INSTALLER MANUAL

Pellet Stove

EN

SATURNO 16 - 24

SUMMARY

1 MANUAL SIMBOLOGY

	**USER**
	**AUTHORISED TECHNICIAN (ONLY to interpret or the Stove-manufacturer or the Authorized Technician of Technical Assistance Service approved by the Stove-manufacturer)**
	**SPECIALIZED STOVE-REPAIRER**
	**CAUTION: READ CAREFULLY THE NOTE**
	**CAUTION: DANGER OR IRREVERSIBLE DAMAGE POSSIBILITY**

- The icons with the stylized figures indicates whom the subject dealt in the paragraph is addressed to (between the User and/or the Authorized Technician and/or the Specialized Stove-repairer).
- WARNING symbols indicates an important note.

2 PACKAGING AND HANDLING

2.1 PACKAGING

- The packaging is made up of recyclable cardboard boxes according to RESY standards, recyclable expanded polystyrene inserts and wooden pallets.
- All packaging materials can be re-used for a similar use or eventually discharged as waste assimilable to the municipal solid ones, in accordance with current regulations.
- After having removed the packaging please assure you about the integrity of the product.

2.2 STOVE HANDLING

Both whether the stove is packed or not it is necessary to observe the following instructions for handling and transporting the stove from its sale point to its installation point and for any future movements:

- The stove must be handled with idoneous means paying attention to the existing safety regulations;
- do not turn the stove upside down and/or upset it on one side, but keep it in vertical position or as accorded with the constructor instructions;
- if the stove is made up of ceramic, stone, glass or any particularly fragile material components, all must be moved with the utmost care.

3 CHIMNEY FLUE

3.1 INTRODUCTION

This chapter about the Chimney Flue has been drawn up in cooperation with Assocosma (www.assocosma.org) and is based on European Standards (EN 15287 - EN 13384 - EN 1856 - EN 1443) and UNI 10683:2012.
It provides instructions for a good and correct execution of the chimney flue but it does not absolutely replace the current standards which the qualified manufacturer/installer should comply with.

3.2 CHIMNEY FLUE

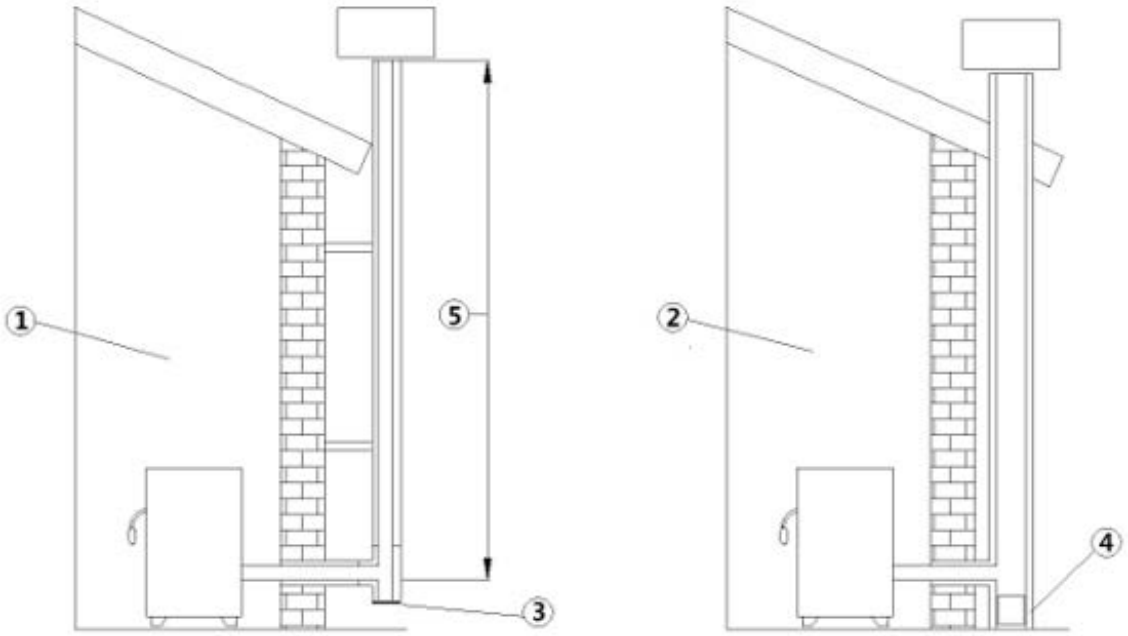


Fig. 1 - Chimney Flues

LEGEND	*Fig. 1*
1	*Chimney flue with insulated stainless-steel pipes*
2	*Chimney flue on the existing chimney*
3	*Inspection plug*
4	*Inspection door*
5	*≥ 3,5 mt*

- The chimney flue or chimney is of great importance for the correct running of the heating appliance.
- It is fundamental that the chimney flue is perfectly built and always maintained with a perfect efficiency.
- The chimney flue must be sole (see **Fig. 1**) with insulated stainless-steel pipes (1) or installed on the existing chimney flue (2).
- Both this solutions must be endowed with an inspection plug (3) and/or an inspection door (4).

3.3 TECHNICAL FEATURES

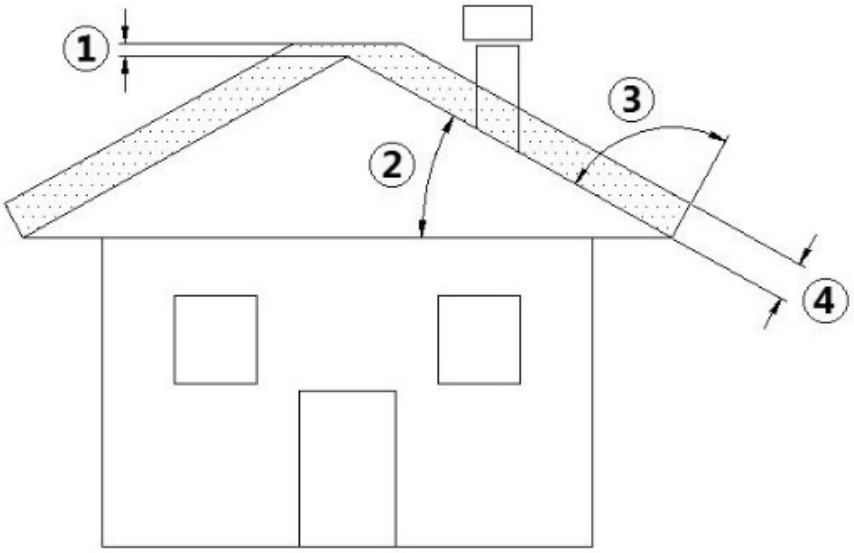


Fig. 2 - Inclined roof

LEGEND	*Fig. 2*
1	*Height over the ridge of the roof = 0,5 mt*
2	*Roof inclination ≥ 10°*
3	*90°*
4	*Measured distance at 90° from the roof surface = 1,3 mt*

- The chimney flue must be sealed from fumes.
- It must have a vertical run without narrowing. It must be realized with fume and condensation resistant materials with thermal insulation and able to last against usual mechanical stresses.

It must be insulated to avoid condensation and to reduce fume cooling effects.

- The stove must be spaced out from fuels or flammable materials with an air gap or with insulating materials. Check the distance with the chimney manufacturer.
- The chimney entrance must be placed in the same room where the appliance is installed or otherwise in the adjacent room and it must be provided with a solid and condensation collection chamber under the entrance, accessible through the sealed metal gate.
- Auxiliary exhaust fans cannot be installed neither along the chimney nor on the chimney pot.
- The inner section of the chimney flue can be round (the best one) or square and the jointed sides must have a minimum radius of 20 mm.
- The section dimension must be:
  - **minimun Ø100 mm**
  - **recommended max Ø180 mm**
- Made the efficiency of the chimney flue overhauled by an expert stove-repairer and if necessary cover the chimney flue with materials in compliance with current regulations.
- The flue system must be placed on the roof.
- The chimney flue must be provided CE in accordance with EN 1443 regulation. Please find attached an example of label:

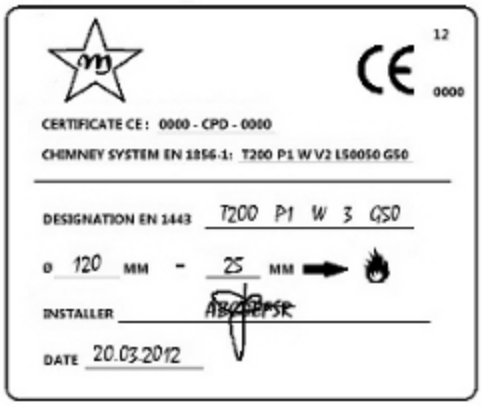


Fig. 3 - Example of label

3.4 HEIGHT-DEPRESSION

The depression (draught) of a chimney flue depends also on its height. Check the depression with the values provided at **FEATURES a pag. 43**. Minimum height 3,5 meters.

3.5 MAINTENANCE

- The fumes extraction pipes (fumes conduit + chimney flue + chimney pot) must always be cleaned, scrubbed and checked by an expert stove-repairer, in compliance with current regulations, with the instructions of the stove-manufacturer and the directives of your insurance company.
- In case of doubts, please follow the most restrictive regulations.
- Have your chimney flue and chimney pot checked and cleaned by an expert chimney sweep at least once a week. The chimney sweep has to release a written declaration about the security of the system.
- Not cleaning compromise safety.

3.6 CHIMNEY POT

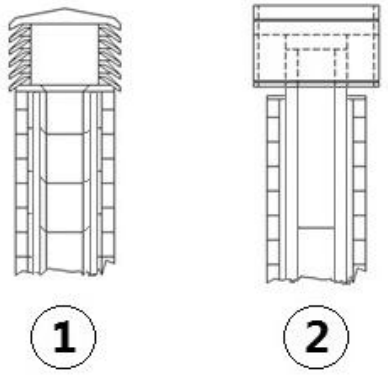


Fig. 4 - Anti-wind chimney pots

The chimney pot is important for the correct running of the heating appliance:
- We recommend using an anti-wind chimney pot, see **Fig. 4**.
- The hole width for fumes exhaust must be the double of the chimney flue width and fitted in a way that the fume exhaust is assured also in case of wind.
- It should prevent the infiltration of rain, snow and animals.
- The outlet height in the atmosphere must be away from the reflux area caused by the roof structure or by obstacles laying nearby (see **Fig. 2**).

3.7 CHIMNEY COMPONENTS

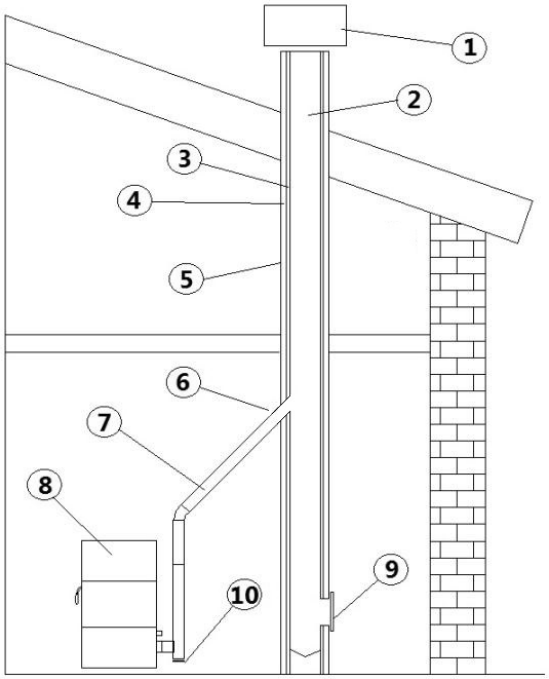


Fig. 5 - Chimney components

LEGEND	*Fig. 5*
1	*Chimney pot*
2	*Fume outlet*
3	*Chimney flue*
4	*Termal insulation*
5	*External wall*
6	*Chimney union*
7	*Fume pipe*
8	*Heat generator*
9	*Inspection door*
10	*T-union with inspection plug*

3.8 CHIMNEY FLUE CONNECTION SATURNO

The connection between the flue and the appliance must be via a smoke duct compliant to EN 1856-2. The connecting section must extend no more than 4 m horizontally, with a minimum slope of 3% and with a maximum of 3 x 90° bends (accessible for inspection - do not count the Tee fitting at the appliance outlet).
The diameter of the smoke duct must be equal to or greater than that of the outlet of the appliance (Ø 100 mm).

SYSTEM TYPE	SMOKE DUCT
Maximum length (with 1 accessible 90° bend)	6,5 mt
Maximum length (with 3 accessible 90° bends)	4,5 mt
Maximum number of accessible 90° bends	3
Horizontal sections (minimum slope 3%)	4 mt

- Use a smoke duct according to the regulations in force in the country of installation and verify that it is compatible with the product and installation characteristics. The temperature class of the smoke duct must exceed operating temperatures of the appliance.
- It is prohibited to connect more than one appliance to the same smoke duct, or the discharge from hoods above it. It is forbidden to extract the combustion products directly through the wall, whether towards indoor spaces or outdoors.
- Should there be flammable or heat-sensitive structures, the smoke duct must respect the safety distances specified in the data plate.

3.9 EXAMPLES OF CORRECT INSTALLATION

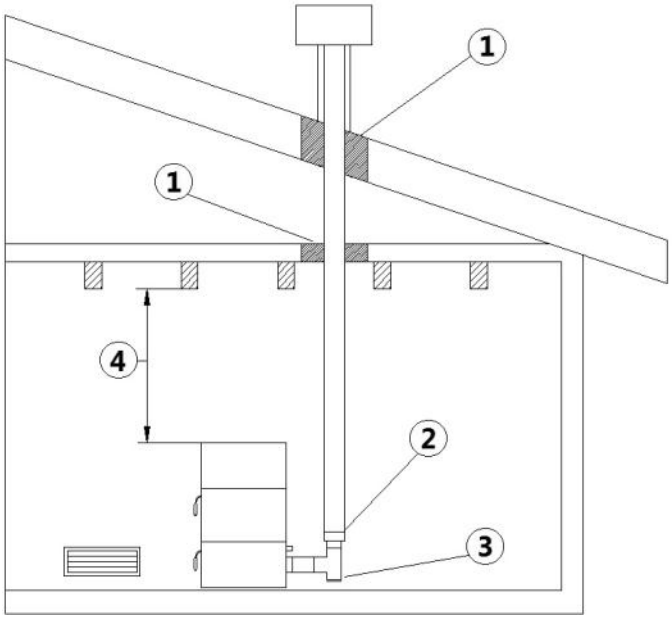


Fig. 6 - Example 1

LEGEND	*Fig. 6*
1	*Insulating material*
2	*Reduction from Ø100 to Ø80 mm*
3	*Inspection plug*
4	*Minimum safety distance = 0,5 mt*

- Chimney flue installation Ø100/120 mm with an enlarged drilling for pipe transit.

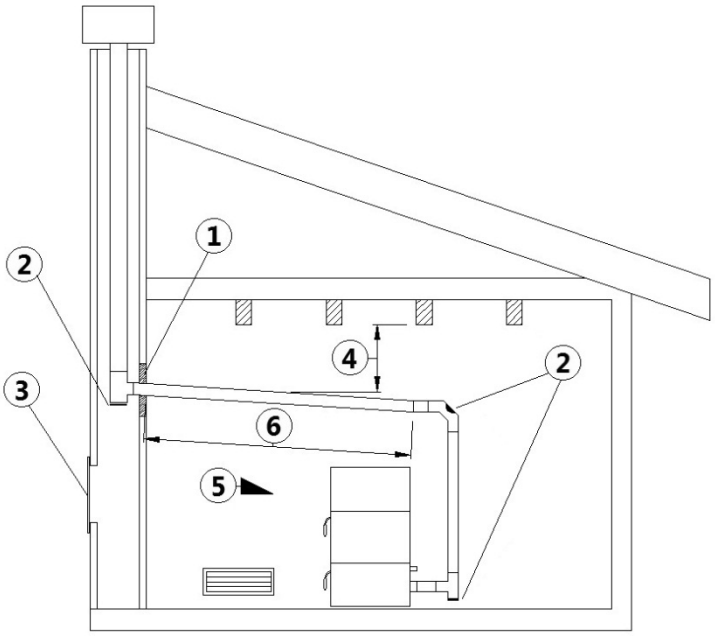


Fig. 7 - Example 2

LEGEND	*Fig. 7*
1	*Insulating material*
2	*Inspection plug*
3	*Chimney inspection entrance*
4	*Minimum safety distance = 0,5 mt*
5	*Inclination ≥ 3°*
6	*Level section ≤ 1 mt*

- Old chimney flue with an inserted pipe of minimum Ø100/120 mm and with an external door which enables the chimney cleaning.

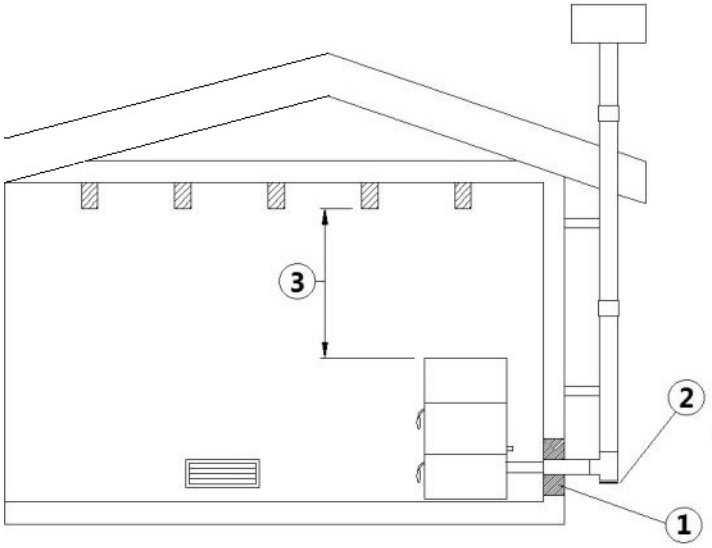


Fig. 8 - Example 3

LEGEND	*Fig. 8*
1	*Insulating material*
2	*Inspection plug*
3	*Minimum safety distance = 0,5 mt*

- External chimney flue entirely made up of insulated stainless steel pipes, i.e. with double wall of minimum Ø100/120 mm: all must be firmly attached to the wall. For chimney against wind effects please (see **Fig. 4**).
- Ducting system through T-unions which enables an easy cleaning without disassembling the pipes.

We recommend to check with your chimney flue manufacturer the safety distances which must be respected and the type of insulating material. The aforesaid regulations are valid also for holes made on the wall (EN 13501 - EN 13063 - EN 1856 - EN 1806 - EN 15827).

4 COMBUSTION AIR

4.1 EXTERNAL AIR INLET SATURNO

It is mandatory to provide an adequate external air inlet that supplies the combustion air required for the product to work properly. The flow of air between the outside and the installation room may be direct, through an inlet in an external wall of the room (preferable solution see Figure 9 a), or indirect, via air intake from adjoining rooms and connecting permanently with the installation room (see Figure 9 b). Adjoining areas may not include sleeping areas, bathrooms, garages or general areas with a fire hazard. During installation it is required to check the minimum clearances required to draw air from outside. Take into account the presence of doors and windows that may interfere with the proper flow of air to the stove (see diagram below). The air intake must have a minimum total net area of 80 cm2: the surface must be increased accordingly if other active generators (for example: electric fan for stale air extraction, kitchen hood, other stoves, etc.), which may cause negative pressure in the room, are installed. Make sure that, with all appliances on, the pressure drop between the room and the outside does not exceed the value of 4 Pa (also for Oyster appliances if the combustion air has not been suitably ducted outside). If required, increase the intake section of the air inlet, which must be made at floor level and always protected with a bird-proof outer protection grid and in such a way that it cannot be obstructed by any object.

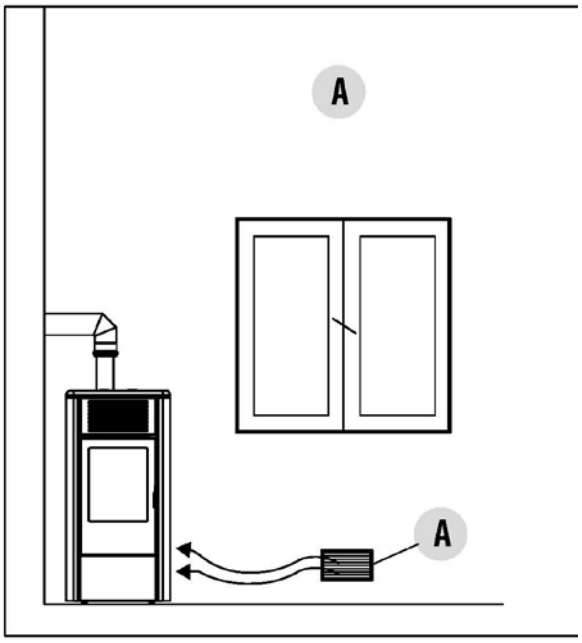


Fig. 9 - DIRECTLY FROM OUTSIDE

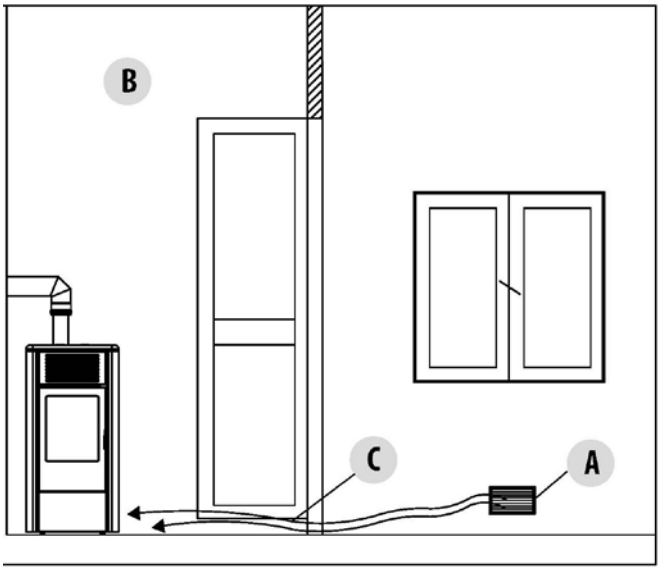


Fig. 10 - INDIRECTLY FROM THE ADJACENT ROOM

LEGEND	*Fig. 10*
A	*AIR INLET*
B	*ROOM TO BE VENTILATED*
C	*INCREASE OF THE GAP UNDER THE DOOR*

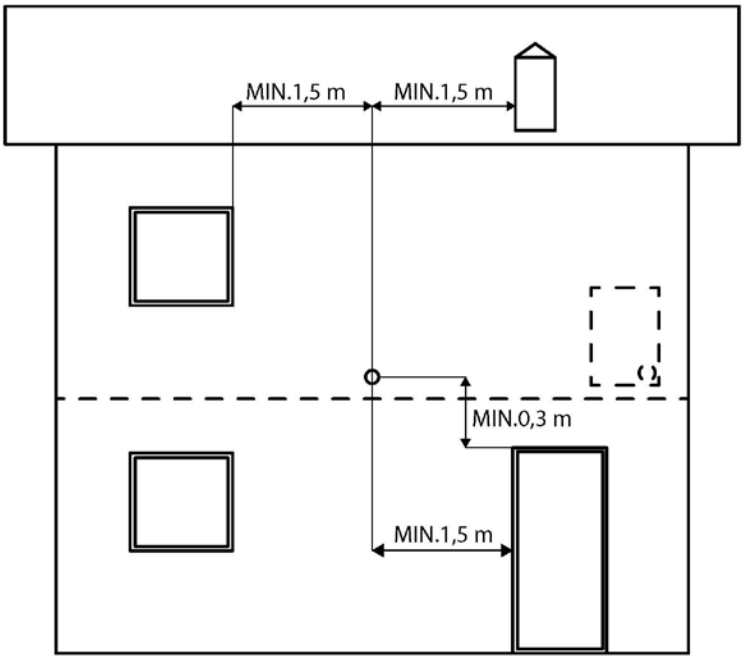


Fig. 11 - Air inlet for sealed-chamber installation

DISTANCE (metres)	*The air inlet must be at a distance of:*	
1,5 m	*BELOW*	*Doors, windows, smoke outlets, gaps, ...*
1,5 m	*HORIZONTALLY*	*Doors, windows, smoke outlets, gaps, ...*
0,3 m	*ABOVE*	*Doors, windows, smoke outlets, gaps, ...*
1,5 m	*AT A DISTANCE*	*from smoke outlet*

It is possible to connect the air required for combustion directly to the outside air inlet, with a pipe of at least Ø50mm, with maximum length of 3 linear metres; each pipe bend shall be considered equivalent to a linear metre. To attach the pipe see the rear of the stove. For stoves installed in studio flats, bedrooms and bathrooms (where allowed), it is mandatory to connect the combustion air outside. Specifically for sealed stoves the connection must be sealed in order not to compromise the overall sealing of the system.

4.2 COMBUSTION AIR SATURNO

During operation a certain amount of air is drawn from the room where the product is installed and this air must be supplemented through an external air inlet.
In this product the combustion air enters directly from tube A independently; but if the user so wishes, he can connect the combustion air inlet A with the flexible hose B, using the clamp C.

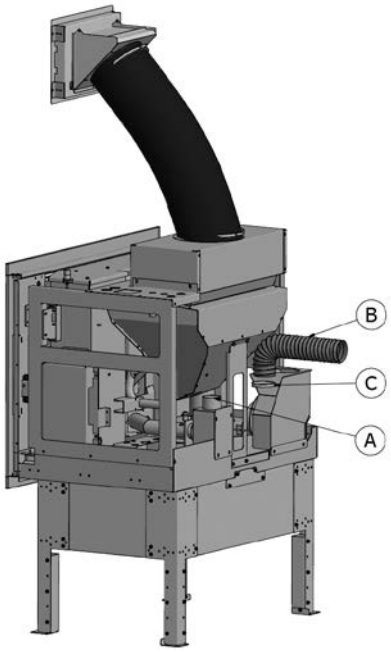


Fig. 12 - Direct air inflow

LEGEND	
A	*COMBUSTION AIR INLET*
B	*FLEXIBLE HOSE*
C	*PIPE CONNECTION CLAMP C*

ATTENTION! It is forbidden, in secondary use heating appliances, to use the product at maximum power for more than 2/3 hours.
Improper use of the product is borne by the user and relieves the manufacturer of any civil and criminal liability.

5 INSTALLATION AND ASSEMBLY

5.1 INTRODUCTION

- The assembly position must be chosen depending on environment, outlet, chimney flue.
- Check with local authorities if there are any restrictive regulations which regard the combustible air inlet, room ventilation, fume exhaust system together with chimney flue and chimney pot.
- Check if there is the combustible air inlet.
- Check the probable presence of other stoves or appliances which could depress the room.
- Check at switched on stove if there is the presence of CO in the room.
- Check if the chimney has the necessary draught.
- Check if during the fume passage all has been executed in safety (probable fume losses and distances from flammable materials, etc.…).
- The installation of the appliance must enable an easy access for appliance, fume exhaust pipes and chimney flue cleaning.
- The installation must enable en easy access to the electric connection plug.
- To install more appliances, the external air inlet must be correctly dimensioned (see **FEATURES a pag. 43**).

5.2 PREPARATION AND UNPACKING SATURNO

The product is supplied in a single package. Open the package, remove the accessories, any straps, cardboard and polystyrene and take the appliance off the pallet. To remove the product from the pallet you must extract the movable part of the insert and take out the four Phillips screws securing it to the pallet. Once the insert has been taken out, before removing the screws, it is advisable to place a support "A" under the movable part of the insert so as to work safely (the "B" support is supplied).

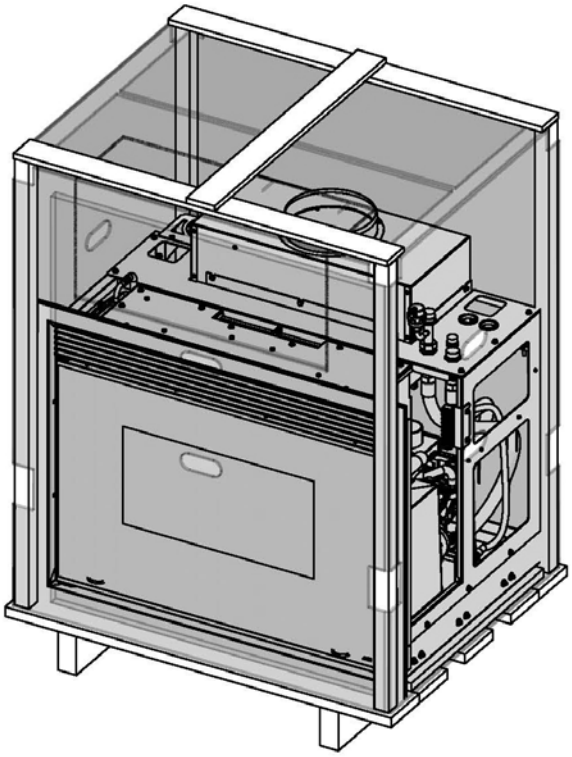


Fig. 13 - Removal 1

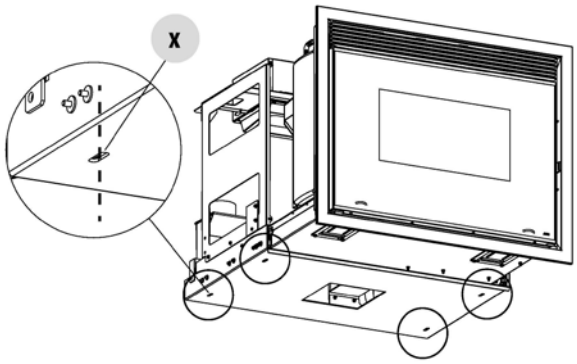


Fig. 14 - Removal 2

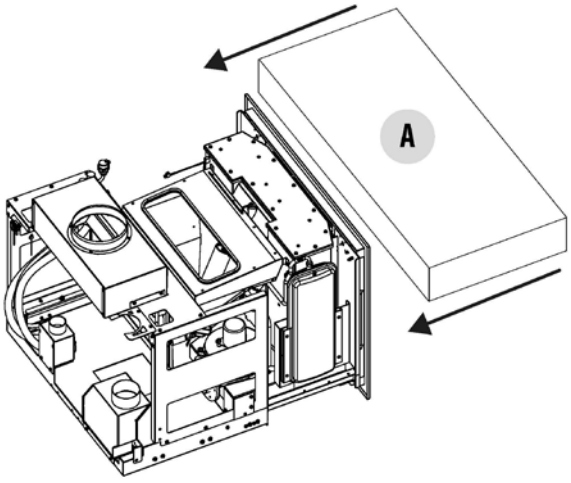


Fig. 15 - Removal 3

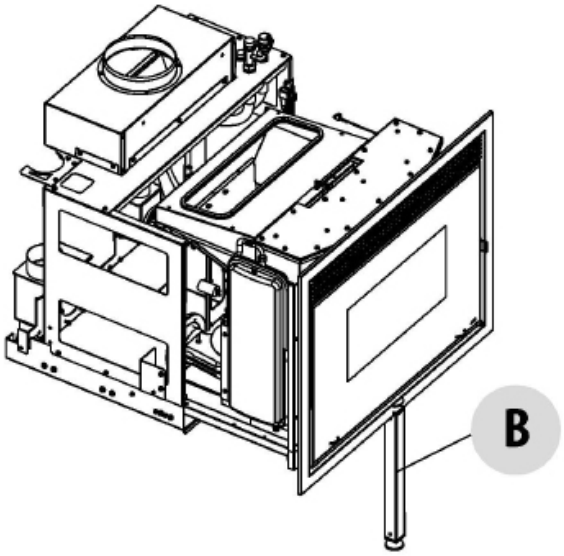
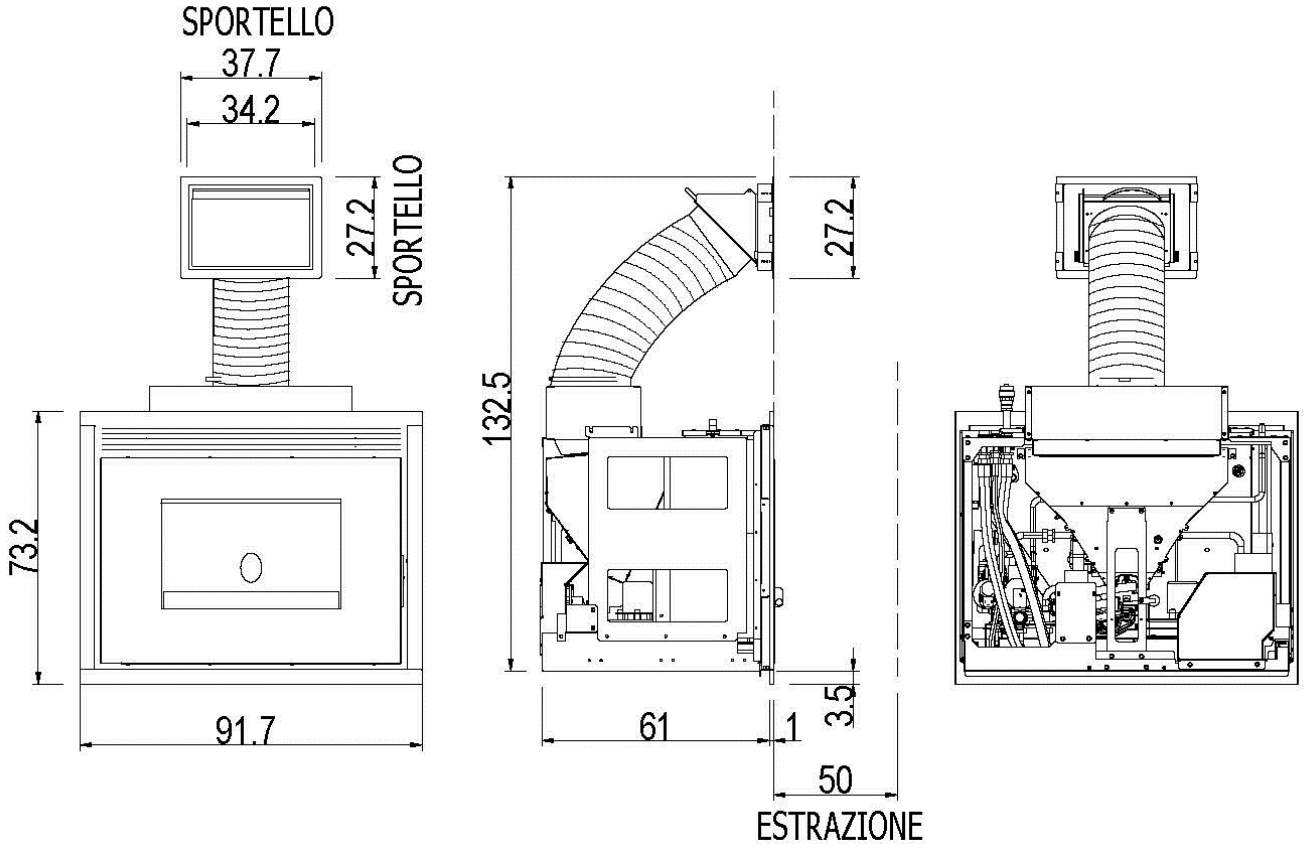


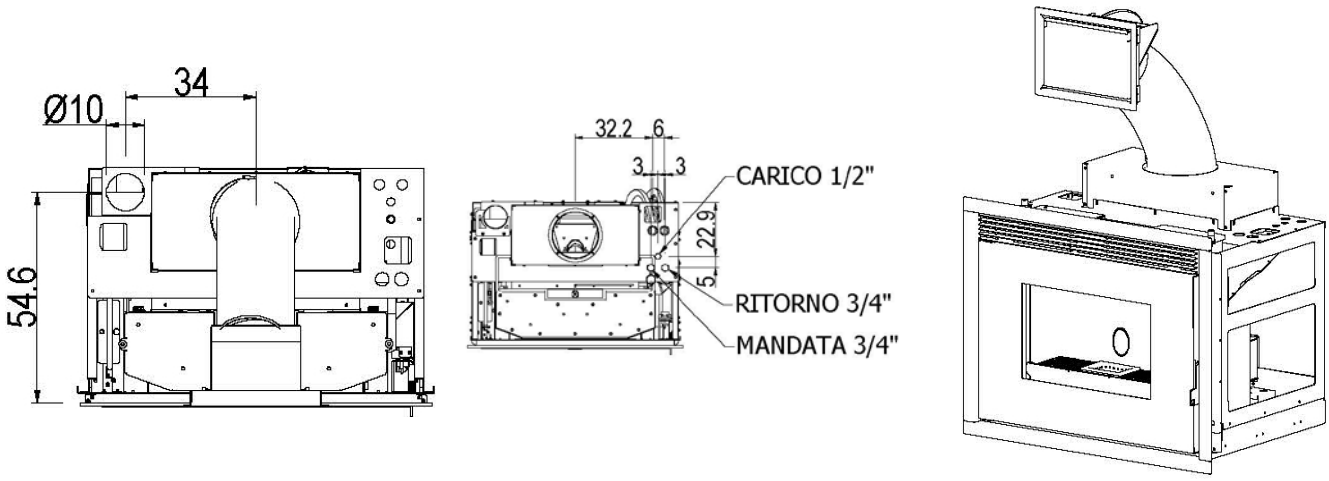
Fig. 16 - Removal 4

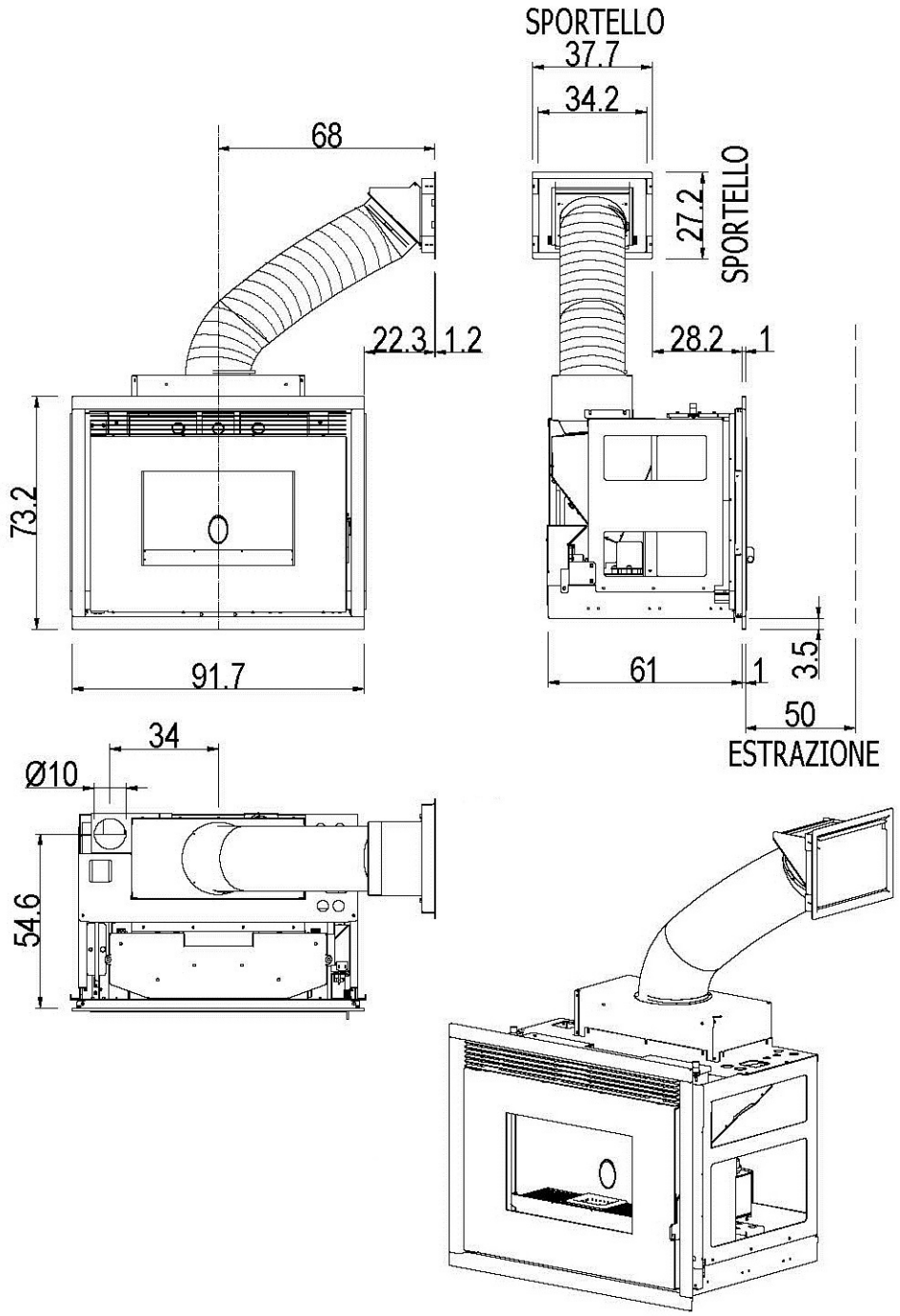
The appliance must always be carried upright, taking care with its moving parts. Pay particular attention to the door and its glass, protecting them from mechanical impact that would compromise their integrity.
The product must always be handled with care. If possible, unpack the product near the place of installation. The packaging materials are neither toxic nor harmful, and therefore no particular disposal measures are required. Therefore, the end user is responsible for product storage, disposal or possible recycling in compliance with the relative applicable laws in force. If the product must be connected to an exhaust pipe that goes through the rear wall (to enter the flue), make sure not to force it in.

5.3 OVERALL DIMENSIONS

5.4 SATURNO DIMENSIONS





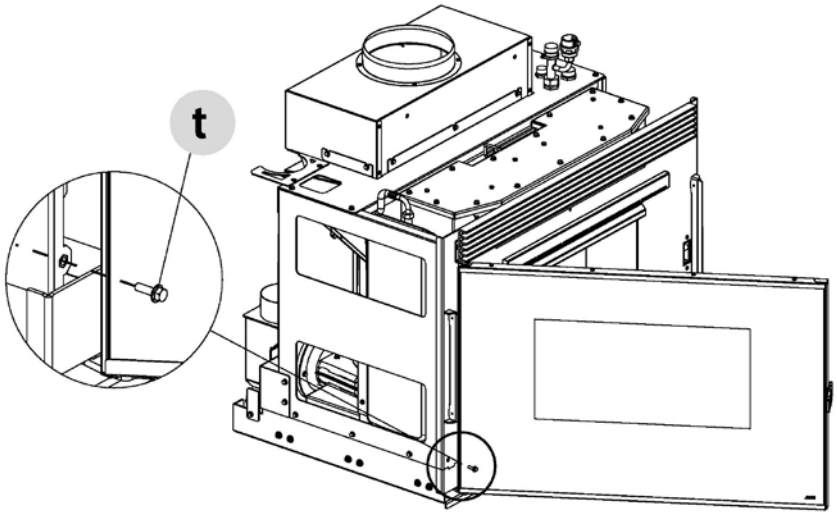


6 PRELIMINARY STEPS

6.1 PRELIMINARY STEPS

Proceed as follows to release the fixed part of the insert:

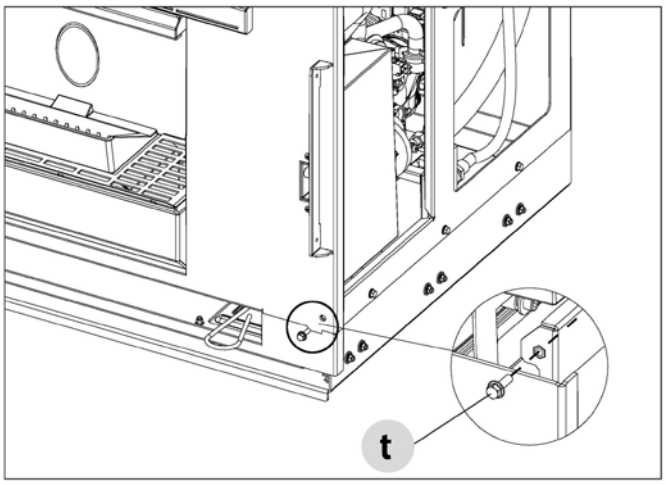
- remove the two screws "t" on the front

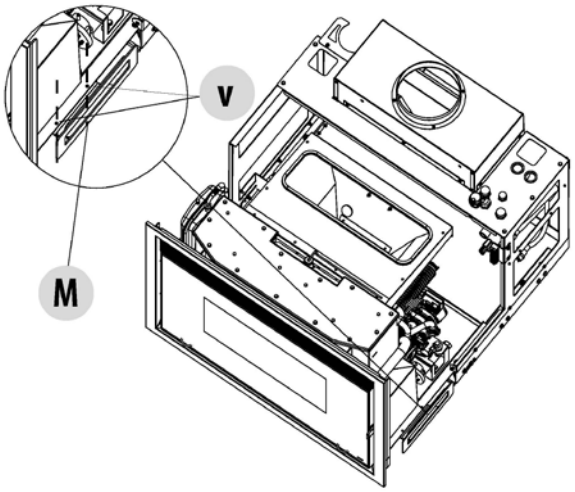


- take out the mobile part of the insert

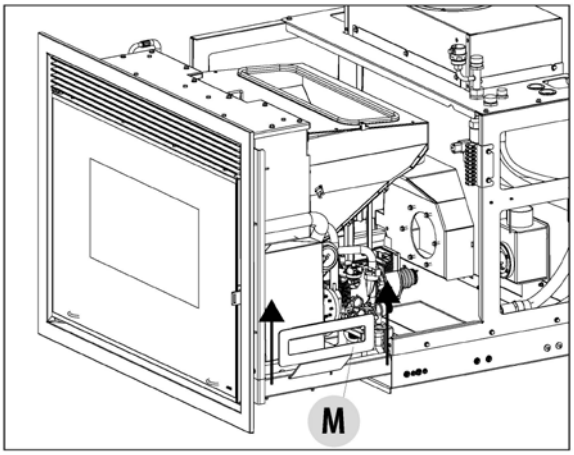
Attention! When the movable part is extracted insert the "B" support provided under it to avoid the sliding guides on the insert tipping over or breaking.

- to make it easier to hold, take the two optional handles "M" and fasten them to the insert
- there are two nuts on the insert to be removed, insert the handle "M" and put the two nuts back in place

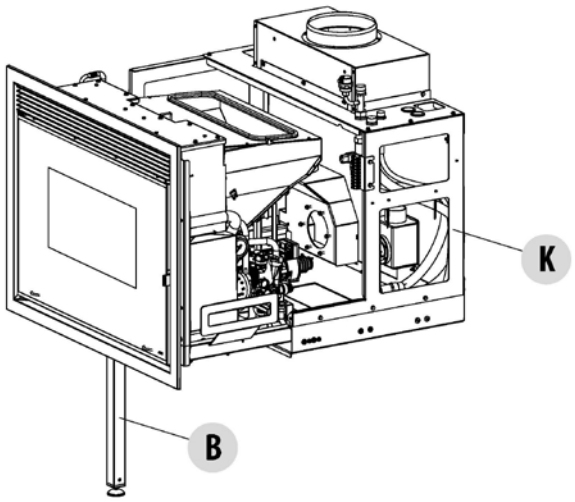




- the handles "M" are now fastened on the insert. Hold the two handles "M" and lift the insert

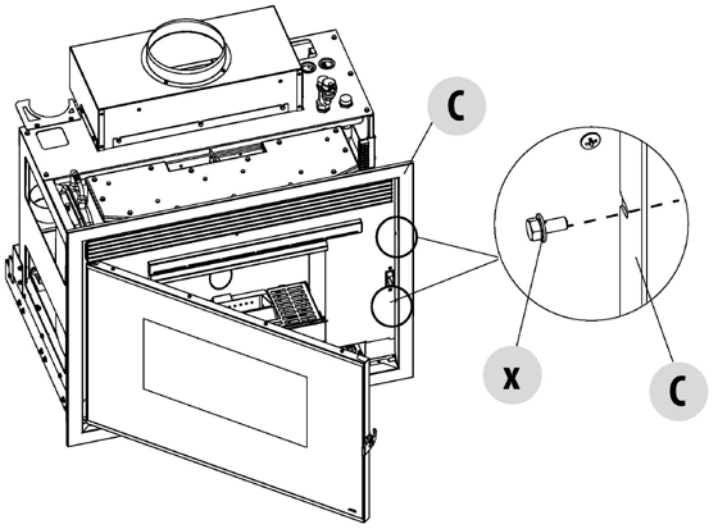


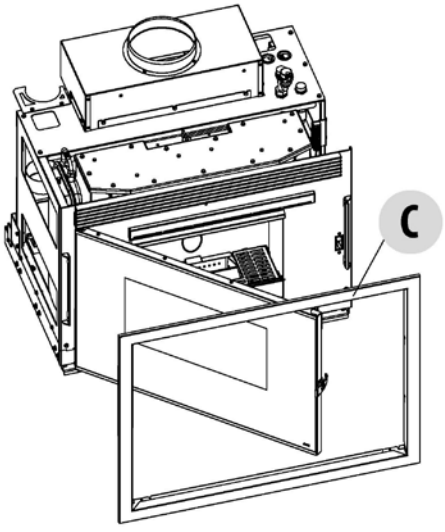
- the fixed part "K" is now free and you can fasten it onto the optional support or on an existing surface (as explained in the next pages)

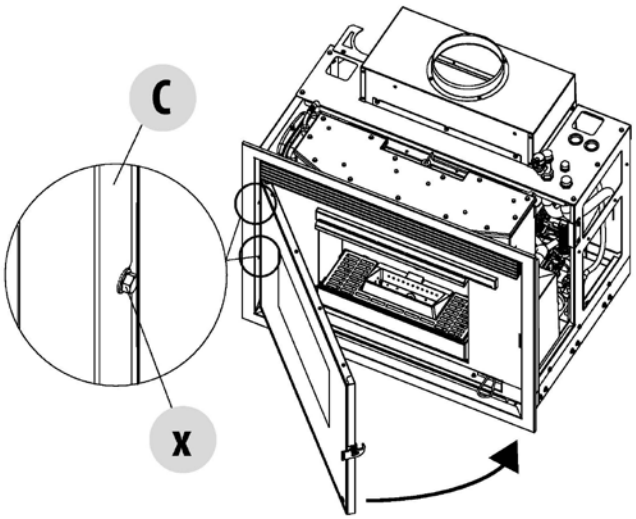


6.2 SATURNO FRAME ASSEMBLY

- The "C" frame is in the packaging and the four "x" screws are already fixed on the product.
- Assemble the frame and tighten the right-hand screws with the door open; then close the door and tighten the two left-hand screws.







7 TYPE OF FASTENING SATURNO

7.1 HOW TO FASTEN THE INSERT

It is mandatory to anchor the product to a surface since, during annual maintenance operations by the authorised technician, or when the fuel is loaded, the combustion chamber may be extracted from its seat with the aid of two retractable guides. The product can be anchored to an existing surface (which must have certain characteristics) or it can be fastened to the optional support.

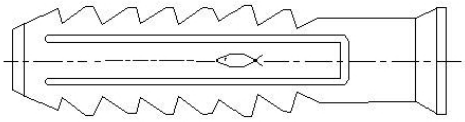
Attention! The support surface of the insert must be completely flat.

7.2 FASTENING TO AN EXISTING SURFACE - SUGGESTED CHARACTERISTICS

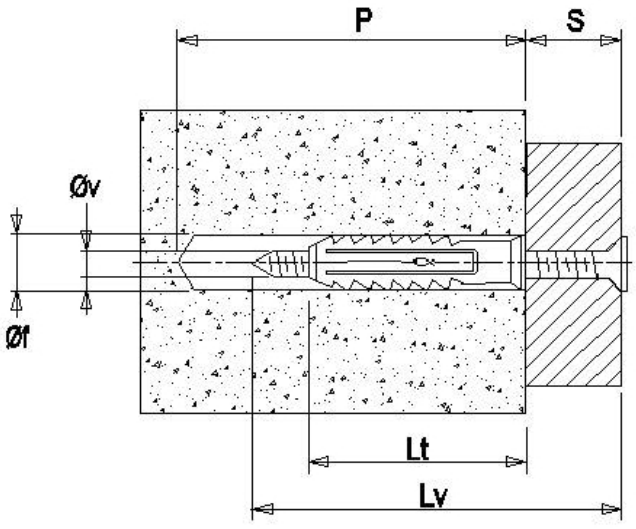
Installation data

The surface where the fixed part of the insert will be fastened must be in R250 kg/cm2 concrete, if the support is made of poor material, it is advisable to use a suitable slab for fastening.

We recommend using an anchor bolt with the following characteristics:



DIMENSIONS (TYPE)	*DIAMETER*	*LENGTH*
SX 10	*10 mm*	*50 mm*

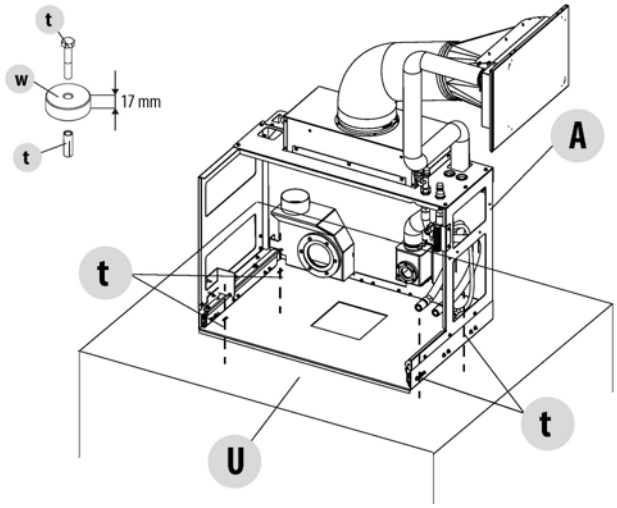


KEY	**.**
LV=	*LT+S (SCREW LENGTH)*
LT=	*ANCHOR BOLT LENGTH*
S=	*MAXIMUM THICKNESS OF OBJECT BEING FASTENED*
ØF =	*DRILL BIT DIAMETER*
P=	*MINIMUM HOLE DEPTH*
ØV =	*SCREW DIAMETER*

TYPE	Lt (anchor bolt length)	Screw Ø V x Lv	P (Minimum Hole depth)	Øf (drill bit diameter)	S (Max Object thickness)
LH 10	50 mm	8x60 mm	70 mm	10 mm	10 mm

Fastening to an existing surface

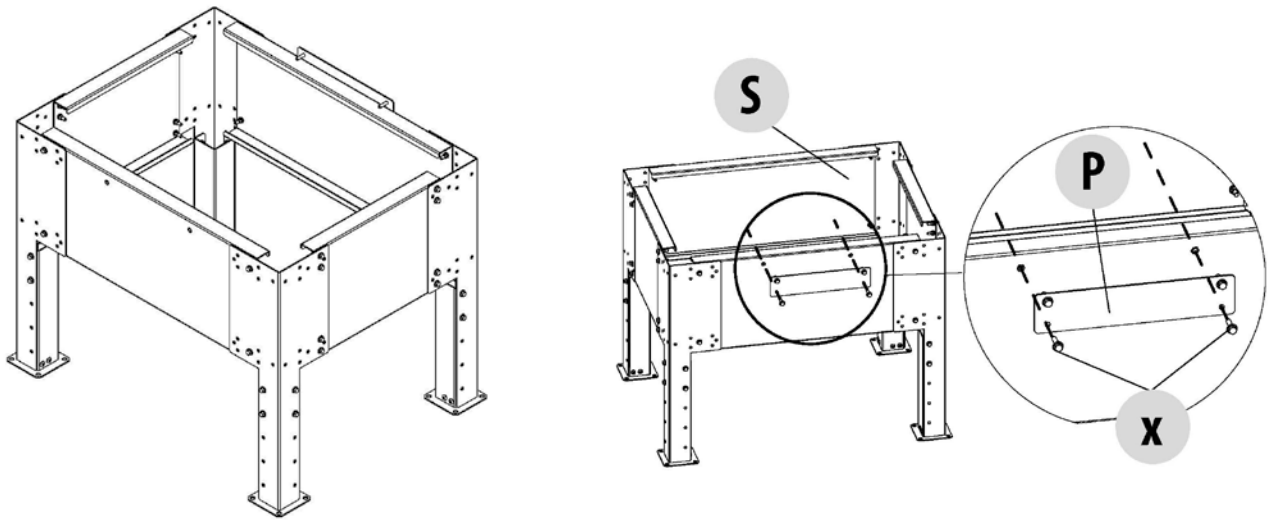
POSITION	DESCRIPTION
A	FIXED INSERT PART
U	EXISTING SURFACE
t	ANCHOER BOLTS (SEE PREVIOUS PAGE)



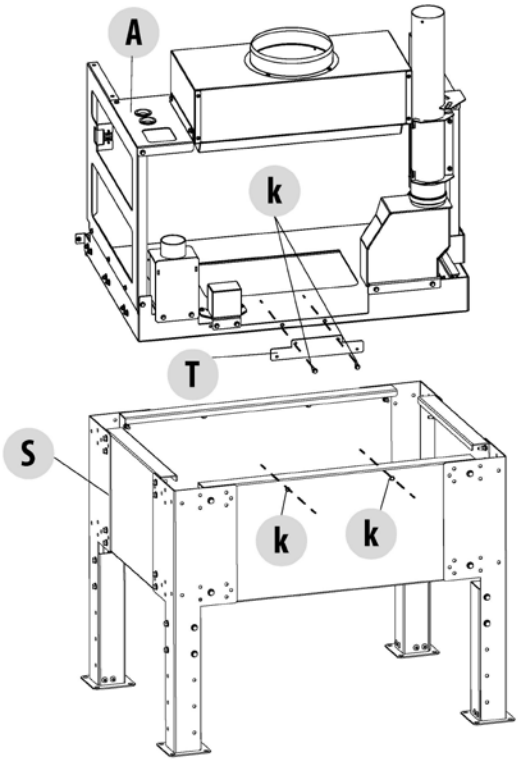
For installation on an existing surface, ensure there is a thickness of at least 17 mm between the fixed wall "A" and the existing surface "U", and fix the insert and surface using plugs "t" as shown on the previous page. Make sure everything is level.

7.3 FASTENING TO THE HORIZONTAL SUPPORT

Place the base in the desired position (after mounting it as explained in the instructions attached to the accessory) and adjust the height by using the feet (from a min. of 500 mm to a max. of 650 mm).
Make sure there is a power socket behind the pedestal so that the plug is accessible after the unit has been installed. Connect the smoke outlet and make the air inlets.
It is mandatory to fasten the support to the floor with anchor bolts and 8 mm diameter screws that will ensure stability of the product. Take the sliding base and fasten it with the support bracket. The support is already provided with bracket "P" for other types of product. Do not mount the bracket "P" supplied in the support pack but use the one provided with the insert.



Take the movable part off the insert and connect the fixed part "A" to the support "S" with the bracket "T" and screws "k" provided.



8 MINIMUM DISTANCES SATURNO

It is recommended to install the stove detached from any walls and/or furniture, with a minimum clearance to allow effective aeration of the appliance and a good distribution of heat in the room. Comply with the distances from flammable or heat-sensitive objects (sofas, furniture, wood panelling, etc.) as specified below. The frontal distance from flammable materials must be at least as specified in the product's technical data table.
If there are particularly delicate objects such as furniture, curtains or sofas, increase the stove distance accordingly.

If the floor is made of wood, it is recommended to fit a floor protection sheet in compliance with the standards in force in the country of installation.

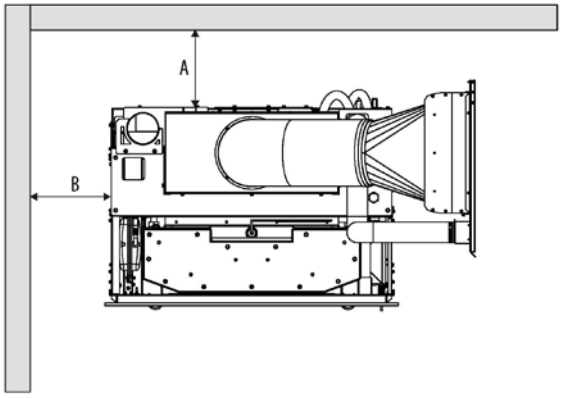
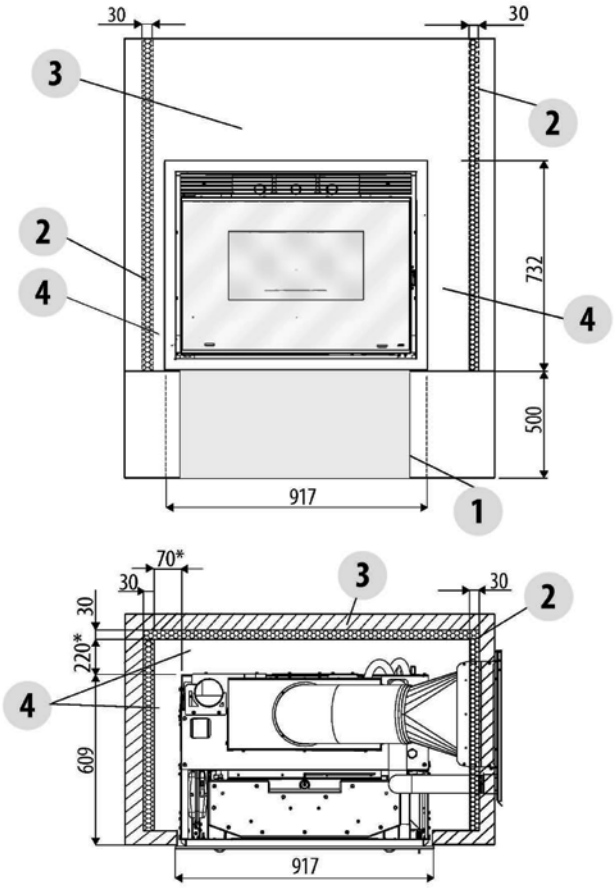


Fig. 17 - Safety distance

MODEL	NON-FLAMMABLE WALLS	FLAMMABLE WALLS
SATURNO 16-24	A = 20 mm - B = 20 mm	A = 220+30 mm (INSULATION) B = 70+30 mm (INSULATION)

If the floor is made of combustible material, we recommend using a protector made of incombustible material (steel, glass) that also protects the front part from any falling burnt particles during cleaning.
The appliance must be installed on flooring that has an appropriate load-bearing capacity.
If the existing construction does not meet this requirement, appropriate measures must be taken (for example, a load distribution plate).

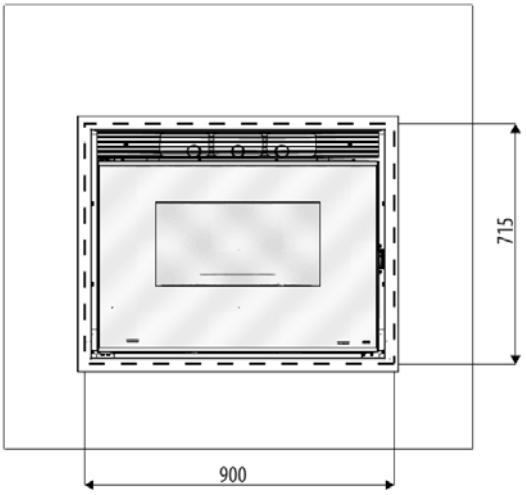


LEGEND	.
1	INSERT SUPPORT (existing or new)
2	INSULATING
3	WALL
4	SAFETY DISTANCE FROM COMBUSTIBLE MATERIAL

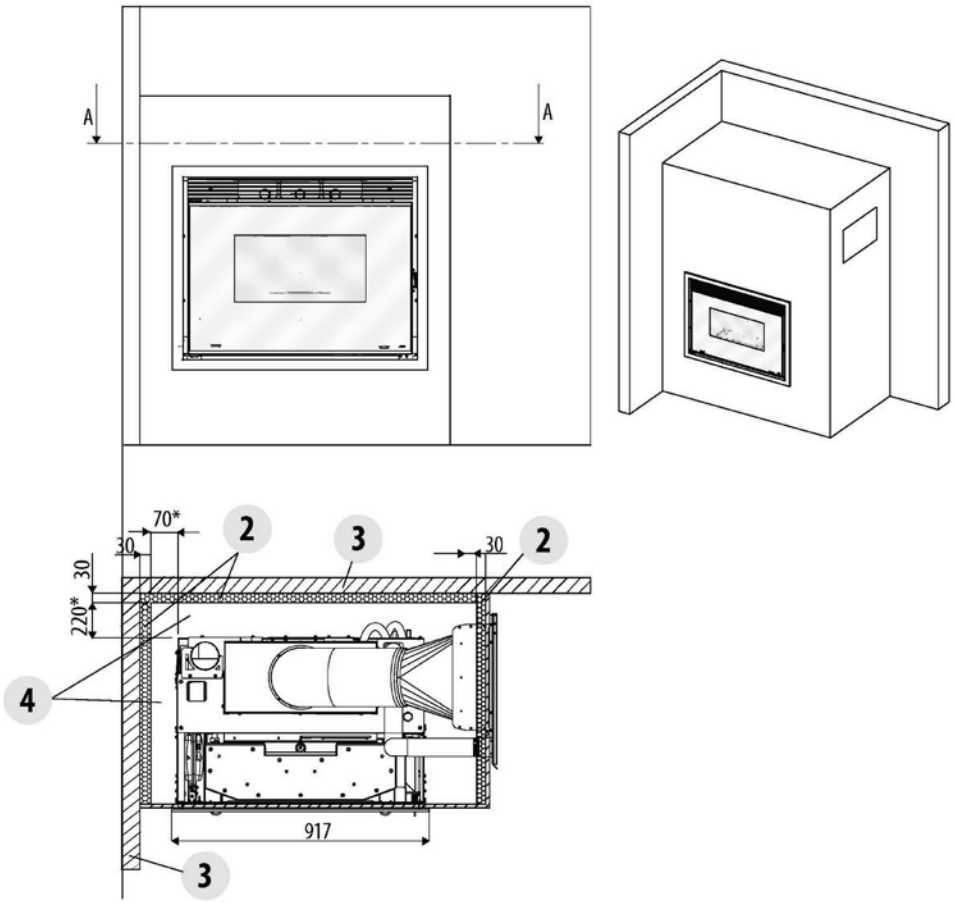
9 SATURNO INSERTION HOLE

The hole to be made on the wall is 900*715 mm. These measurements allow the frame to cover the gap that remains between the product and the hole and also allow the product to be removed if maintenance needs to be performed and/or parts replaced.

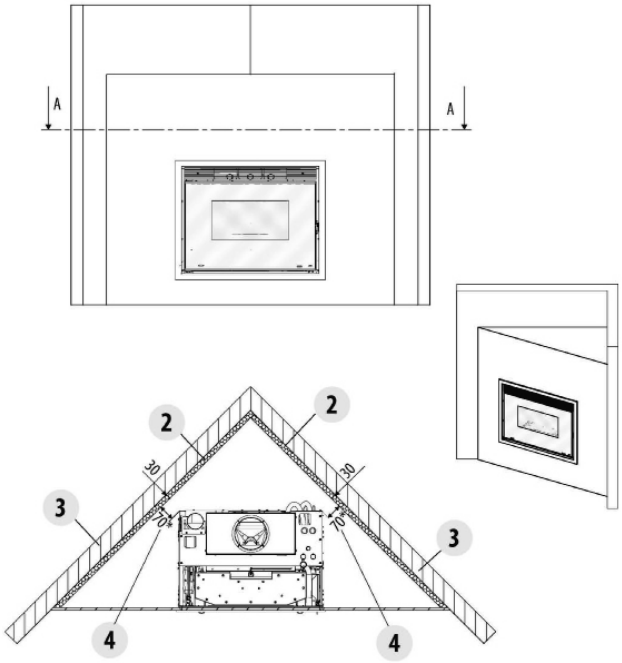
DO NOT USE THE DEVICE WITHOUT SUITABLE CASING, the product must be cased in a specific plasterboard/wall structure.
MCZ is not liable for damage to people or property due to incorrect connections or misuse of the device.



10 EXAMPLE OF PLACEMENT AT A 90° ANGLE



11 EXAMPLE OF PLACEMENT AT A 45° ANGLE

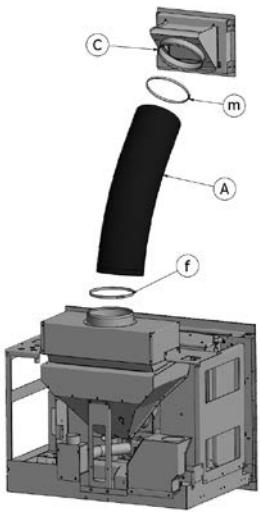


12 PELLET LOADING CHUTE ASSEMBLY

Another choice to be made before placing the product is to define which side to install the chute on for loading the fuel. The pellet loader is delivered with two clamps, the connection pipe and the slide with a small hatch, all inside the same packaging of the VIVO 90 HYDRO insert. The chute may be mounted on the right side, on the left side or at the front.

It is obligatory to shorten the connection pipe, depending on positioning (side or front), so that it is properly taut and at a minimum angle with respect to the horizontal. This operation is required for pellet descent. Before installing the cladding perform a fuel loading test to ensure it descends correctly towards the hopper. It is obligatory to correctly insulate the pipe in case it is fitted on the left side where the smoke exhaust is. The manufacturer disclaims all liability in the event of failure to comply with the above warning. Fire hazard!!

Steps to assemble the chute.
Take the pellet loader unit out of the packaging:
- fix the pipe "A" to the insert with a clamp "f"
- fix the pipe "A" with a clamp "m" to the loader unit with door "C"

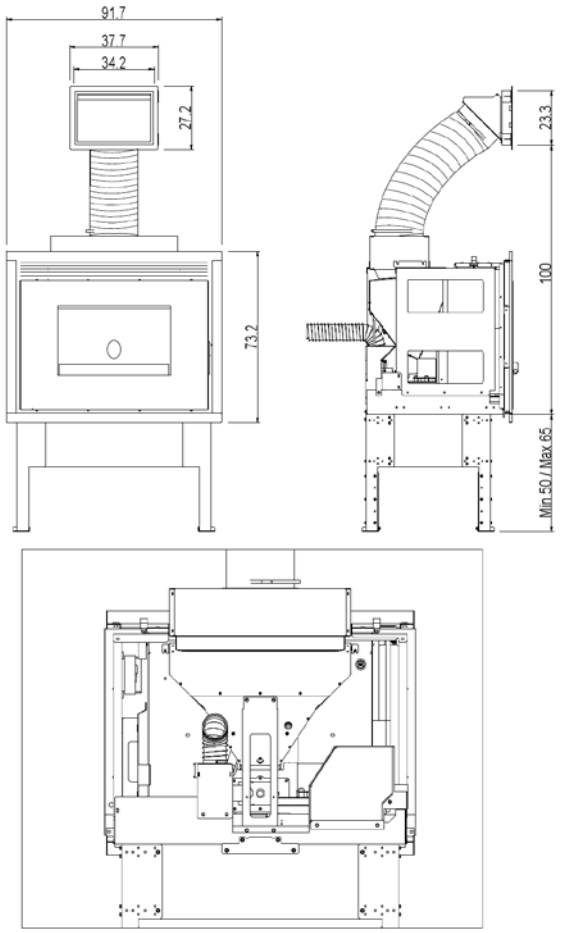


13 RIGHT CHUTE SIDE ASSEMBLY SATURNO

When opting for side chute installation, the distance from the machine axis to the wall must be 68.2 cm maximum (picture on the side).
To position the chute, proceed as follows:

- Connect the pipe supplied to Vivo 80 Pellet ensuring it is rotated to the side, and fasten it with the clamp.
- Connect the pipe (in the top section) to the mouth of the hatch structure using the supplied clamps.
- Position the pipe with the hatch structure so that, when cladding is completed, it may be screwed and fixed to the wall of the cladding on the hole made for its insertion.

To mount the outer hatch refer to the suitable paragraph, since this operation will be performed with completed cladding.



14 SMOKE OUTLET CONNECTION SATURNO

When making the hole for the passage of the smoke discharge pipe, one must take into account the possible presence of flammable materials. If the hole must be made through a wooden wall or thermolabile material, the INSTALLER MUST first of all use the appropriate wall fitting (minimum diameter 13 cm) and suitably insulate the pipe of the product that passes through it using adequate insulating materials (1.3 - 5 cm thick with minimum thermal conductivity 0.07 W/m°K).
The same minimum distance must be applied if the pipe of the product must pass through vertical or horizontal sections near the thermolabile wall.
It is recommended to use an insulated double-wall pipe in external sections in order to prevent condensation from forming.
The combustion chamber works in negative pressure.

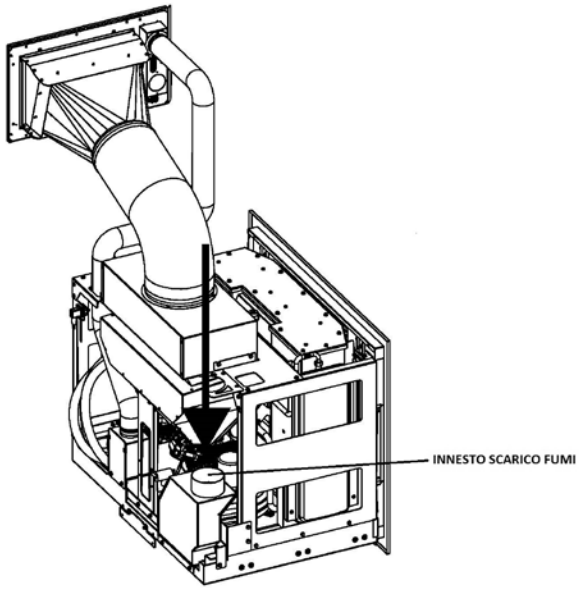


Fig. 18 - Rear outlet

15 ELECTRICAL CONNECTION SATURNO

15.1 ELECTRICAL CONNECTION SATURNO

All electrical connections must be connected by qualified personnel in compliance with laws in force in each Country; using suitable equipment and following the diagram provided in this booklet. All operations must be performed with the 230V 50 Hz mains supply cable disconnected.
MCZ is not liable for damage to people or property due to incorrect connections or misuse of the device.
Perform the installation following the National safety regulations in force.
Make sure a suitable earthing line is available.
Check that the voltage and frequency of the electric power supply meet requirements (230Vac 50Hz)

First connect the power cable to the back of the stove and then to a wall socket.

It is recommended to disconnect the power cable when the stove is not used.

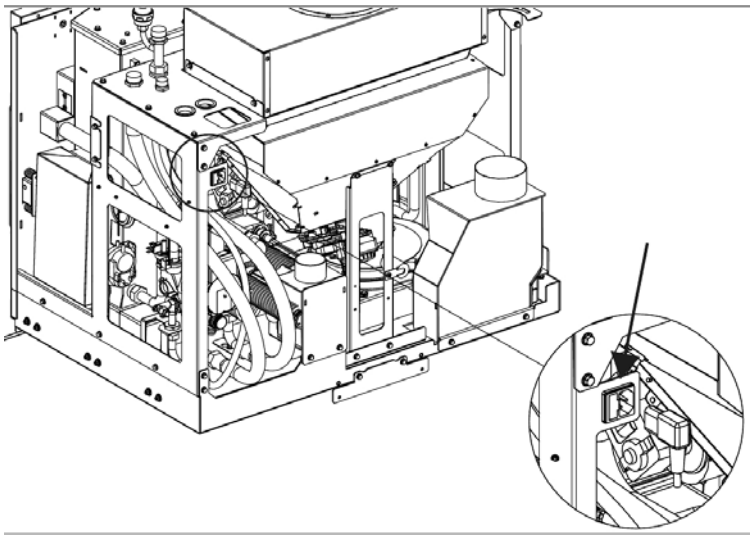


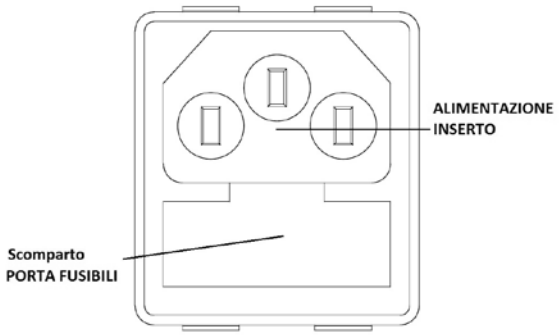
Fig. 19 - ELECTRICAL CONNECTION

The cable must never come into contact with the smoke exhaust pipe or any other part of the stove. The power outlet must be external to the plasterboard / wall structure recess, in an accessible position and clearly visible by the maintenance technician.

STOVE POWER SUPPLY SATURNO

Connect the power cable to the back of the stove and then to a wall socket. The stove is then powered.
There is a fuse box also in the switch block next to the power socket. Open this compartment by simply lifting the cover, using a screwdriver as a lever from inside the power outlet compartment. Inside there are two fuses (5x20 mm T delayed / 3.15 A 250 V), which may need to be replaced if the stove is not powered (e.g. the control panel display does not light up) - operation to be implemented by an authorised and skilled technician.

ATTENTION!
All cleaning and / or replacement of parts must be carried out with the electric plug disconnected. Disconnect the product from the 230V power supply before performing any maintenance operations. If the cable is damaged, replace it.



16 PLUMBING CONNECTION

16.1 PLUMBING SYSTEM CONNECTION

IMPORTANT!
If installation of the product involves interaction with another, pre-existing system complete with heating equipment (gas boiler, methane boiler, diesel boiler, etc.), contact qualified personnel, who subsequently will be responsible for conformity of the system in compliance with the applicable law in force.
The Company declines all responsibility for damage to persons or things in the event of failed or incorrect operation, if the aforementioned warnings are not complied with.

IMPORTANT!
WE STRONGLY RECOMMEND WASHING THE ENTIRE SYSTEM BEFORE CONNECTING THE STOVE IN ORDER TO REMOVE RESIDUE AND BUILD-UPS.
Always install gate valves upstream of the stove to isolate it from the hydraulic system should it be necessary to move it for routine and/or special maintenance. Connect the stove using flexible hoses so as not to excessively bind the stove to the system and to allow it to be moved slightly.
The pressure discharge valve must always be connected to a water discharge pipe. The pipe must be suitable to withstand the high water temperature and pressure.

16.2 CONNECTION DIAGRAM SATURNO

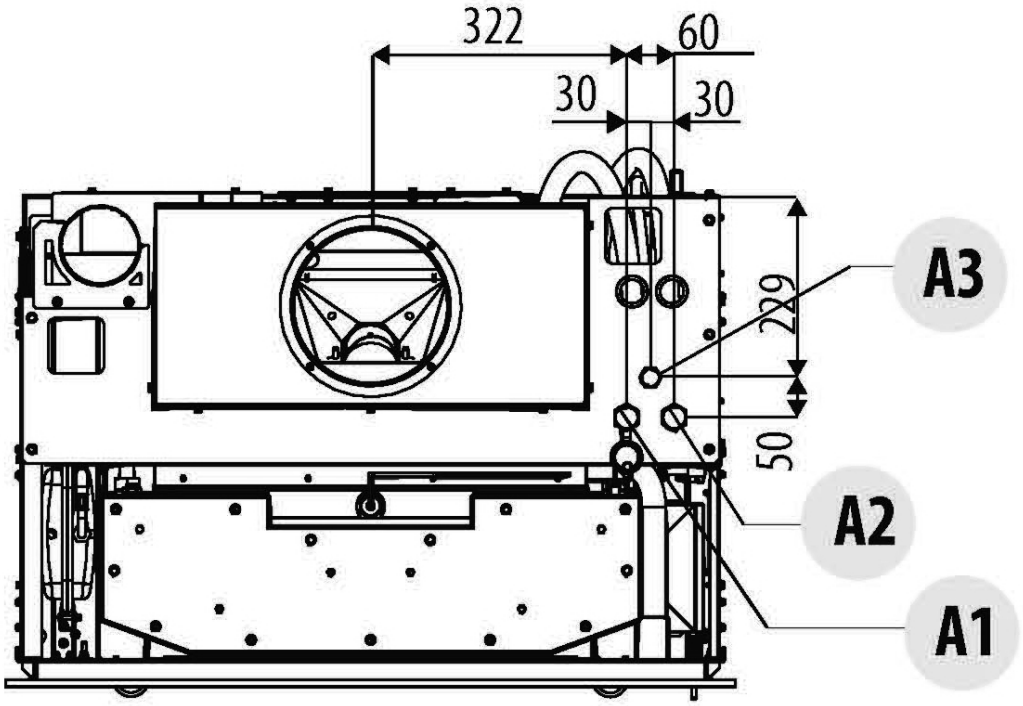


Fig. 20 - Connection diagram SATURNO

LEGEND	*Fig. 10*
A1	*3/4"M heating water delivery*
A2	*3/4"M heating water return*
A3	*System filling 1/2"*
A4	*System outlet 1/4"M (see image on next page)*

16.3 3 BAR DISCHARGE VALVE SATURNO

The safety valve that can be inspected is found on the back of the stove, under the pump. It is MANDATORY to connect the safety drain to a rubber pipe that can withstand a temperature of 110°C and that reaches the outside for any water outlet. The rubber fitting is not supplied with the boiler but may be supplied with spare part code 41501899900 (contact the MCZ GROUP Service)

The manufacturer of the appliance is not liable for any flooding caused by the safety valves being triggered if these have not been joined properly to the outside of the product and to a proper collection and evacuation system.

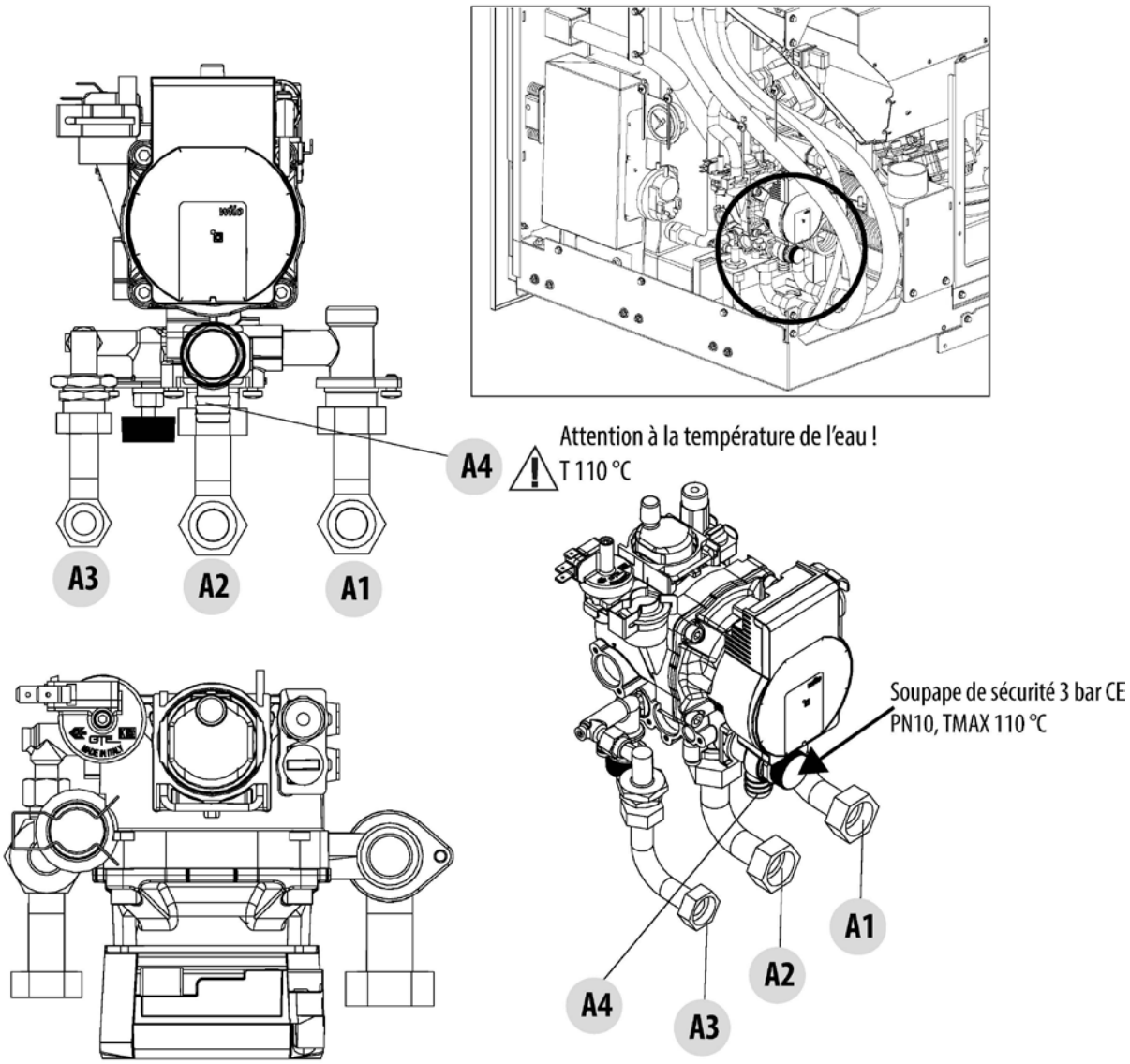


Fig. 21 - Discharge valve

LEGEND	*Fig. 21*
A4	*3 bar CE PN10, TMAX 110°C safety valve*
A4	*ATTENTION: 110°C !!*

16.4 WASHING THE SYSTEM

The connections must be easy to disconnect via pipe unions with swivel fittings.
Install suitable gate valves on the heating system pipes. A safety valve must be installed on the system.
To protect the heating system from harmful corrosion, build-ups or deposits, it is extremely important before installing the appliance to wash the system in compliance with the UNI 8065 standard (water treatment in heating systems for domestic use), using appropriate products.
The use of FERNOX PROTECTOR F1 (available at our authorised centres) product is recommended, this provides long-term protection of heating systems against corrosion and calcium build-up. It prevents the corrosion of the metal parts of the appliance, i.e. the ferrous metals, copper and copper and aluminium alloys. It also reduces the noise produced by the boiler. Refer to the instructions on the product. Cleaning should be performed by a qualified technician.
We also recommend the use of FERNOX CLEANER F3 and LEAK SEALER F4, always available from our authorised distribution centres.
FERNOX F3 is a neutral product for rapid and efficient cleaning of heating appliances. It has been designed to eliminate residues, oily deposits and incrustations from existing appliances of all ages. It can help restore the heating efficiency of the boiler and reduce the noise it generates.
FERNOX F4 is intended to be used with all heating appliances to seal micro fractures that cause small and inaccessible leaks.

16.5 FILLING THE SYSTEM SATURNO

To fill the system, the stove can be equipped with an end piece (optional) with a non-return valve (D) for manual filling of the heating system (if the optional is not installed, the filling tap on the main boiler will be used). During this operation, any air in the system is released from the automatic vent valve located under the top.
To ensure the valve vents, it is advisable to loosen the grey cap one turn and leave the red cap blocked (see figure). Set the filling pressure of the system **WHEN COLD** to **1 bar** (100 kPa). During operation, if the system pressure drops (due to evaporation of dissolved gases in the water) to values lower than the minimum indicated above, the user must use the filling tap to bring the pressure back up to its normal pressure.
To ensure correct stove operation, the maximum pressure in the system **WHEN HOT** must not exceed **1.5 bar** (150 kPa).
To monitor the system pressure, the terminal (optional) is equipped with a pressure gauge (M).
Upon completion of this operation, always close the tap.

Fit the system with a 2 bar safety valve connected to an accessible outlet.

It is normal for there to be noises and gurgling until all the air in the system has been expelled.

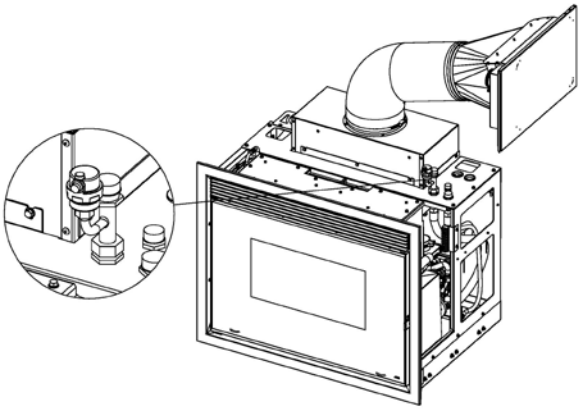


Fig. 22 - AUTOMATIC RELIEF VALVE

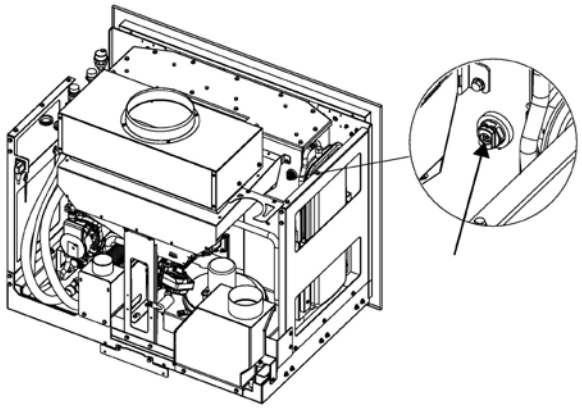


Fig. 23 - MANUAL RELIEF VALVE

MANUAL RELIEF VALVE TO BE USED TO FILL THE BOILER. UNSCREW THE SCREW SLIGHTLY AND AIR WILL BE RELEASED FROM THE VALVE

16.6 WATER CHARACTERISTICS

The characteristics of the water used to fill the system are very important to prevent the build-up of mineral salts and the formation of incrustations along the pipes, in the boiler and in the heat exchangers.
Therefore, please ASK YOUR PLUMBER FOR HIS ADVICE CONCERNING:

Hardness of water circulating in the system, to prevent problems of incrustation and limescale, especially in the domestic water heat exchanger. (> 25° French).
Installation of a water softener (if water hardness exceeds 25° French).
Filling the system with treated water (demineralised).
Possibly providing an anti-condensation circuit.
Installation of hydraulic shock absorbers to prevent water hammering along the fittings and pipes.

If you have very extensive systems (with a large amount of water) or which require frequent refilling, the installation of water softening systems.

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

16.7 SYSTEM CONFIGURATION SATURNO

AIR STOVE PRINCIPLE DIAGRAMS

The following diagrams are to be used only as a guideline. For proper connection, always follow the notes of the plumbing and heating installer. The plumbing system must meet local, regional, or national regulations in force. Installation and verification of operation is to be performed only by specialised, authorised personnel. The manufacturer will not be held liable for non-compliance with the provisions listed above.

Upon installation, the product must be set according to the type of system, selecting the appropriate parameter in the "**SETTINGS**" menu. The possible configurations are 5, as described below:

CONFIGURATION	DESCRIPTION
1	Room temperature management via probe on the stove or by enabling an external room thermostat FACTORY CONFIGURATION.
3	Room temperature management via probe on the stove or by enabling an external room thermostat; boiler DHW production with ntc probe (10 kΩ ß3435).
4	External Puffer management controlled by thermostat.
5	External Puffer management controlled by ntc probe (10 kΩ ß3435).

FACTORY CONFIGURATION 1

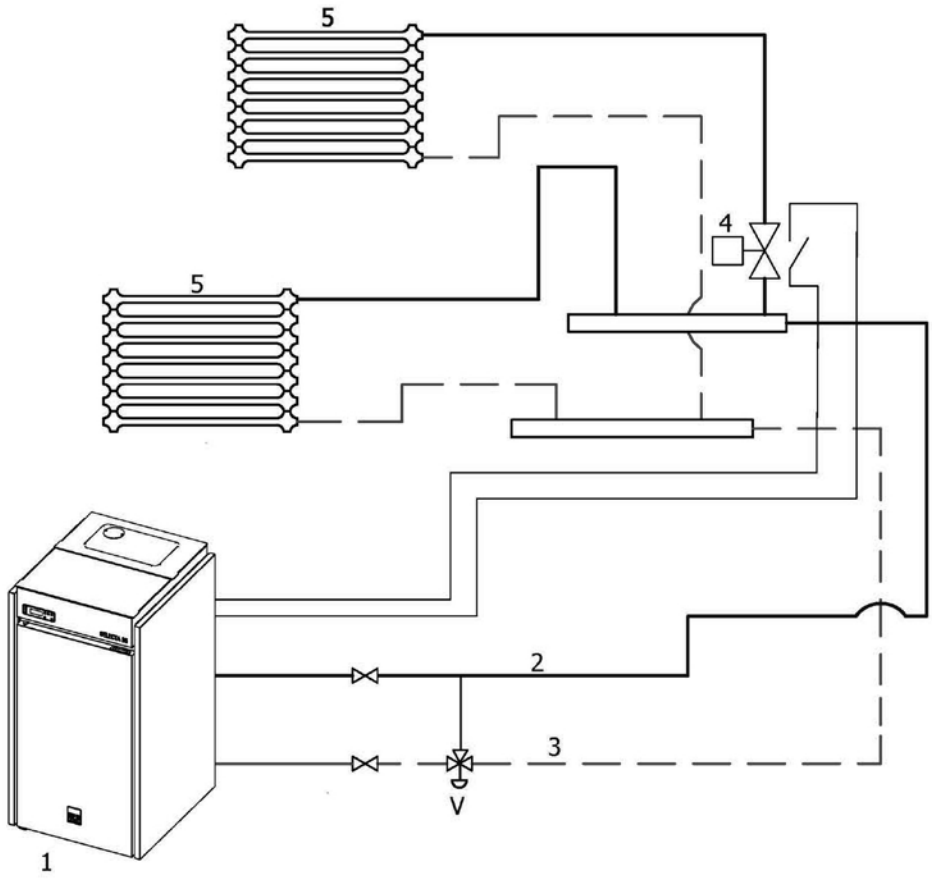


Fig. 24 - 1°ST CONFIGURATION

CONFIGURATION 3

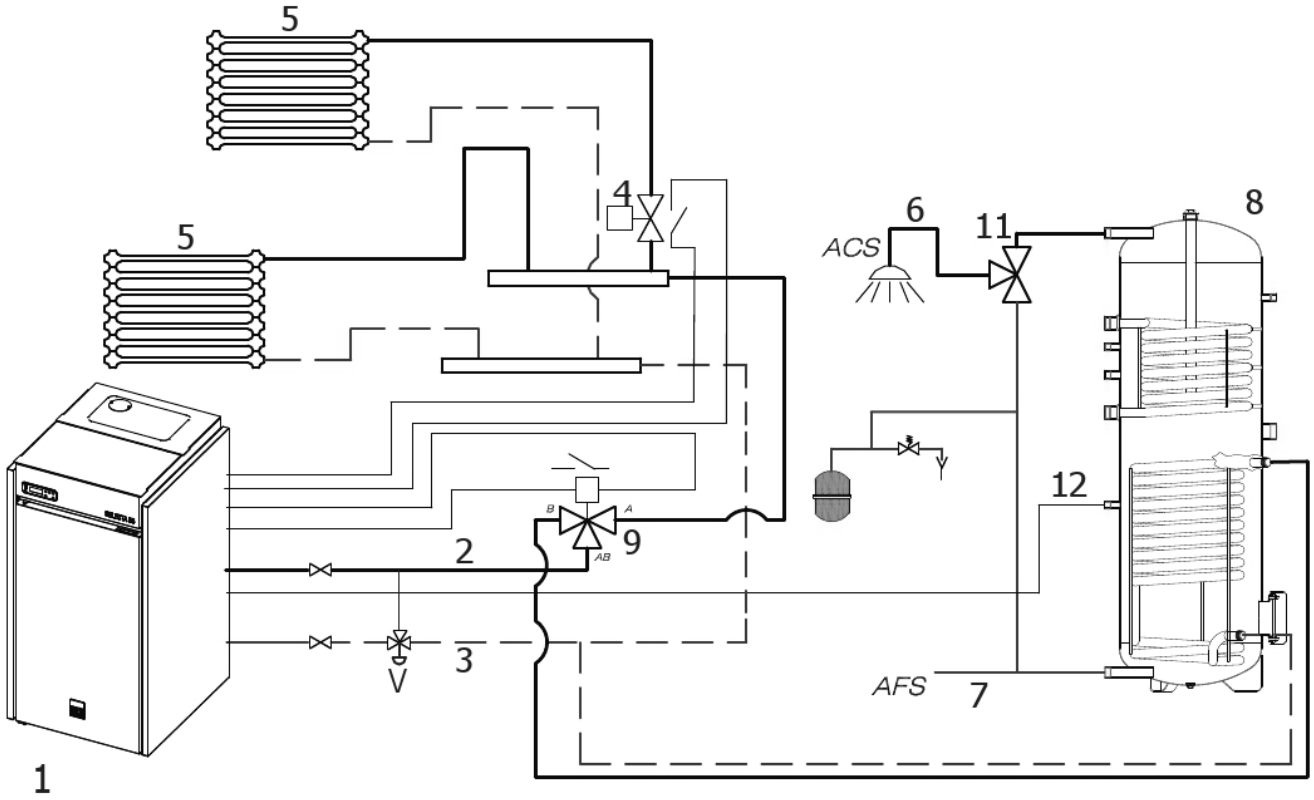


Fig. 25 - 3°ST CONFIGURATION

CONFIGURATION 4

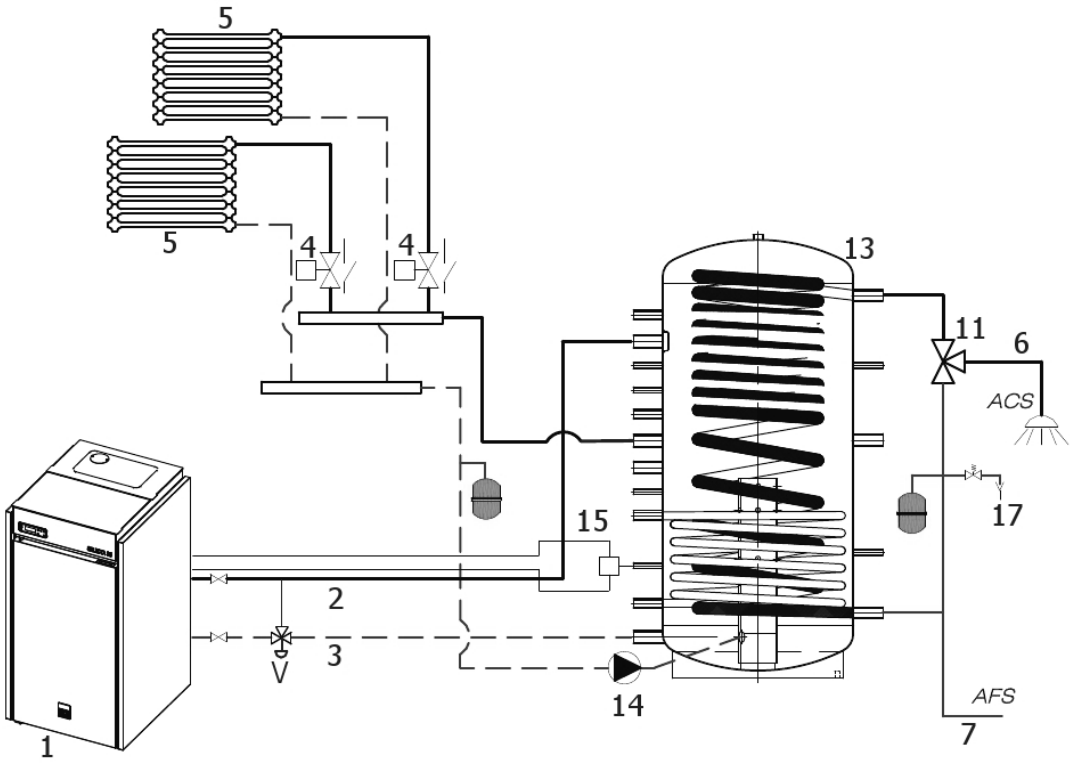


Fig. 26 - 4°ST CONFIGURATION

CONFIGURATION 5

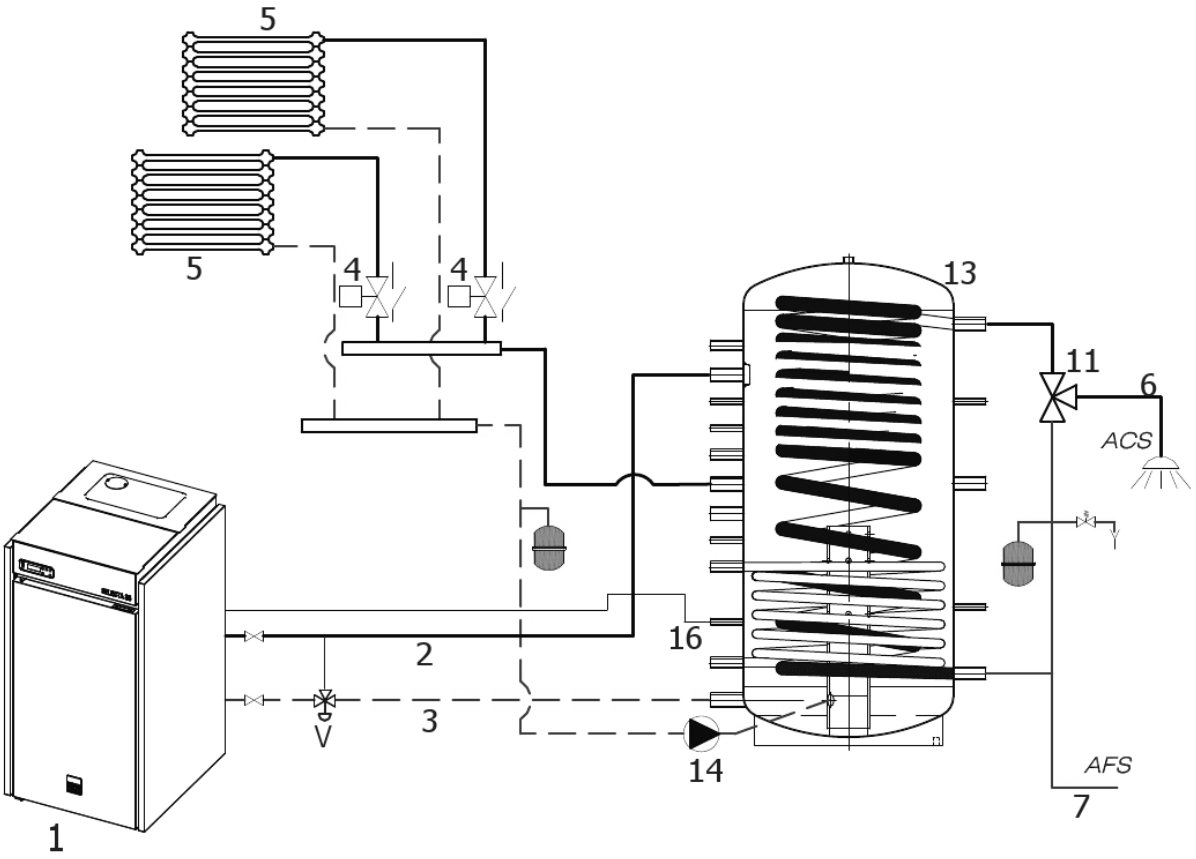


Fig. 27 - 5°ST CONFIGURATION

LEGENDA	Fig. 24-Fig. 25-Fig. 26-Fig. 27
1	SATURN
2	HEATING DELIVERY
3	HEATING RETURN
4	ZONE VALVES
5	HEATING BODIES
6	DOMESTIC HOT WATER
7	SANITARY COLD WATER
8	SANITARY WATER BOILER
9	DIVERTER VALVE
10	BOILER THERMOSTAT
11	THERMOSTATIC MIXING VALVE
12	10 kΩ NTC PROBE β3434 SANITARY WATER
13	HEATING PUFFER
14	HEATING SYSTEM CIRCULATOR
15	THERMOSTAT PUFFER
16	PROBE NTC 10 kΩ β3434 PUFFER
17	SAFETY VALVE
V	V THERMOSTATIC DIVERTER VALVE

16.8 ELECTRICAL CONNECTIONS SATURNO

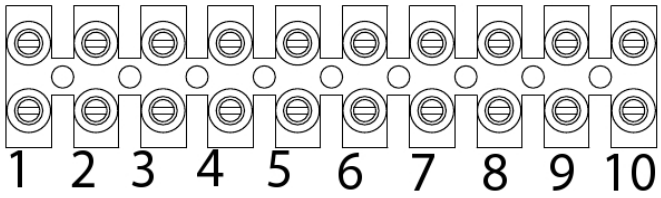
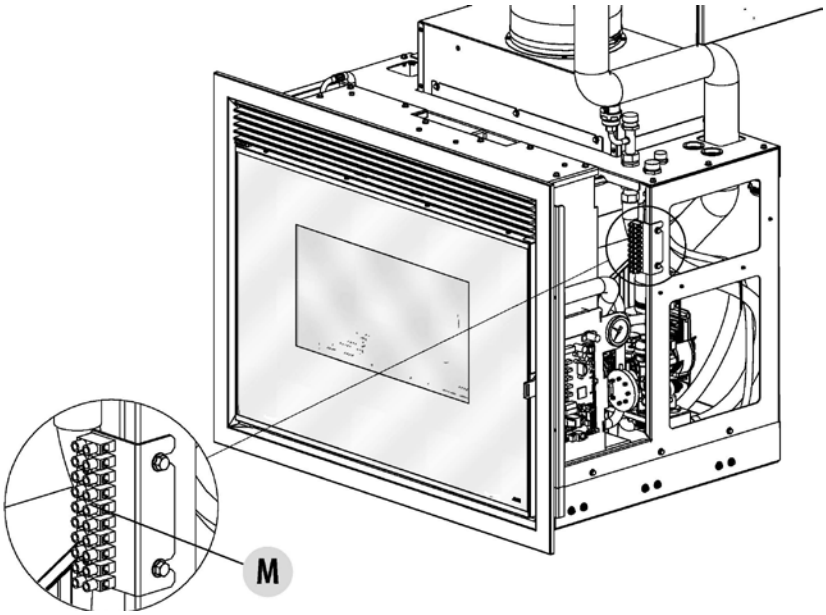


Fig. 28 - Terminal block with 10 pins

CONTACTS
POS.1-2 EXTERNAL THERMOSTAT/PUFFER THERMOSTAT
POS.3-4 PUFFER/BOILER PROBE
POS.5 EARTHING
POS.6-7 ADDITIONAL BOILER
POS.8 3-WAY VALVE NEUTRAL
POS.9 3-WAY VALVE PHASE (DHW)
POS.10 3-WAY VALVE PHASE (heating)

The connections to the terminal board must be made with cables with a maximum length of 3 metres (regardless of whether they are signal or power cables).



17 SPECIAL MAINTENANCE

17.1 INTRODUCTION

For a long working life of the stove, have a periodic cleaning of the stove as described in the following paragrafs.

- Fume outlet pipes (fume conduit + chimney flue + chimney pot) must always be cleaned, scrubbed and checked by an authorized technician in compliance with local regulations, with the instructions of the manufacturer and those of your insurance company.
- It is also necessary to have the combustion chamber, motors and fans cleaned and to have the gaskets and the electronical elements checked at least once a year.

All these operations must be planned in time with your Autorized Technical Assistance Service.

- After a long ineffective time, before turning on the stove check if there are obstructions in the fume exhaust.
- If the stove had been using continuously and intensely, the whole system (chimney included), must be cleaned and checked more frequently.
- In case of replacement of damaged pieces please ask for the original spare part at the Autorized Retailer.

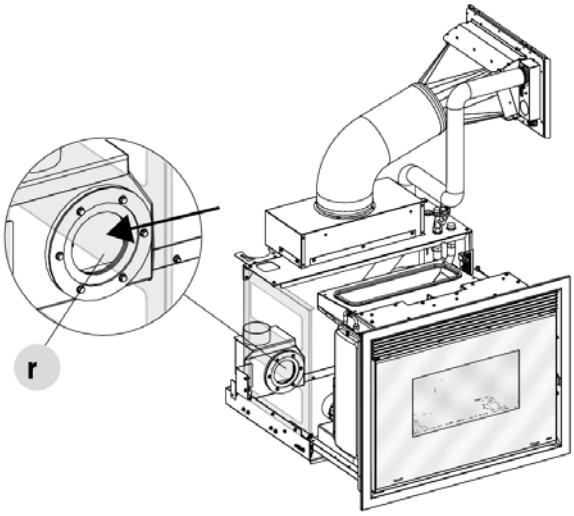
17.2 PERIODIC CLEANING PERFORMED BY A QUALIFIED TECHNICIAN "SATURNO"

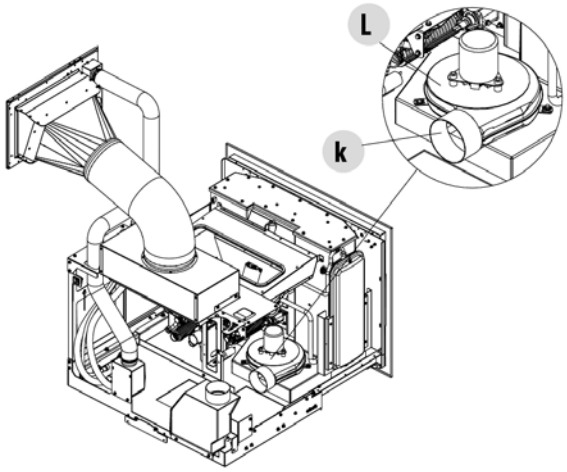
EXTRACTING THE PRODUCT

To perform maintenance of some devices and cleaning of certain parts, it is necessary to extract a part of the product from its housing. The movable part is fitted on sliding guides, which promote the handling process. Before extracting it, release the handle lock following the instructions in this manual. The guides are fitted with end-of-travel devices that block the movable part when fully extracted.

ATTENTION: THE PRODUCT MUST ONLY BE EXTRACTED WHEN THE STRUCTURE IS COLD. All cleaning and/or replacement of parts must be carried out with the electric plug disconnected. Disconnect the product from the 230V power supply before performing any maintenance operations.

To extract the movable part, follow the instructions in part 1 of the manual. It is important to use the support supplied to sustain the product's weight.
When the movable part is put back in place, make sure the machine is locked to the fixed part by closing the screws (see manual part 1). Forgetting to do so may result in the product not working due to leaking soot.





It is also advisable to vacuum near to the coupling "r" and "k" and remove and clean the smoke fan "L".
After cleaning as described above and before reassembling all the parts, it is advisable to vacuum the ash pan and brazier zone.
Then thoroughly clean the lower exchanger, replace any gaskets if needed, and reassemble.

17.3 PIPE UNIT CLEANING

For better performance of the boiler, the pipes inside the combustion chamber should be cleaned once a month.
Open the firebox door and use the brush provided to clean the pipes at the top inside the combustion chamber. Brush the pipes several times so that the ash deposited inside them falls to the bottom around the brazier.
Use a vacuum cleaner to remove all fallen material.

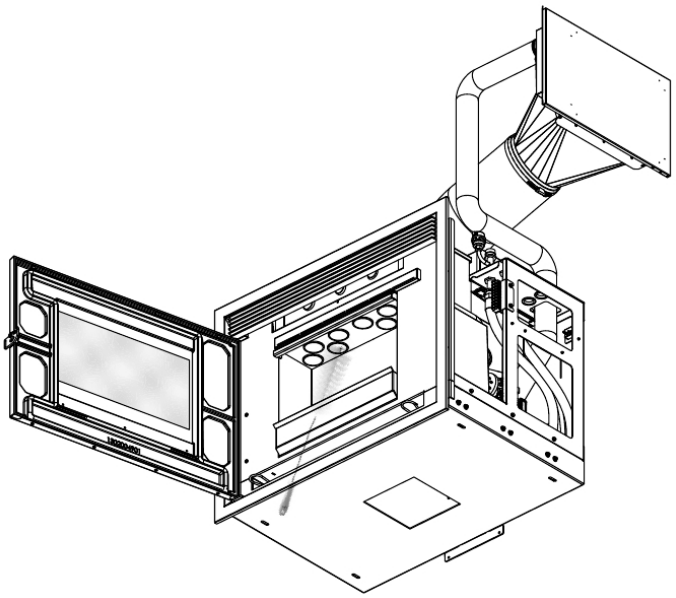
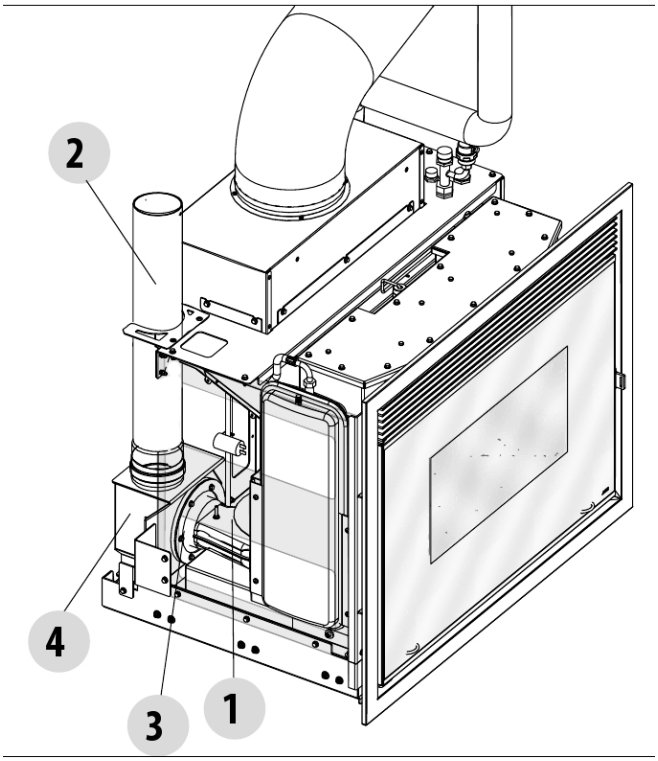


Fig. 29 - Pipe unit cleaning

17.4 CLEANING THE SMOKE DUCT AND FITTING "SATURNO"

When the product has been extracted, it is possible to operate on the left side to clean and maintain the smoke fan (1). The smoke extraction fan must obviously be removed for such maintenance to be performed.
A gasket (3) is applied on the fan outlet, which guarantees the tightness with the smoke fitting (2). Always ensure this gasket is intact and replace it if required. The gasket can also be adjusted via a screw. The pressure on the fitting can be increased or decreased by loosening the screw.



The flue connection is housed, with its ash collection compartment (4), on the rear/side of the product, where the fan outlet is located. Also clean this compartment with a vacuum cleaner by inserting the nozzle on the fan inlet hole.
Then clean the smoke outlet system, especially around the fittings, curves and any horizontal sections. For information on cleaning the flue, contact a chimney sweeper.

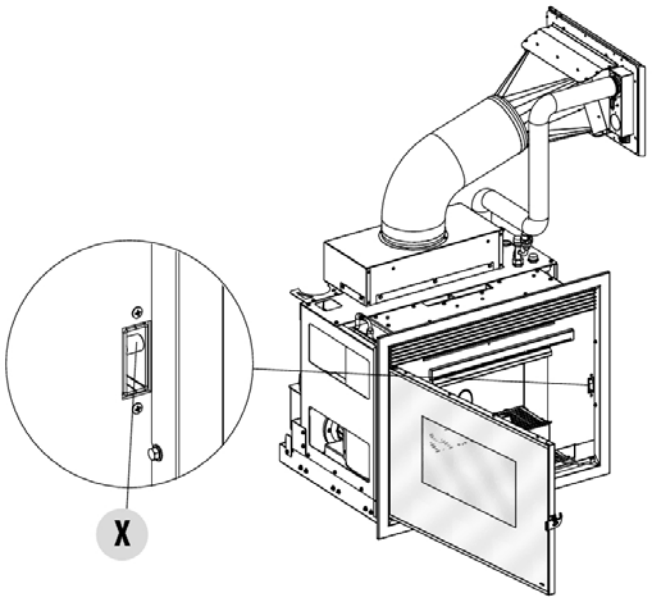
ATTENTION! The frequency that the smoke outlet system needs to be cleaned depends on the use of the product and the type of installation.
We recommend relying on an authorised service centre for end-of-season cleaning and maintenance, as they will carry out all of the previously mentioned work and inspect the stove components.

17.5 OTHER CHECKS

All gaskets fitted on components subject to maintenance (smoke extraction fan, inspection panels, etc...) must be replaced when these parts are removed for maintenance. Check the tightness of the gaskets on the firebox door and, if required, contact an authorised support centre for them to be replaced.

18 PERIODICAL CHECK OF THE DOOR CLOSURE

Make sure the door closure ensures a correct sealing action (with the "paper sheet" test) and that when the door is closed, the closing block (X in the figure) does not protrude from the sheet metal to which it is secured. For some products it will be necessary to disassemble the cladding to be able to assess the anomalous protrusion of the block when the door is closed.



18.1 SWITCHING OFF AT THE END OF THE SEASON

At the end of every season, before switching off the product, we recommend removing all the pellets from the hopper using a vacuum with a long hose.

We recommend removing the unused pellets from the hopper because they can trap moisture. Disconnect any combustion air ducts that can channel moisture into the combustion chamber, and above all, ask the specialised technician during the necessary annual scheduled maintenance appointment at the end of the season to touch up the paint inside the combustion chamber with specific silicone spray paints (that can be purchased at any retailer or customer service centre). This way, the paint will protect the internal parts of the combustion chamber, preventing rust from forming.

When not in use, the appliance must be disconnected from the electrical mains. For greater safety, especially when there are children, we recommend removing the power cable alltogether.

When turning the stove back on, if the control panel display does not turn on when you press the main switch on the side of the product, it means you may need to replace the service fuse.
There is a fuse holder compartment on the back of the product, under the power plug. After having disconnected the plug from the mains, use a screwdriver to open the fuse holder compartment cover and, if necessary, replace the fuses (3.15 A time delay).

18.2 FUME PIPES ANNUAL CLEANING

Clean annually from soot with brushes.
The cleaning operation must be executed by a specialized stove-repairer who will provide for the cleaning of fume pipe, chimney flue and chimney pot. He will also check their eficiency and will release a written declaration of the safety of the appliance. This operation must be executed at least once a year.

18.3 GASKET REPLACEMENT

In case of deterioration of fire door, hopper or fume chamber gaskets, it is necessary to replace them by an autorized technician in order to guarantee the good running of the stove.

Use exclusively original spare parts.

19 IN CASE OF ANOMALY

19.1 PROBLEM SOLVING

Before of every Authorized Technician intervention, the same Technician has the duty to check if the parameters of the mother board correspond to those of the table you own.

In case of doubts regarding the use of the stove, please contact ALWAYS the Authorized Technician on order to avoi irreparable damages!

PROBLEM	CAUSE	SOLUTION	INTERVENTION
The control display does not switch on	The stove is without power supply	Check if the plug is connected.	
	Burned protection fuse in the electric socket	Replace the protection fuses in the electric socket (3.15A-250V).	
	Faulty control display	Replace the control display.	
	Faulty flat cable	Replace the flat cable.	
	Faulty electronic board	Replace the mother board.	

PROBLEM	CAUSE	SOLUTION	INTERVENTION
Pellets do not reach the combustion chamber	Empty hopper	Full the hopper.	
	Open fire door or open pellet door	Close fire door and pellet door and check that there are no pellet grains at the gasket level.	
	Clogged stove	Fume chamber cleaning	
	Auger blocked by a foreign object (for example nails)	Clean the auger.	
	The auger geared motor is out of order	Replace the geared motor.	
	Check if on the display there is an "ACTIVE ALARM"	Have the stove checked.	
The fire extinguish and the stove stops	Empty hopper	Full the hopper.	
	Auger blocked by a foreign object (for example nails)	Clean the auger.	
	Bad quality pellets	Try other types of pellets.	
	Pellet drop value too low "phase 1"	Adjust the pellet loading.	
	Check if on the display there is an "ACTIVE ALARM"	Have the stove checked.	
	The pellet temperature safety probe has tripped	Let the boiler cool down, reset the thermostat until the problem is resolved, then switch the boiler back on; if the problem persists, contact customer service	
	The door does not close perfectly or the gaskets are worn	Close the door and have the gaskets replaced with other original ones	
	Unsuitable pellets	Change the type of pellets with one that is recommended by the manufacturer	

PROBLEM	CAUSE	SOLUTION	INTERVENTION
	Broken or defective manostat	Replace the manostat	
	Ignition step is not completed	Repeat ignition	
	Temporary power outage	Wait for automatic restart	
	Clogged smoke duct	Clean the smoke duct	
	Defective or broken temperature probes	Check and replace probes	
	Faulty spark plug	Check and, if necessary, replace the spark plug	
Flames are weak and orange coloured, pellets do not burn properly and the glass blackens	Not sufficient combustion air	Check as following: probable obstructions of the combustible air inlet from the back or from the bottom of the stove; burning pot obstructed holes with too ash remains. Have the fan blades and auger cleaned.	
	Obstructed exhaust	The exhaust chimney is partially or totally obsturcted. Contact an expert stove-repairer who checks the stove from the exhaust up to the chimney pot. Provide immediately for stove cleaning.	
	Obstructed stove	Provide immediately at the inner cleaning of the stove.	
	The fume fan is out of order	The pellets can burn also thanks to chimney flue depression without the aid of the fume fan. Have the fume fan immediately replaced. It can be noxious to health to let the stove running without fume fan.	
	Damp or unsuitable pellets	Change the type of pellet	
The exchanger fan continues to turn even though the stove has just cooled	Faulty fume temperature probe	Replace the fume probe.	
	Faulty mother board	Replace the mother board.	

PROBLEM	CAUSE	SOLUTION	INTERVENTION
Ash remains along the stove	Faulty or out of order door gaskets	Replace the gaskets.	
	Not sealed fume pipes	Contact an expert stove-repairer who will immediately provide for sealing the junctions with high-temperature silicone and/or for replacing pipes with those in compliance to current regulations. A not sealed fume channelisation can be noxious to health.	
The stove is at its highest power but does not heat up.	Ambient temperature reached.	The stove is at its minimum value. Increase the desired ambient temperature.	
Stove running and display showing "Smoke Overtemperature"	Reached fume outlet limit temperature	The stove runs at minimum. NO PROBLEM!	
The smoke extraction motor is not working	No power to the boiler	Check the mains voltage and the protective fuse	
	The motor is broken	*Check the motor and capacitor and, if necessary, replace them*	
	The motherboard is defective	*Replace the electronic board*	
	The control panel is broken	*Replace the control panel*	
The stove's smoke duct produces condensation	Low smoke temperature	Check that the flue is not clogged.	
		Increase stove power to minimum (pellet drop and fan revs).	
		Install condensation collection cup.	
Stove running and display showing "SERVICE"	Routine maintenance alert (it does not block the system)	When this flashing message appears upon start-up, it means that the preset operating hours have elapsed before maintenance. Contact the service centre.	

19.2 PROBLEM SOLVING (THERMOSTOVE)

PROBLEM	POSSIBLE CAUSES	SOLUTIONS	INTERVENTION
In automatic position, the boiler always works at maximum power	Thermostat set to the minimum	Reset the thermostat temperature	
	Room thermostat in a position that always detects cold	Change the position of the thermostat	
	Faulty temperature detection probe	*Check and, if necessary, replace the probe*	
	Defective or broken control panel	*Check and, if necessary, replace the panel*	
The boiler does not start	Power outage	Make sure the power cable is plugged in and the main switch is in the "I" position.	
	Blocked pellet probe	*Release it via the rear thermostat. If it happens again, call customer service.*	
	Broken fuse	Replace the fuse	
	Broken manostat (block signal)	Low water pressure in the boiler	
	Clogged smoke duct or exhaust	Clean the smoke exhaust and/or smoke duct	
	Water temperature probe has tripped	Call customer service	

PROBLEM	POSSIBLE CAUSES	SOLUTIONS	INTERVENTION
Temperature does not increase with the boiler working	Improper combustion adjustment	Check recipe and parameters	
	Dirty boiler/system	Check and clean the boiler	
	Insufficient boiler power	Make sure the boiler is appropriately proportional to the system requirements	
	Poor quality pellets	Use quality pellets	
Condensate in the boiler	Improper temperature adjustment	*Adjust the boiler to a higher temperature*	
	Insufficient fuel consumption	*Check the recipe and/or technical parameters*	
Radiators cold in the winter	Room thermostat (local or remote) adjusted too low. If remote thermostat, check whether it is defective	*Adjust it to a higher temperature. Replace it if necessary (if remote).*	
	The circulator does not turn because it is blocked	*Release the circulator by removing the cap and turning the shaft with a screwdriver.*	
	The circulator does not turn	*Check its electrical connections, replace it if necessary.*	
	Air inside the radiators	*Bleed the radiators*	
No hot water comes out	Circulator (pump) blocked	Release the circulator (pump)	
Noise and gurgling	Air in the system	Vent the air and fill the system	

20 ELECTRONIC BOARD

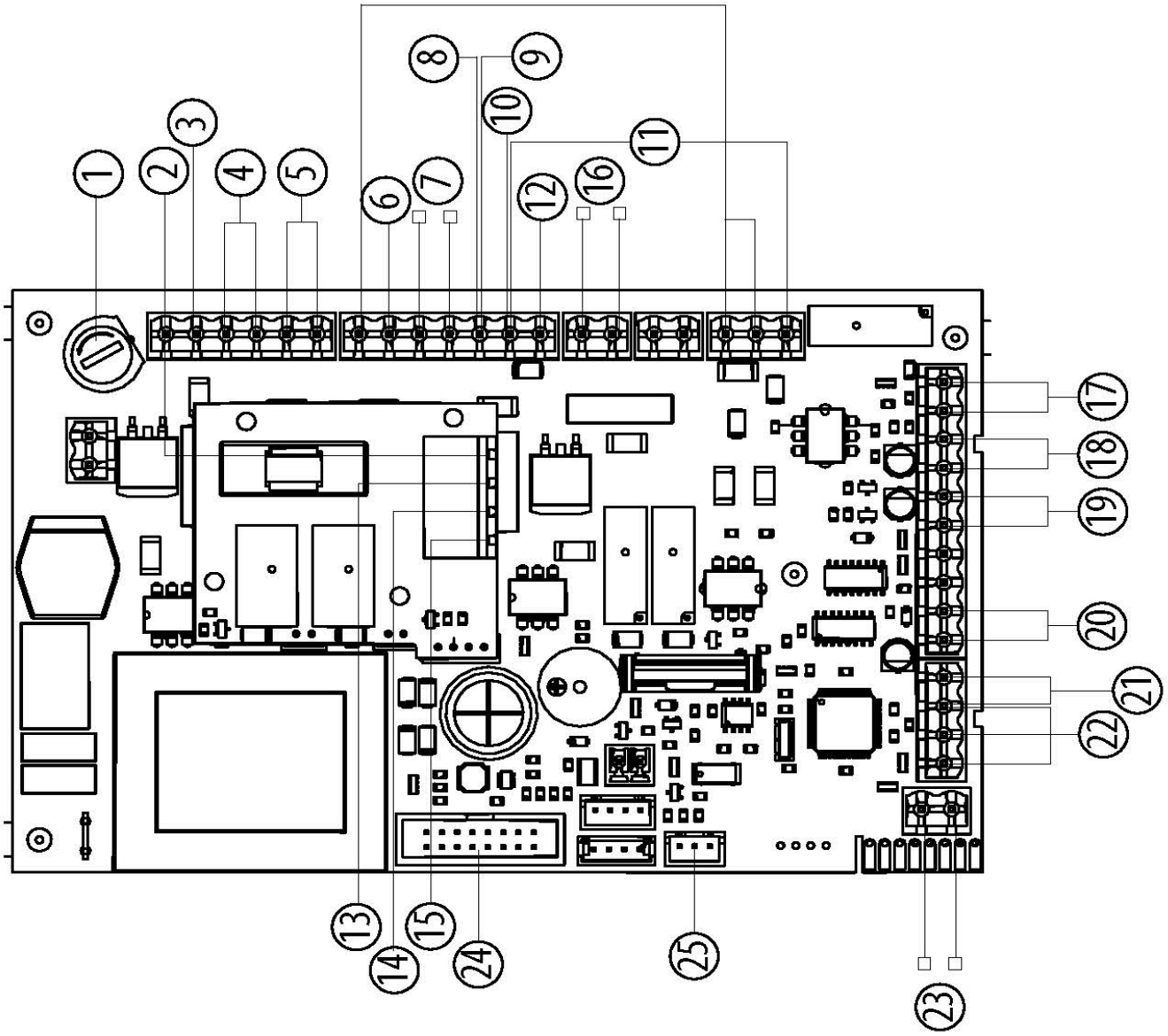


Fig. 30 - Electrical board

LEGEND	*Fig. 30*		
1	*FUSE*	***14***	*EXTERNAL THERMOSTAT CONNECTION (TERMINAL BOARD)*
2	*BOARD PHASE*	***15***	*INTERNAL ROOM PROBE*
3	*BOARD NEUTRAL*	***16***	*PUFFER/BOILER PROBE CONNECTION (TERMINAL BOARD)*
4	*SMOKE EXTRACTION FAN*	***17***	*BOILER WATER TEMPERATURE PROBE*
5	*ROOM FAN*	***18***	*SMOKE EXTRACTION FAN RPM CONTROL*
6	*PELLET SAFETY THERMOSTAT*	***19***	*FLOW SWITCH (ONLY VERSIONS WITH EXCHANGER)*
7	*WATER THERMAL PROTECTOR*	***20***	*3-WAY VALVE PHASE (HEATING)*
8	*SPARK PLUG*	***21***	*3-WAY VALVE PHASE (DHW)*
9	*HYDRAULIC KIT WATER MANOSTAT*	***22***	*PUMP PHASE*
10	*AIR MANOSTAT*	***23***	*PUMP NEUTRAL*
11	*ADDITIONAL BOILER CONNECTION (TERMINAL BOARD)*	***24***	*3-WAY VALVE NEUTRAL*
12	*FEED SCREW*	***25***	*CONTROL BOARD*
13	*SMOKE PROBE*		

N.B. The wiring of the individual components is fitted with pre-wired connectors of different sizes.

21 FEATURES

DESCRIPTION	IDRO PRINCE^3 12	IDRO PRINCE^3 16	AQUOS^3 16
Effective rated power	11,8 kW (10.148 kcal/h)	16,2 kW (13.932 kcal/h)	16,2 kW (13.932 kcal/h)
Effective rated power (H_2O)	10,2 kW (8.772 kcal/h)	12,9 kW (11.094 kcal/h)	12,9 kW (11.094 kcal/h)
Minimum effective power	3,2 kW (2.752 kcal/h)	4,7 kW (4.042 kcal/h)	4,7 kW (4.042 kcal/h)
Minimum effective power (H_2O)	2,2 KW (1.892 kcal/h)	3,1 KW (2.666 kcal/h)	3,1 KW (2.666 kcal/h)
Performance at Max	91,8%	93,3%	93,3%
Performance at Min	92,4%	96,5%	96,5%
Exhaust smoke temperature at Max	114°C	118°C	118°C
Exhaust smoke temperature at Min	64°C	60°C	60°C
Particulate / OGC / Nox (13%O_2)	18 mg/Nm^3 – 2 mg/ Nm^3 - 109 mg/Nm^3	19 mg/Nm^3 – 2,2 mg/ Nm^3 - 109 mg/Nm^3	19 mg/Nm^3 – 2,2 mg/ Nm^3 - 109 mg/Nm^3
CO at 13% O_2 at Min and at Max	0,038 — 0,003%	0,011 — 0,006%	0,011 — 0,006%
CO_2 at Min and at Max	4,7% – 9,8%	7,7% – 11,7%	7,7% – 11,7%
Smoke mass	9,4 g/sec	10,5 g/sec	10,5 g/sec
Maximum operating pressure	2 bar – 200 kPa	2 bar – 200 kPa	2 bar – 200 kPa
Recommended draft at Max*** power	0,12 mbar – 12 Pa***	0,10 mbar – 10 Pa***	0,10 mbar – 10 Pa***
Minimum draft permitted at Min power	0,02 mbar – 2 Pa	0,02 mbar – 2 Pa	0,02 mbar – 2 Pa
Hopper capacity	31 litri	40 litri	40 litri
Type of pellet fuel	Ø 6 mm 3÷40 mm	Ø 6 mm 3÷40 mm	Ø 6 mm 3÷40 mm
Hourly pellet consumption (min ~ max)	0,7 kg/h * ~ 2,6 kg/h *	1,0 kg/h * ~ 3,5 kg/h *	1,0 kg/h * ~ 3,5 kg/h *
Range (min ~ max)	29 h * ~ 8 h *	29 h * ~ 8 h *	29 h * ~ 8 h *
Heatable volume m^3	254/40 – 290/35 – 338/30 **	348/40 – 398/35 – 464/30 **	348/40 – 398/35 – 464/30 **
Air intake for combustion	Ø 50 mm	Ø 50 mm	Ø 50 mm
Smoke outlet	Ø 80 mm	Ø 80 mm	Ø 80 mm
Air vent	80 cm^2	80 cm^2	80 cm^2
Rated electrical power (EN 60335-1)	75W (max 390W)	115W (max 370W)	115W (max 370W)
Power supply voltage and frequency	230 Volt / 50 Hz	230 Volt / 50 Hz	230 Volt / 50 Hz
Net weight	141 kg	151,5 kg	136 - 145 - 181 kg
Weight with packaging	156 kg	167,5 kg	149 - 158 - 195 kg
Distance from combustible material (back/side/ bottom)	200 mm / 200 mm / 0 mm	200 / 200 / 0 mm	200 / 200 / 0 mm
Distance from combustible material (ceiling/front)	750 mm / 1000 mm	750 / 1000 mm	750 / 1000 mm

* Values that can vary depending on the type of pellet used
** Heatable volume depending on the power required per m^3 (respectively, 40-35-30 Kcal/h per m^3)
*** Value recommended by the manufacturer (not binding) for optimal product performance

Tested according to EN 14785 in compliance with the European Construction Product regulation (EU 305/2011)

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