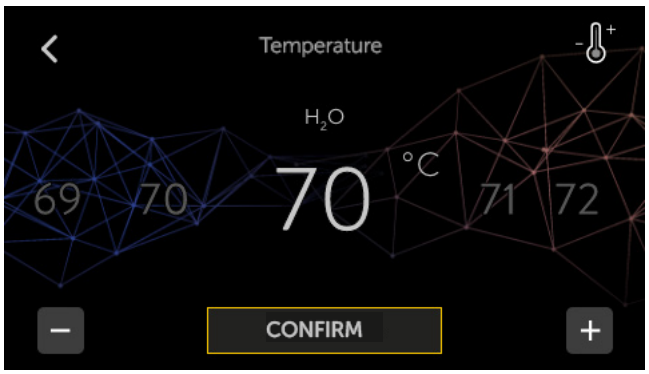
③ **Setting the days of the week on an active program**

Press the ">" icon relative to "Repeat" to access the screen, where you can select the desired days of the week. Press "CONFIRM" to return to the "Time Setting" screen

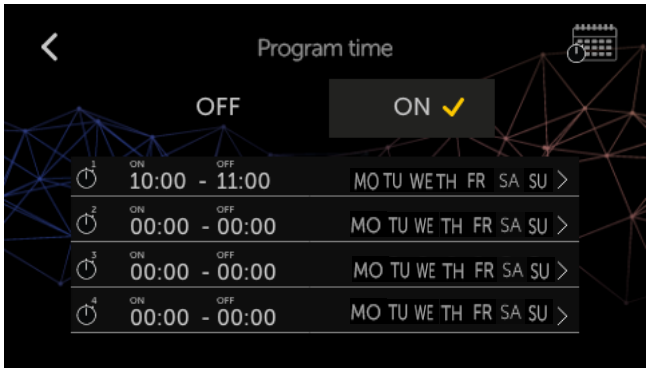


④ **Setting the H_2O TEMPERATURE on the active program**

Press the ">" icon relative to "Temperature" to access the screen, where you can select the water temperature you want. Press "+ or –" to change the value and press "CONFIRM" to return to the "Time Setting" screen



Below is an example setting for program 1

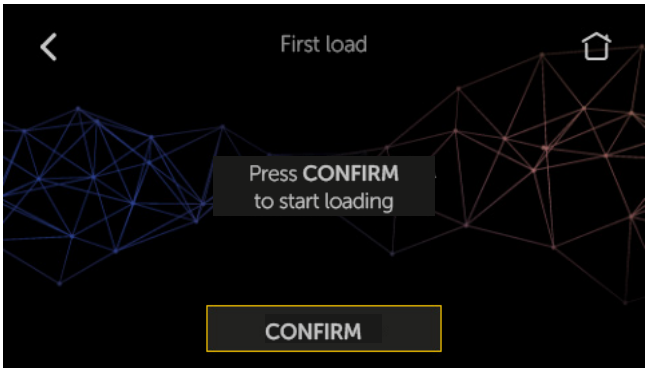


To return to the previous data without saving the modified data, press the "<" key.

To return to the STAND-BY screen, press the "home" icon.

12.2 AUGER LOADING FUNCTION

The following function is used to facilitate the start-up phase of the appliance, after having carried out a thorough cleaning of the hopper (pellet container) to remove the sawdust that over time has formed on the bottom. See the chapter "Ordinary maintenance of the product".
Check that you have inserted the pellets inside the tank. Check that the device is in the "OFF" or "FINAL CLEANING" mode before starting the function.
From the menu icon, go to "User Preferences" and select the "Screw loading" item.



Press "CONFIRM" to start auger loading.
The cleaner is activated to clean the brazier.



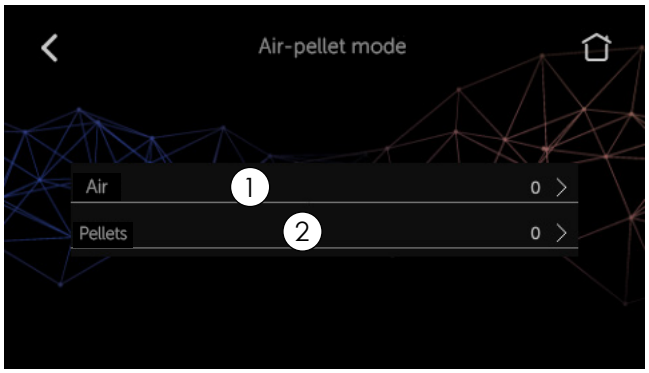
Then the pellet auger is activated.
The number expressed in seconds indicates the rotation time of the screw during the loading phase. After this time, the screw stops automatically.



When loading is complete, the device goes to the "User Preferences" screen.

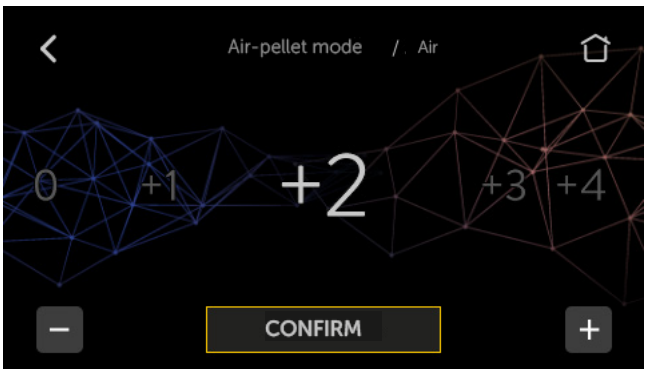
12.3 PELLET/AIR INTAKE RATIO

The PELLET-AIR INTAKE ratio function allows you to change, with immediate effect, the quantity of pellets loaded in the brazier and the quantity of air intake of the product, tested and inspected with DIN PLUS certified pellets. If you use other pellets or uncertified pellets, combustion may need to be adjusted. Normally, the change is executed on the AIR INTAKE percentage to improve combustion; if oxygen adjustment is not efficient, you may need to also change the percentage of PELLETS falling into the brazier.
From the menu icon, access "User preferences" and selectr "Air-Pellet Mode".



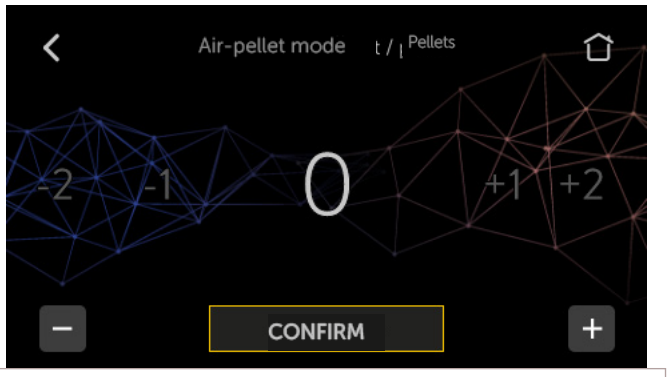
① **Setting the % of air intake (oxygenation)**

Press the ">" related to "Air" to access this function and press + or - to make changes:
Values vary from -5: reduction in the % of air intake, up to +5: increase in the % of air intake.
Press "CONFIRM" to go back to the "Air-Pellet Mode".



② **Setting the % of pellet**

Press the ">" related to "Air" to access this function and press + or - to make changes:
Values vary from -5: reduction in the % of pellet loaded, up to +5: increase in the % of of pellet loaded.
Press "CONFIRM" to go back to the "Air-Pellet Mode".



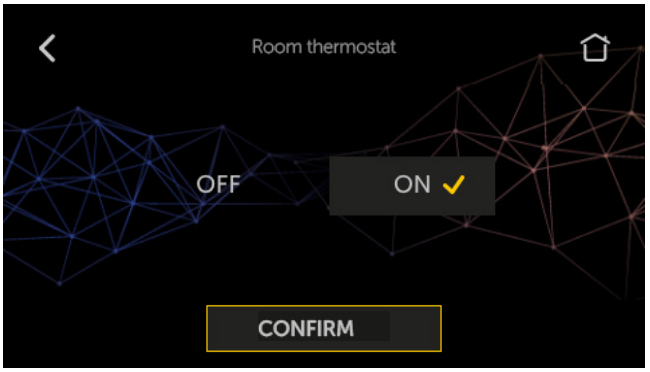
The number indicated for modifying the parameters refers to a percentage of variation that acts on the default parameters defined in the electronic board. This only has an effect in the working phase. These values must be modified in the event of poor combustion, often due to the use of pellets different from the one used to test the appliance.

To return to the previous data without saving the modified data, press the "<" key.

To return to the STAND-BY screen, press the "home" icon.

12.4 ENABLING ROOM THERMOSTAT FUNCTION

The following paragraph indicates how to activate the function which involves the use of the external thermostat for the management of the room temperature.
Referring to the "ROOM THERMOSTAT CONFIGURATION" paragraph, the procedure for reading the device by the electronic card is illustrated below.
From the menu icon, access the "User Preferences" and select the item "Room temperature thermostat".
Enable or disable the function and press "CONFIRM" to return to the "User Preferences" screen.



To return to the previous data without saving the modified data, press the "<" key.

To return to the STAND-BY screen, press the "home" icon.

12.5 SEASON

The setting of this function manages the blocking of the three-way valve for advanced diagrams, preventing the sending of hot water to the heating system in the presence of DHW accumulation (with SUMMER setting).
From the menu icon, go to "User Preferences" and select the "Season Mode" item. Set "Winter" or "Summer", press "CONFIRM" to return to "User Preferences" screen.

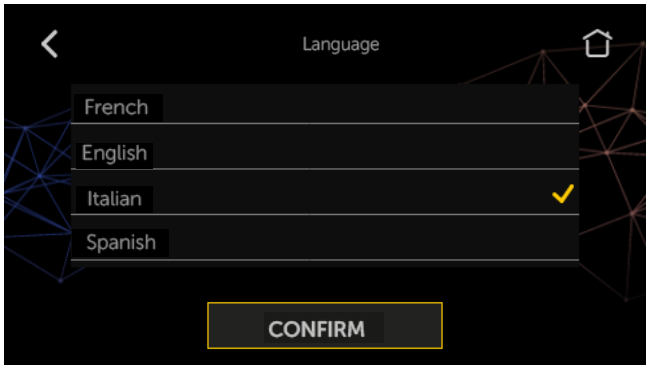


To return to the previous data without saving the modified data, press the "<" key.

To return to the STAND-BY screen, press the "home" icon.

12.6 LANGUAGE

This function allows you to select your language of preference.
From the menu icon, access to "User preferences" and select "Language". Select your language and then press "CONFIRM" to go back to "User preferences".

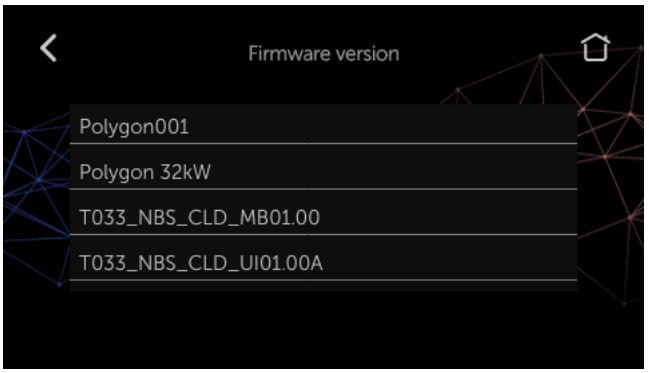


In fase di modifica, per tornare al dato precedente, senza salvare il dato modificato, premere il tasto "<".

Per tornare alla schermata di STAND BY, premere sull'icona "casetta".

12.7 FIRMWARE VERSION

This function allows you to view the version of the firmware installed on your appliance. It is useful for the support centre to control the availability of the new updates to be installed on the product, if necessary.



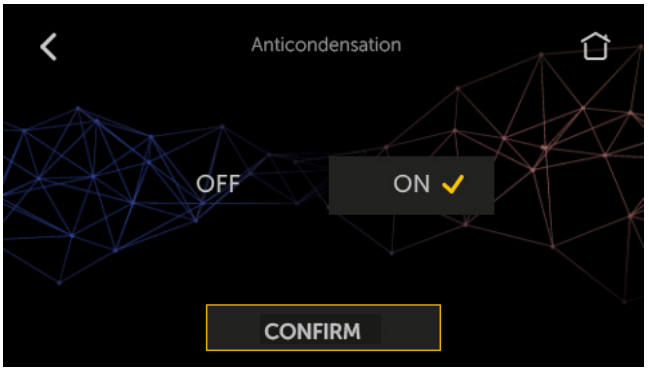
To return to the previous data without saving the modified data, press the "<" key.

To return to the STAND-BY screen, press the "home" icon.

12.8 ANTICONDENSATION (TEMPERATUREfumi scarico)

This function guarantees that the TEMPERATURE of the exhaust gases is kept above the condensation TEMPERATURE.
From the menu icon, access "User preferences and select "Anticondensation Mode". Activate or deactivate the function and press "CONFIRM" to go back to "User preferences".

The function involves a slight increase in pellet consumption to remedy this condition.
The causes of condensation can be related to the installation but especially to the yield of the pellets and the size of the pellets.



12.9 SLEEP FUNCTION (TURBULATORS + COMPACTORS)

The boiler has both an autonomous system for cleaning the tube bundles and a dedicated system for compacting the ashes, thanks to the movement of the internal mechanisms.
It is possible to inhibit these activities at night. The deactivation time slot is set by default from 10:00 p.m. to 8:00 a.m. the next day.

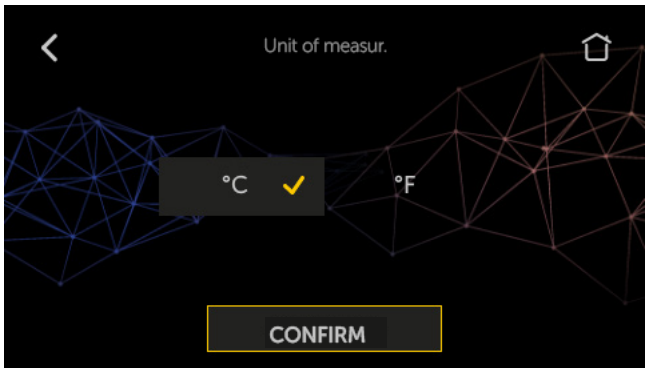
From the menu icon, go to "User Preferences" and select the "Sleep Mode" item. Enable or disable the function and press "CONFIRM" to return to the "User Preferences" screen

The activation of the turbulators and ash compactors takes place automatically both with each switching on/off of the device and over time during the work phase. It never intervenes in the inactive phases of the machine.



12.10 UNIT OF MEASUREMENT

It is possible to set the temperature in degrees Celsius or Fahrenheit.
From the menu icon, go to "User Preferences" and select the "Measurement Unit" item. Set the unit of measurement and press "CONFIRM" to return to the "User Preferences" screen.

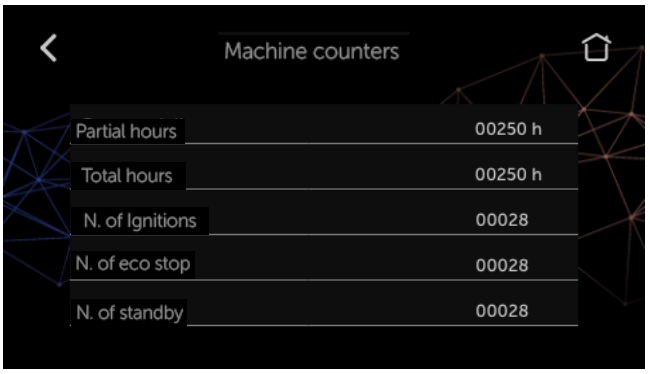


To return to the previous data without saving the modified data, press the "<" key.

To return to the STAND-BY screen, press the "home" icon.

12.11 MACHINE COUNTERS

This display allows the user to view certain information relating to the time and mode of operation of the boiler.
From the menu icon, go to "User Preferences" and select the item "Machine counters".

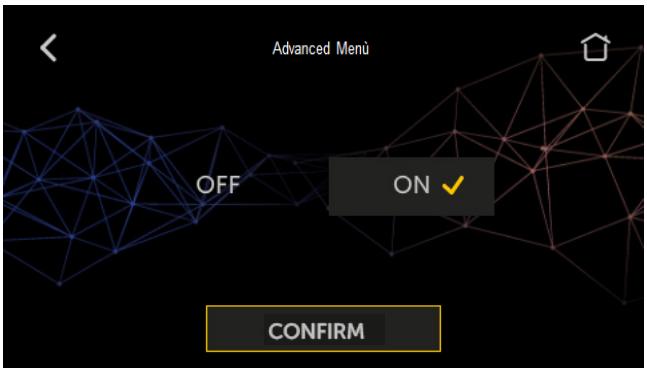


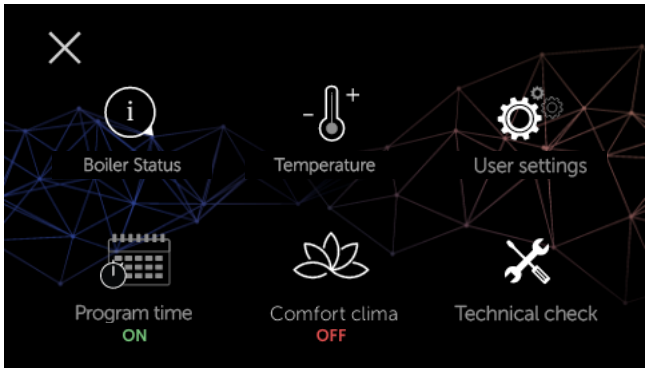
To return to the previous data without saving the modified data, press the "<" key.

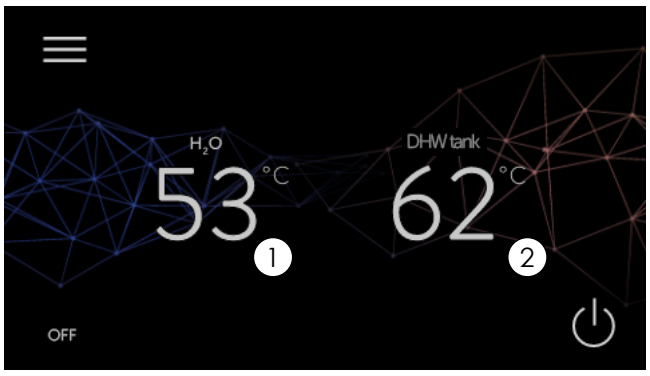
To return to the STAND-BY screen, press the "home" icon.

12.12 ADVANCED MENU

In this section, it is possible to learn enabling advanced menu display. From the user menu, you can display new quick icons for user-dedicated functions. It is also possible to view the icon useful to the technician to access the functions dedicated to him during the test/maintenance phase.
From the menu icon, navigate to "User Preferences" and select the "Advanced Menu" item.
Enable or disable the function and press "CONFIRM" to return to the "User Preferences" screen.



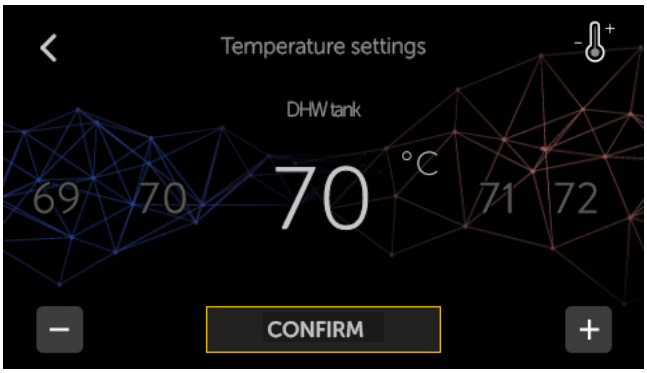




(1) It displays the boiler water temperature detected by the probe.

(2) It indicates the DHW storage temperature detected by the sensor. It is also possible to view and change temperature settings.

To set the DHW storage temperature, there are two ways to display the following screen:
- from the STAND-BY screen, press actual temperature;
- from the menu icon, navigate to "Temperature Settings";



Press the "+ and –" icon to change the value and press "CONFIRM" to return to the screen STANDBY. Hold down the "+ and -" key for a long time to speed up the scrolling of the value.
The operation is the same as for the basic diagram, with the only difference that in this diagram the product exchanges directly with the DHW tank (priority); when the set temperature is reached, the three-way valve changes position and the product begins to exchange with the heating circuit. Heating management is controlled by the room temperature thermostat and/or by the water regulator (see operation relating to diagram 00 in terms of modulation, eco stop, etc.). The three-way valve is directed to the DHW storage tank again when this is required by:
- the accumulation itself;
- the flow switch (optional if connected). From either ECO STOP or H_2O STAND-BY mode o, the product restarts taking into account the requests by the heating system or the DHW tank.

13 ADVANCED HYDRAULIC DIAGRAMS

This paragraph describes the behavior of the graphic console when activating an installation diagram different from the standard (direct connection to the heating system). By activating the diagram (operation reserved for a specialized technician), while retaining the same menu functions, the screen adapts to the display of all the services connected, such as the temperature of the DHW storage tank or the technical water storage

If the type of installation diagram designed requires the management of the 3-way valve (diagrams 1 and 3), it is necessary to purchase an optional kit at the point of sale or from an authorized Nobis technician.

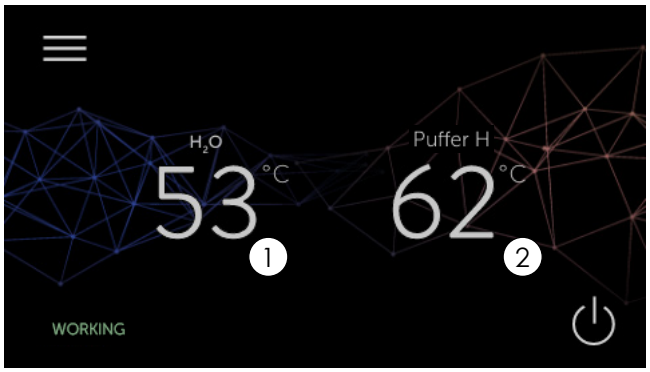
13.1 DIAGRAM 01 (DHW STORAGE + HEATING)

The following diagram can be used when you have a boiler without a plate heat exchanger and you want to buy a hot water storage tank (accumulator) to be connected to the circuit, in order to produce domestic hot water.
DHW storage is managed by the device using a contact or immersion sensor (non-standard) to be connected to the control unit.
Below is the new stand-by screen.

By setting the SUMMER function, the three-way valve remains fixed in a single position, allowing heat transfer from the device, only inside the DHW storage tank. As soon as this condition is reached, the product switches to ECO STOP mode.

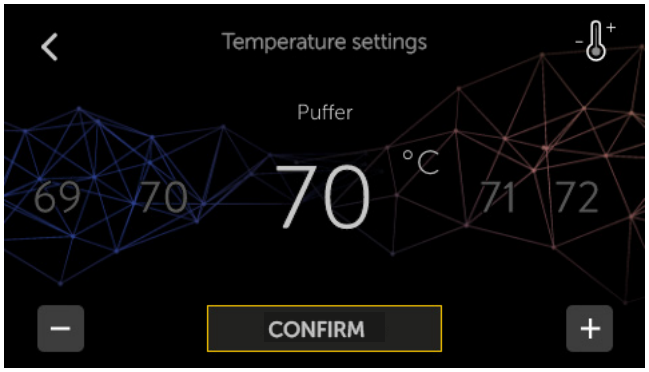
13.2 DIAGRAM 02 (TECHNICAL WATER STORAGE)

In this type of circuit, the management of the technical water accumulation is ensured by the product thanks to a contact or immersion probe (not supplied) to be connected to the control unit.
The new standby screen is shown below.



1 It indicates the boiler water temperature detected by the probe. Temperature cannot be changed.

2 It indicates the technical water storage temperature detected by the probe. It is also possible to view and change the temperature setting.
To set the Tech. hot water storage temperature, there are two ways to display the following screen:
- from the STAND-BY screen, press the actual temperature key;
- from the menu icon, access "Temperature Adjustments";



Press the "+ and –" icon to modify the value and press "CONFIRM" to return to the STAND-BY screen. Hold down the "+ and –" key for a long time to speed up the scrolling of the value.

The operation is the same as for the basic diagram, with the only difference that in this diagram the product is exchanged directly in the technical accumulation water; when the setpoint temperature is reached, the device goes into ECO STOP mode, then it restarts if the temperature drops below a restart value (Delta restart adjustable by the installer at the time of the test).

13.3 DIAGRAM 3 (DHW STORAGE + TECH. WTR STORAGE)

The following diagram combines the functions of the previously described diagrams and is recommended for those who have technical water storage (Puffer) without an internal coil provided for sanitary purposes. In this type of circuit, DHW storage is managed by the device using a contact or immersion probe (not standard) to be connected to the back of the device itself. With regard to water storage management, the product manages its heating using a contact or immersion probe (non-standard) always to be connected to the control unit.

The new stand-by mode is shown below

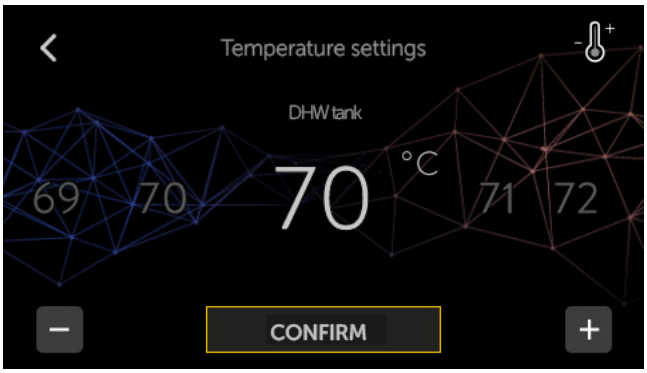


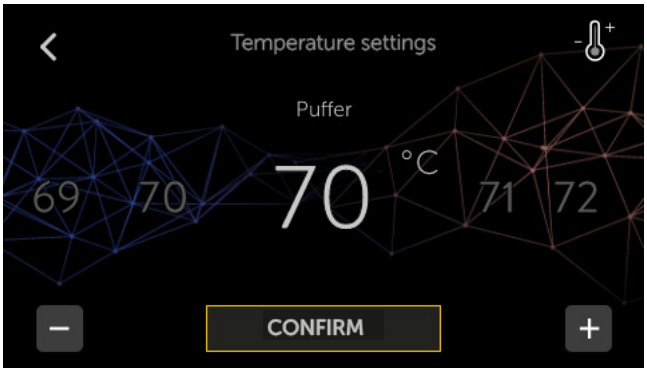
1 It indicates the boiler water temperature detected by the probe. Temperature cannot be changed.

2 It indicates the DHW water storage temperature detected by the probe. It is also possible to view and change the temperature setting.

3 It indicates the technical water storage temperature detected by the probe. It is also possible to view and change the temperature setting.

To set both the DHW storage temperature and the Tech hot water storage temperature, there are two ways to display the following screen:
- from the STAND-BY screen, press the actual temperature key;
- from the menu icon, access "Set Temperature";



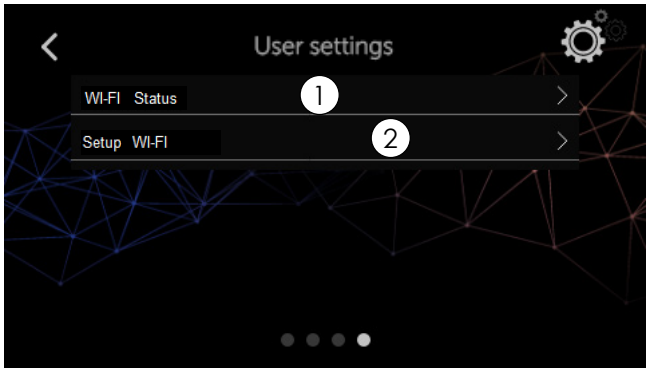


The operation is the same as for the basic diagram, with the only difference that in this diagram the product exchanges directly with the DHW tank (priority). When the setpoint temperature is reached, the three-way valve changes position and the product begins to exchange with the technical water accumulation (Puffer). As soon as the setpoint temperature is reached, the device goes into ECO STOP mode, to restart if the temperature drops below a restart value (Delta restart adjustable by the installer at the time of the test).
The three-way valve is directed to the DHW storage tank again when:
- this is required by the storage;
- this is required by the flow controller (optional if connected). From an ECO STOP or STAND-BY water mode, the device restarts taking into account the requests from one of the two storages.

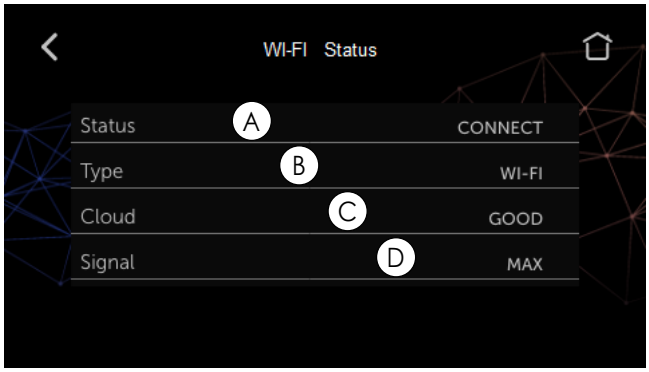
By setting the SUMMER function, the three-way valve remains fixed in a single position, allowing heat transfer from the appliance, only inside the DHW storage tank. As soon as this condition is reached, the product switches to ECO STOP mode.

14 WIFI SYSTEM MANAGEMENT

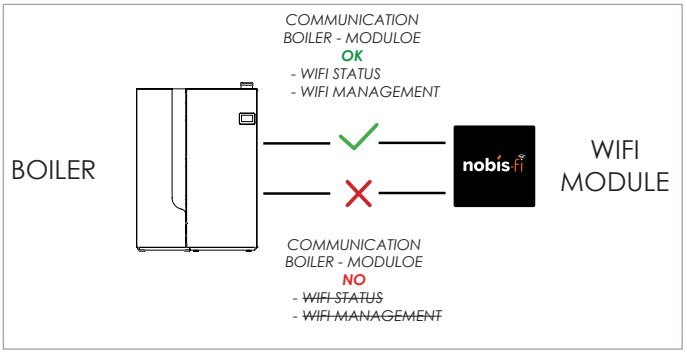
The function allows you to manage the Wi-Fi device directly from the boiler screen. When the device is connected to the boiler, under "User preferences", two items appear: one for displaying the WIFI status and another for its management.



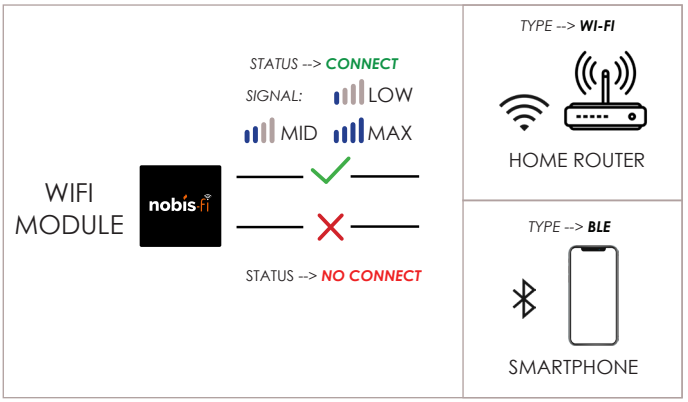
1 From the menu icon, access the "User Preferences" and select "WI-FI status", if you want to view the communication between the WI-FI device and the home router (active connection, connection type, quality signal, etc.);



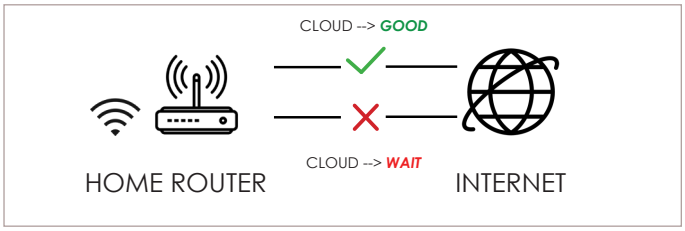
A



B
D



Ⓒ

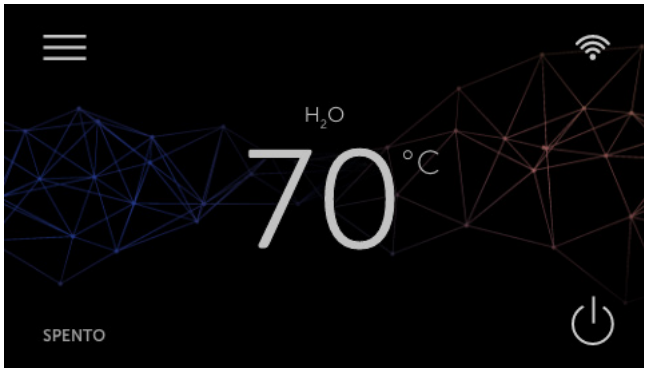


② To connect the WI-FI device to the home router using the WPS function or to connect the wifi device to another home router, from the menu icon, navigate to "User Preferences" and select "WI-FI management". Select the function and press the "CONFIRM" icon

All the information relating to the installation methods of the Nobis WI-FI device can be found in the dedicated manual, in addition to this manual, supplied with the boiler.



On the main screen it is possible to recognize whether the WI-FI device communicates with the boiler. It is also possible to understand if the boiler is connected to the Internet for remote management from a smartphone.



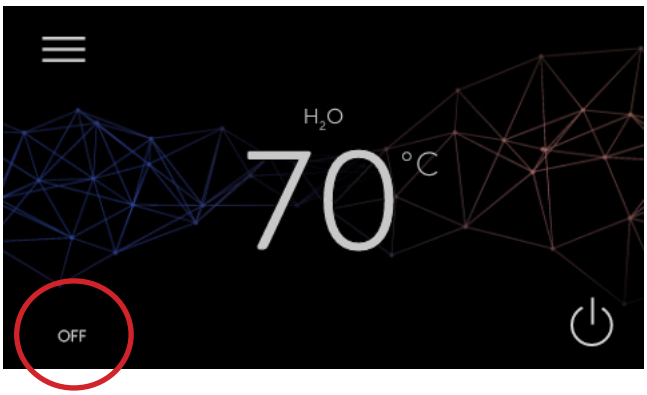
If no symbol appears at the top right, the WI-FI device is not communicating with the boiler.
If the symbol was:


The device hasn't been assigned to any home router yet;


The WI-FI device is connected to the home router, but the Internet connection is absent;


The connection is present and stable and the boiler can be managed via smartphone.

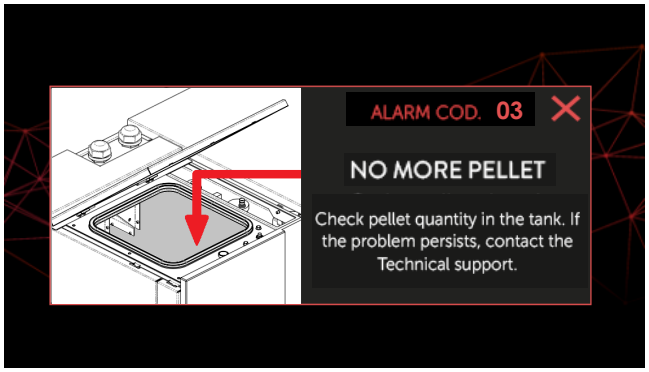
15 LIST OF PHASES



FASE	DESCRIPTION
SWITCH-ON	The resistor pre-heats and pellet start falling into the brazier.
WAITING FOR FLAME	Pellet ignites by means of the incoming hot air passing through the conduit of the glowing resistor.
FLAME PHASE	Pellet is loaded once again to exoand the flame.
WORKING	The ignition phase has been carried out and the product starts working as per settings.
MODULATE AIR	The desired room temperature has been reached.
MODULATE BOILER H2O	The set maximum boiler-water temperature has been reached.
MODULATION MODE	Both room temperature and boiler water temperature have been reached as per settings.
BRAZIER CLEANING	The brazier cleaning phase is active without the cleaner being moved (periodic function).
ACTIVE CLEANER	Brazier cleaning is ongoing with active cleaner. The appliance will shutdown and restart automatically.
WAITING FOR THE PRODUCT TO RESTART	The appliance will restart automatically after cooling down.
FINAL CLEANING	The appliance is about to shutdown but the cooling process has not finished yet.
OFF	The appliance is OFF and all motors are deactivated.
ECOSTOP	When Comfort Clima is active, this status indicates that the product is about to shutdown because room temperature and boiler water temperature have been reached as per settings.
STAND BY	Water has reached high temperature. Therefore, the appliance will force shutdown.

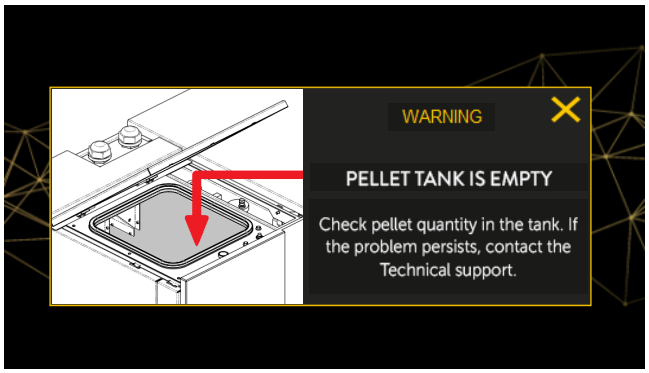
16 LIST OF ALERTS

ALARM



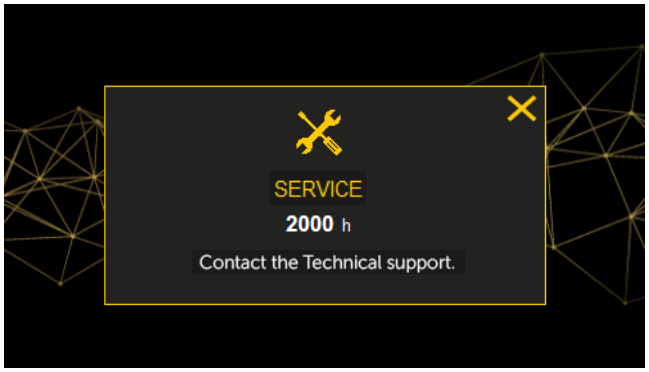
The device is in alarm mode, consult the "ALARMS" chapter to check the type.

ANOMALY



The device signals an anomaly, without turning off the device. See "FAILURE DIAGRAM".

HOURS OF SERVICE



The defined working hours threshold has been reached. Extraordinary maintenance of the boiler by personnel authorized by "Nobis" is recommended.

17 LIST OF ANOMALIES

ANOMALY	DESCRIPTION
FAULTY FLAME PROBE	The probe detecting the flame is faulty. Therefore, the boiler will enter in eco mode for safety reasons. Contact Nobis Technical Support to check the probe..

ANOMALY	DESCRIPTION
FAULTY SMOKE PROBE	The probe detecting the exhaust temperature is faulty. Therefore, the boiler will enter in eco mode for safety reasonsContact Nobis Technical Support to check the probe.

ANOMALY	DESCRIPTION
HOT SMOKE	Smoke temperature max. threshold has been reached. The appliance will switch to modulation mode to cool down the body before resuming operating power as per settings.

ANOMALY	DESCRIPTION
FAULTY PASCAL PROBE	The probe detecting proper combustion is faulty. In sicurezza la caldaia si porta in modalità risparmio. Contact Nobis Technical Support to check the probe..

ANOMALY	DESCRIPTION
THE PELLET TANK IS OPEN	Either the pellet tank or the commpartment of the ash compactor is open; the appliance will stop feeding the brazier with pellet and the boiler will beep. Close any open door/hatch, otherwise the appliance will trigger an alarm.
THE COMPARTMENT OF THE ASH COMPACTOR IS OPEN	

ANOMALY	DESCRIPTION
SERBATOIO PELLET VUOTO	Thanks to a probe installed inside the appliance, the produc notifies when it is necessary to load more pellet into the tank. The boiler will switch to eco mode until loading operation are completed.

ANOMALY	DESCRIPTION
FAULTY BOILER PROBE	The probe installed in the DHW tank detecting water temperature is faulty. Contact Nobis Technical Support to check the probe.

ANOMALY	DESCRIPTION
FAULTY PUFFER PROBE (HIGH)	The probe installed in the technical water tank (in the higher part) detecting water temperature is faulty. Contact Nobis Technical Support to check the probe.

ANOMALY	DESCRIPTION
FAULTY PUFFER PROBE (LOW)	The probe installed in the technical water tank (in the lower part) detecting water temperature is faulty. Contact Nobis Technical Support to check the probe.

ANOMALY	DESCRIPTION
PWM PUMP	The circulator within the boiler is faulty. Contact Nobis Technical Support to check the component.

ANOMALY	DESCRIPTION
FAULTY TURBULATORS	The turbulator system for the cleaning of the tube bundle is faulty. Contact Nobis Technical Support to check the component.

ANOMALY	DESCRIPTION
FAULTY ASH COMPACTORS	A malfunctioning occurred in the system responsible for transporting combustion ash towards the ash collector. Contact Nobis Technical Support to check the component.

ANOMALY	DESCRIPTION
ASH COMPACTOR COMPARTMENT LEVEL	Ash compactors may be full. Check the ash compartment and, in case, empty it. After opening the compartment, the system will reset the anomaly and the operating hour counter.

ANOMALY	DESCRIPTION
EXCESSIVE PELLET LOAD	If the appliance is fed with too much pellet for the current operating power, reduce the % of pellet load in "Pellet/Air Mode" (see dedicated paragraph).

ANOMALY	DESCRIPTION
FAULTY H2O RETURN PROBE	The probe detecting water temperature (return system) is faulty. Contact Nobis Technical Support to check the component.

Anomalies, unlike alarms, are signals that reset once the cause that generated them has been resolved. In addition, the signal does not cause the device to shut down, thereby providing heating.

The resolution of certain anomalies requires the intervention of authorized personnel. Although the device continues to operate, the user must intervene to resolve the anomaly. **Otherwise, the device will malfunction.**

18 DESCRIPTION ALLARMI

Any alarm condition causes the immediate shutdown of the device; to reset the alarm, press the reset button. Before turning on the device again, check that the problem has been solved.

ALARM CODE	REASON
01 **BLACKOUT**	No power during the operation.
	SOLUTION
	Press the switch-off key and restart the appliance.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
02 **NO IGNITION**	The pellet tank is empty.
	Insufficient pellet load and air intake during the start-up phase.
	Ignition resistor faulty or out of position
	SOLUTION
	Check that the pellet tank is not empty. If necessary, load some.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
03 **NO MORE PELLET**	The pellet tank is empty.
	The gear motor is not lolading any pellet.
	Lack of pellet load.
	SOLUTION
	Check that the pellet tank is not empty. If necessary, load some.
	Empty the tank to verify that no foreign bodies are ovbstructing it.
	Increase pellet load by adjusting % in "P/A RATIO".
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
04 **SMOKE TEMPERATURE**	Combustion in the brazier is not optimal. Either it is clogged or the inner passages of the appliance are clogged.
	SOLUTION
	Switch the product off and back on again, activating the cleaner; adjust combustion with the "P/A RATIO".
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
05 **EXTRACTOR RPM NON RESPECTED**	The rotations of the smoke extractor show a loss of efficiency due to obstruction of the fan or a drop in voltage.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
06 **FAULTY SMOKE EXTRACTOR**	No power supply to the smoke extractor
	The smoke extractor is blocked
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
07 **PELLET-LOADING GEAR MOTOR NON RPM NOT RESPECTED**	The rotations of the gear motor show a loss of efficiency due to a drop in voltage.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
08 **FAULTY PELLET-LOADING GEAR MOTOR**	Gearmotor encoder not working or not connected correctly.
	No power to the gearmotor.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
09 **PELLET-LOADING AUGER BLOCKED**	There is the possiblity that a foreign body or sawdust are preventing correct movement.
	SOLUTION
	Empty the tank and verify the presence of any foreign body.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
10 **PELLET-LOADING AUGER: FAULTY LOADING**	Lack of power supply to the system or no power supply at all.
	SOLUTION
	If the problem persists, contact the Support Service.

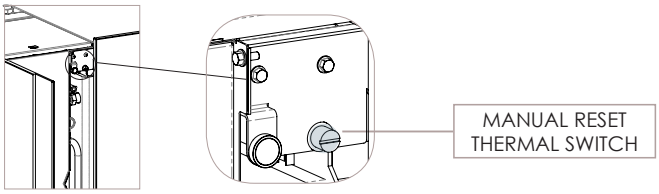
ALARM CODE	REASON
11 **MIN. PASCAL PRESSURE**	The sensor does not detect any inbound negative air pressure.
	SOLUTION
	Verify that the door of both ash compactors and pellet tank are closed correctly, check whether the air intake tube is obstructed.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
12 **FAULTY BRAZIER CLEANER**	The cleaner has not completed movement and is not in the correct position or else the ash compartment door is not closed correctly.
	SOLUTION
	Verify that the door is closed correctly, reset the alarm and wait for the product switch off. Disconnect and reconnect the product to the power supply: the system will reactivate the cleaner, checking its correct position.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
13 **DEPRESSION IN THE CHIMNEY FLUE**	The chimney flue is clogged.
	The sensor reading the negative pressure is not working properly.
	SOLUTION
	Check the chimney flue is not blocked, contact a chimney sweep to clean it.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
14 **MANUAL RESET THERMAL SWITCH**	The manual reset thermal switch was triggered.
	There may be a malfunctioning to the circulator.
	Some air in the system may be preventing water from flawing correctly.
	SOLUTION
	Reset the thermal switch by pressing the button on the back of the appliance.
	Bleed off the system and check that the operation LEDs of the circulator (if any)are on.
	If the problem persists, contact the Support Service.

POSITION OF MANUAL RESET THERMAL SWITCH



Unscrew the protection cap an press the button to reset the thermal switch.

ALARM CODE	REASON
15 **ASH COMPACTOR COMPARTMENT OPEN**	The compartment of the ash compactor was not placed properly during the cleaning phase.
	SOLUTION
	Check correct positioning of the ash compactors in their compartment.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
16 **PELLET TANK HATCH OPEN**	The tank door was not closed properly during the pellet loading phase.
	SOLUTION
	Check the pellet tank door is closed properly.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
18 **FLAME PROBE**	Both flame probe and smoke probe are not working.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
19 **MIN H_2O PRESSURE**	System pressure is less than 0.5 bar (a cold circuit pressure of about 1 bar is recommended).
	SOLUTION
	Fill the system to bring the pressure back to the required value for a proper functioning.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
20 **MAX H_2O PRESSURE**	System pressure is more than 2.5 bar (a cold circuit pressure of about 1 bar is recommended).
	SOLUTION
	Bleed the system to bring the pressure back to the required value for a proper functioning.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
21 **BOILER H_2O TEMPERATURE**	Boiler water temeprature (system delivery) is over 90°C.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
22 **FLAME TEMPERATURE**	Combustion in the brazier is not optimal as the brazier is clogged or the inner passages of the appliance are clogged.
	SOLUTION
	Switch the product off and back on again, activating the cleaner; adjust the combustion with the "P/A Ratio" function.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
23 **AUGER TRIAC**	Anomaly of an internal component of the electronic board managing the pellet loading auger.
	Possible drops in voltage or wrong voltage input to the device.
	SOLUTION
	Check power supply.
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
24 **AUGER PHASE**	The wiring necessary to power up the auger gear motor is disconnected.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
25 **BOILER H_2O FAILURE**	The boiler water probe (system delivery) is faulty.
	The boiler water probe is not connected to the electronic board.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
26 **PWM PUMP BLOCKED**	The pump impeller is blocked, unscrew the front screw and activate the impeller manually.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
27 **PUMP ELN FAILURE**	The pump does not worlk properly or does not start.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
28 **SMOKE ENCODER RPM FAILURE**	The encoder of the smoke extractor is not working or it is not connected correctly.
	SOLUTION
	If the problem persists, contact the Support Service.

ALARM CODE	REASON
29 **CLEANING CYCLES LIMIT**	The cleaning cycles max. limit allowed for prolonged operation has been reached.
	SOLUTION
	If the problem persists, contact the Support Service.

19 PULIZIA DELL'APPARECCHIO

For proper cleaning and maintenance, the product must be installed in such a way as to ensure easy access.

Please carefully adhere to the following instructions for correct cleaning of the appliance. Non-compliance could cause its malfunctioning.

Before carrying out any cleaning operation on the appliance, take the following precautions:

- switch off the product an, only when the product is "OFF", disconnect the power supply cable;
- ensure all the parts are cold to touch;
- ensure the combustion ash is not burning.

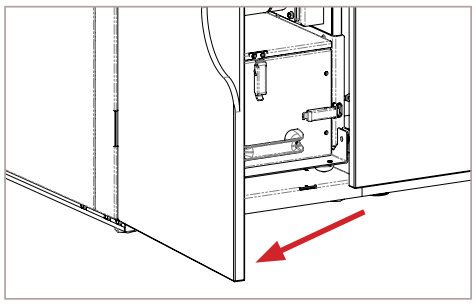
To clean the surfaces, on the painted metal parts, use a cloth soaked in water and soap.
Use of abrasive detergents or diluents causes damage to the surface of the product.

19.1 CLEANING THE ASH COMPACTOR

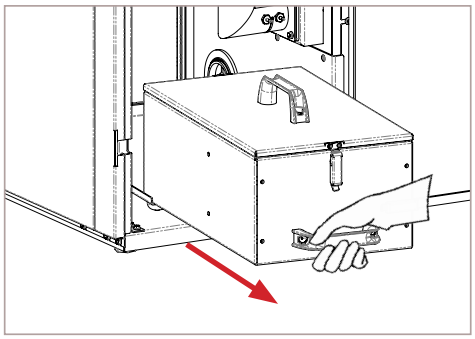
Once the ash compactor compartment has been extracted, open the lid and remove the deposited ashes using an ash vacuum cleaner; pay close attention to the presence of hot embers which could damage the appliance used for cleaning.

The cleaning operations depend on the quality of the fuel used and the frequency of use of the product. It may happen that these operations must be carried out more frequently than indicated in the manual.

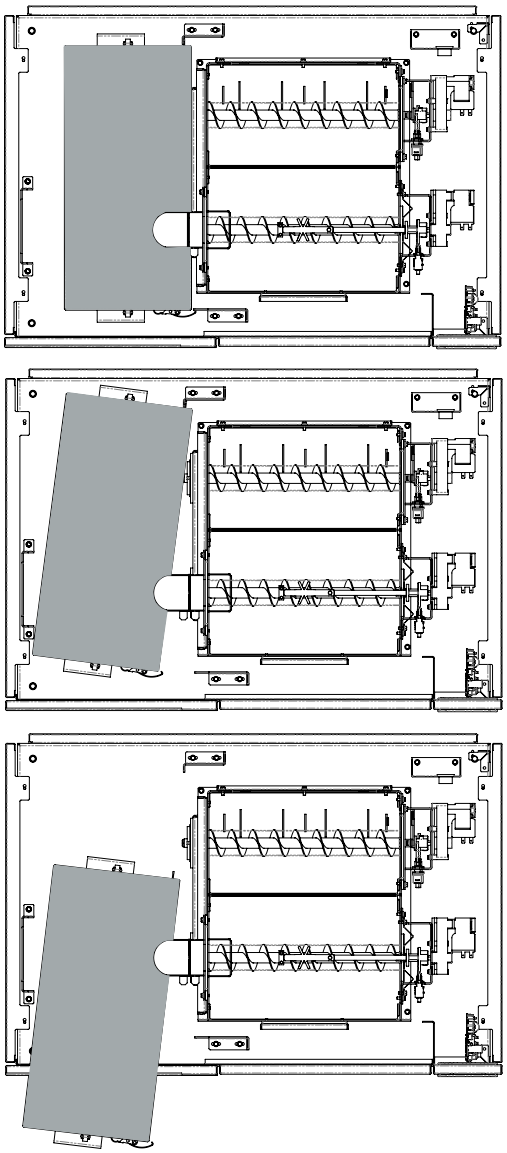
PROCEDURE:
Open the door to the left of the boiler, as shown in the figure below.



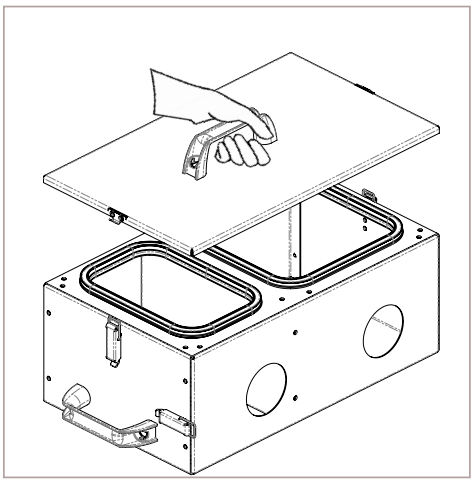
Remove the ash compactor compartment.



Release the locking pin of the ash compactor compartment on the boiler and, moving the drawer to the left, remove it from its housing.



After releasing the two locking pins of the lid, lift it and empty the ash compactor compartment.



CLEANING CYCLES TABLE
Below, the control and/or maintenance intervention are summarised which are indispensable for correct appliance operation.

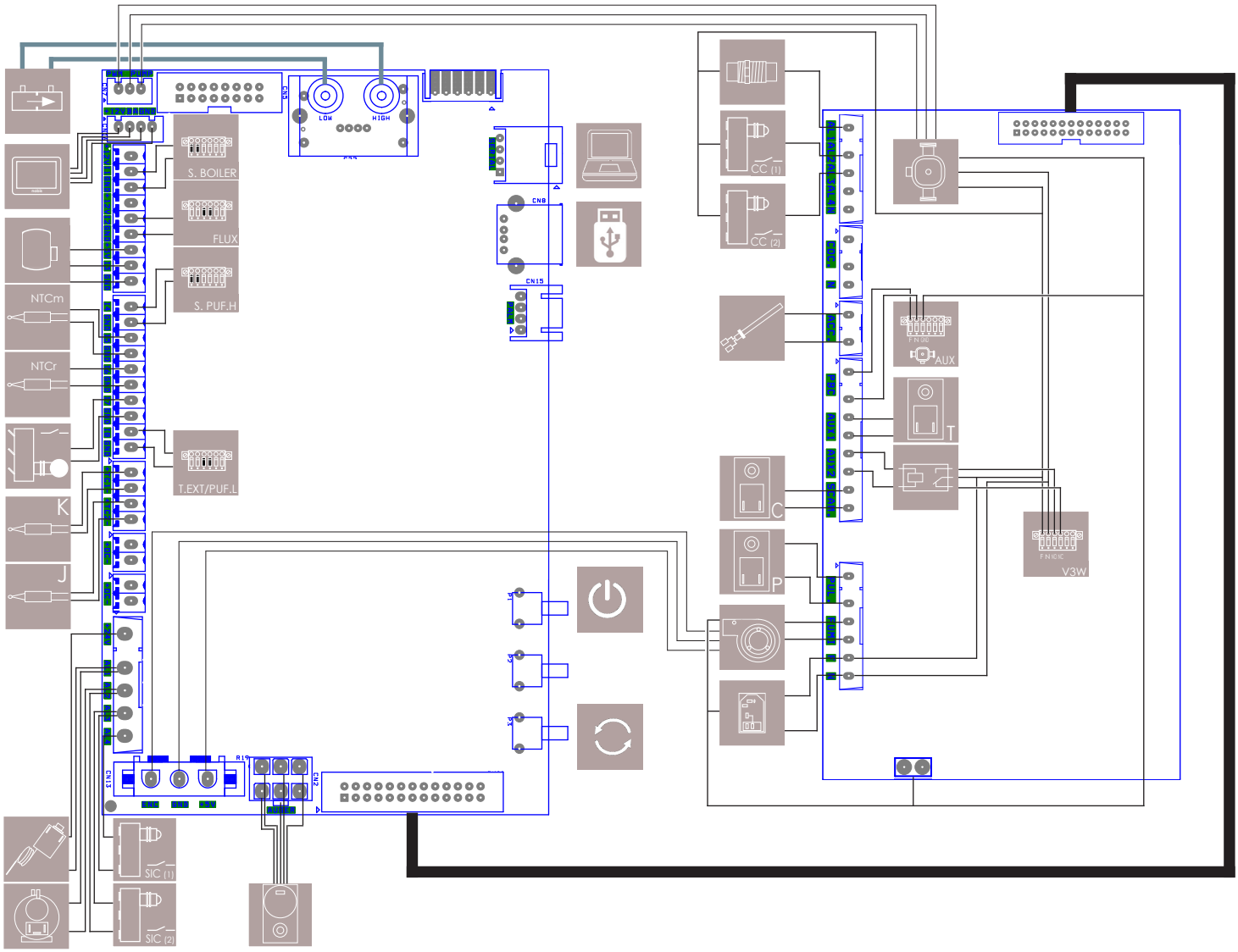
PARTS / FREQUENCY	TIME
Ash compartment (approx. time)	30 DD
Extraction pipe *	1 SE
Door gasket/ash pan*	1 SE
Tube bundle scraper (where present)	7 DD
Chimney flue	1 SE
Combustion chamber	1 SE
Vacuum pellet tank	30 DD
Electromechanical components*	1 SE

LEGEND:
* - operations which can be carried out only by a technician authorised by the manufacturer;
DD - day/s
SE - season

DATE	ANNOTATIONS

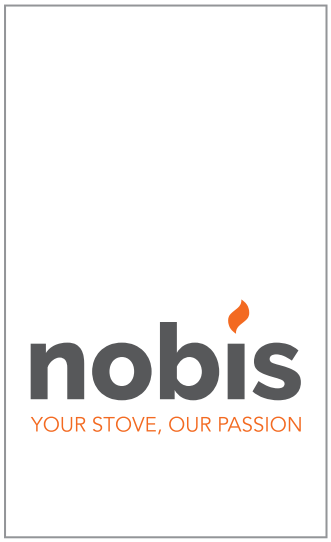
DATE	TYPE OF INTERVENTION

20 WIRING DIAGRAM



LEGEND:

- PRESSURE SENSOR
- SMOKE EXTRACTOR
- SAFETY VACUUM SWITCH
- RELAUNCH CIRCULATOR (CONNECTION ONLY)
- STROKE COUNTER MECHANICAL CLEANER
- MANUAL RESET THERMAL SWITCH
- GEAR MOTOR ASH COMPACTOR
- BOILER WATER CIRCULATOR
- TERMINAL THERM./PUFFER PROBE (LOW) CONNECTION
- RESISTOR SWITCH ON
- TURBULATORS MOVING CONTACT (1) ASH COMPACTOR (2)
- TERMINAL BLOCK PUFFER PROBE (HIGH)
- FLAME PROBE
- GEARMOTOR MECHANICAL CLEANER
- PELLET MIN. LEVEL SENSOR
- TURBULATOR GEAR MOTOR
- SMOKE PROBE
- ASH COMPART. (1) CONTACT PELLET TANK (2)
- TFT DISPLAY
- TERMINAL BLOCK FLOW SWITCH CONNECTION
- GEARMOTOR BLDC 24V
- 220V SOCKET WITH ON/OFF SWITCH AND FUSE
- APPLIANCE SWITCH-ON KEY
- FLOW SWITCH PRESSURE READING SYSTEM H_2O
- SYSTEM SUPPLY PROBE
- SYSTEM RETURN PROBE
- TERMINAL DHW TANK (BOILER) CONNECTION
- **TECHNICAL ASSISTANCE ONLY**
- RELAY + TERMINAL 3-WAY VALVE CONNECTION



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