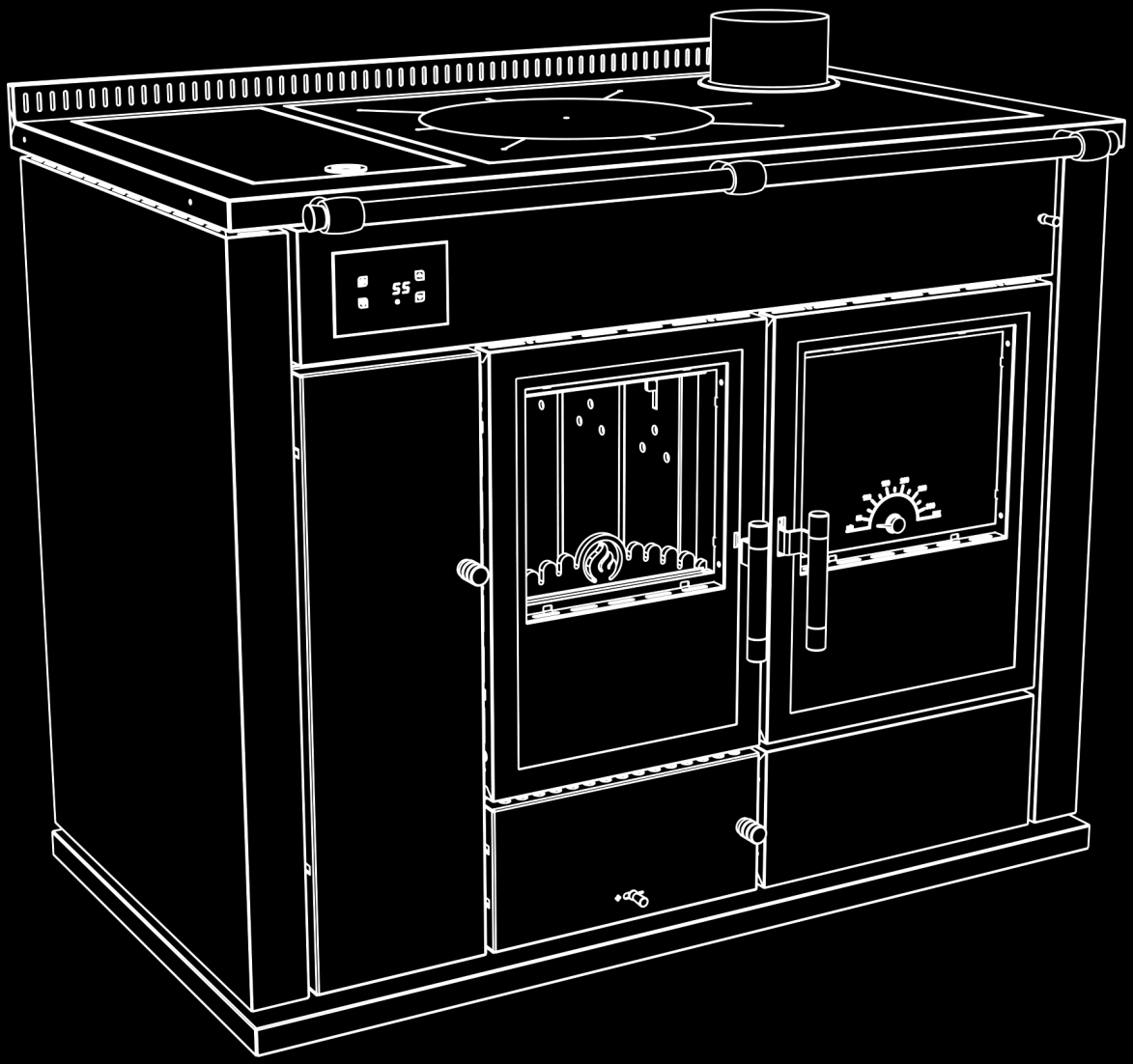
STP

Instructions



RIZZOLI®

FIRE SINCE 1912

STP

The use of economic and ecologic combustibles, the sweet warm of natural fire, the sweet fragrance of the wood of our forests are the qualities that make indispensable wood fired thermal cookers in every house. Your choice fell upon a Rizzoli thermal cooker, result of a tradition started in 1912 when Carlo Rizzoli began the production of wood fired thermal cookers with the typical style of the valley in the dolomites. Year after year Rizzoli continued to refine its thermal cookers using even more advanced technologies, but without losing contact with the elegance, the beauty and the functionality of the original product.

1 INSTRUCTIONS

1.1 GENERAL INSTRUCTIONS

For the perfect working of Rizzoli thermal cookers it is necessary the correct placing and connection to the chimney, to AC power and to the heating system. The installation normally ends when you light the thermal cooker. It is necessary to predispose a duly made chimney and well suited to the model you chose. Before the connection of the thermal cooker it is necessary to contact a local chimney sweeper. The installation usually ends with the lighting of the thermal cooker and the verify of the correct working. It is necessary to use well dried and good quality wood: it is also necessary to sweep the chimney and the thermal cooker regularly. We recommend to read carefully the instructions in this booklet before starting to use the thermal cooker. Keep this booklet because it could be useful in case of necessity.
Talking about the working and the installation of Rizzoli thermal cookers, all the European laws, national and local laws and rules must be respected.

1.2 SAFETY INSTRUCTIONS

- Respect all the safety distances during the installation of the cooker.
- The extracting fans, if working in the same room in which the device is installed, might create problems in case of not proper aeration.
- The grids and the ventilation holes of the device must not be obstructed during the installation or the use of the device.
- The installation must guarantee the possibility of access to clean the device, the flue outlet, the chimney hood and for the maintenance of the hydraulic components.
- When using the cooker, some parts of the device may be very hot, keep attention not to lean and not to touch by hand hot parts (frame, plate and doors).
- When you cook and generally when you use the cooker you must not wear inflammable dresses.
- Keep more attention in presence of children.
- Do not lean to the cooker inflammable or explosive materials, in particular curtains or very close to it, inflammable flacons and aerosol bombs.
- The fire door must always be closed except for lighting operations, fire feeding operations and during the maintenance operations.
- Do not open the fire door during the exercise of the device or in presence of flame.
- Check regularly the fume-circuit and, the chimney connection and the chimney itself. At least every six months of normal use contact an experienced technician for checking and cleaning the wood fired thermal cooker.
- The plate must be cleaned regularly according to necessities after every use and make regularly the specific maintenance.
- Before you go away for a long time, be sure that the fire is terminated.
- The first lightings of the cooker and the first seasonal lightings must be done with temperate fire in order to prevent possible breakings of the internal parts.
- Loading an excessive amount of wood can cause overheating of the appliance and damage to things and people.
- Check regularly the seals, the carbon and ash residuals of the wood fired thermal cooker, of the fume circuit and the chimney conjunction.
- Check regularly the water level inside the boiler and if necessary refuel it.
- Do not turn off the control unit when the thermal cooker is working.
- Do not disconnect the AC power cable when the thermal cooker is working.
- After a long period in which you do not use the cooker, check carefully that obstructions are not present and that the cooker works regularly.
- Use only original or authorized spare parts.
- Do not make any unauthorized modification.

1.3 RECOMMENDED COMBUSTIBLES

Wood fired cookers are built to use wood for burning. We recommend to use good quality wood, dry, seasoned and possibly broken. Using good quality wood is warranty of good heating power and avoid the forming of carbon residuals and soot. To avoid dissipation of energy and eventual deforming and damaging processes you must not use excessive combustible (see attached sheet).
Burning an excessive amount of wood can cause the sudden ignition of flammable gases, with the risk of causing damage to things and people.

WARNING! Painted parts of the cooker or thermal cooker may become discolored due to excessively high temperatures in the combustion chamber. The causes may be the addition of wood over the permitted amount or the use of unsuitable fuel. This damage is not covered by warranty.

1.4 OTHER COMBUSTIBLES

The use of pre-compressed trunks and coal is allowed only desultorily and with moderation, because the strong heating produced may damage the wood-carrying grill, the oven and in general all the parts directly exposed to fire. Other combustibles and refuses, for example plastic, enamelled or treated wood or carton must not be burned. Using this materials cause serious damage not only to your health and environment but also to wood fired cooker and chimney. The cooker must not be used as incinerator. It is recommended to use only the suggested combustibles and not liquid combustibles.

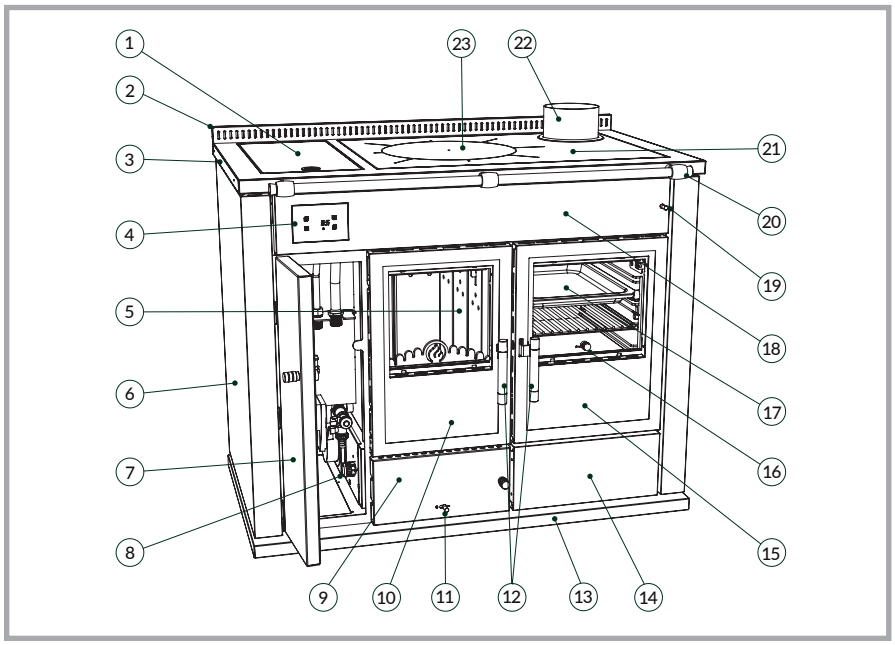
1.5 ACCESSORIES

Together with the wood fired thermal cookers you will find some accessories that simplify the installation, the maintenance and the daily use of the device.

- Ash drawer
- Glove
- Poker
- Scraper
- Adjustable crank for grill raiser
- Oil for the care of the plate
- Cleaning oil for the plate
- Abrasive sponge
- Sponge for fire door glass cleaning
- Devices for the connection to the chimney
- Grill for the oven
- Baking-pan
- Baking-pan holder
- Glove box
- Instruction and maintenance booklet
- Green booklet and warranty certificate of the wood fired thermal cooker

1.6 PARTS OF THE THERMAL COOKER

1 Tank cover
2 Riser
3 Frame
4 Control unit
5 Boiler
6 Side
7 Pump vain door
8 Primary air hand grip
9 Ash door
10 Fire door
11 Auxiliary regulation of the primary air
12 Door opening lever
13 Plinth
14 Tools drawer
15 Oven door
16 Oven thermometer
17 Oven
18 Dashboard
19 Starting lever
20 Handrail
21 Plate
22 Chimney connection
23 Disc or circles



Picture 1

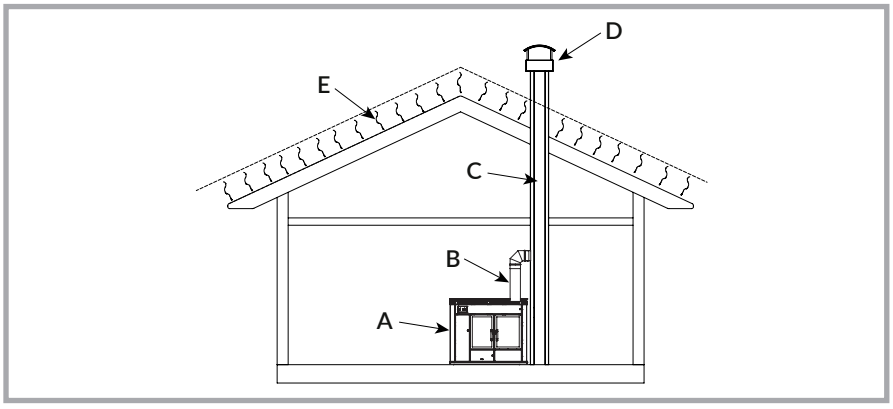
2 INSTALLATION

2.1 GENERAL NOTES

The thermal cooker must be installed by experienced people according to the specific technical laws. In particular it is important to pay attention to the connection to an appropriate heating system and to the chimney, which must be suited and dimensioned according to the device.
Also the connection to AC power must be done in order to power up the control unit, the circulation pump and to make the oven light working. When placing the thermal cooker, you must pay attention to prevent damages. Do not drag the thermal cooker, move it keeping it lifted from the floor. The thermal cooker must not be moved making effort on the handrail or on the handles. In case of furniture near the thermal cooker, be sure to maintain the minimal safety distances in case of inflammable materials or sensible to high temperatures (see attached technical sheet). If necessary, Rizzoli produces spacers for thermal cookers framed into furniture. The device must be installed on a floor with adequate load capacity. If the existing building does not satisfy this requirement, further actions shall be considered (for example using a plate do distribute the load). In case of floor made of inflammable materials it is necessary to put a fire-proof protection on the floor in front of the fire door. The protection must extend for a minimum of 50 cm in front and for a minimum of 30 cm sideways over the fire door.
In case of thermal cookers to be enclosed near not heat sensible materials, it is necessary to maintain a minimum distance of 1-2 mm to allow the expansion of the materials when the temperature changes.
It is not recommended to mount cabinets upon the thermal cooker. If this happens, it must be guaranteed the resistance of the cabinet to the heat produced by the thermal cooker: in this case, a minimum distance of 60 cm from the plate must be respected. In case of aspiring hood upon the thermal cooker, it is mainly important that the hood can suffer high temperatures. Rizzoli is specialized in the production of hoods to be used with thermal cookers.
During the installation, be sure to not obstruct the ventilation holes on the frame: the occlusion of these holes would cause a loss of the isolation capacities of the thermal cooker and in general of its correct working.

2.2 CHIMNEY

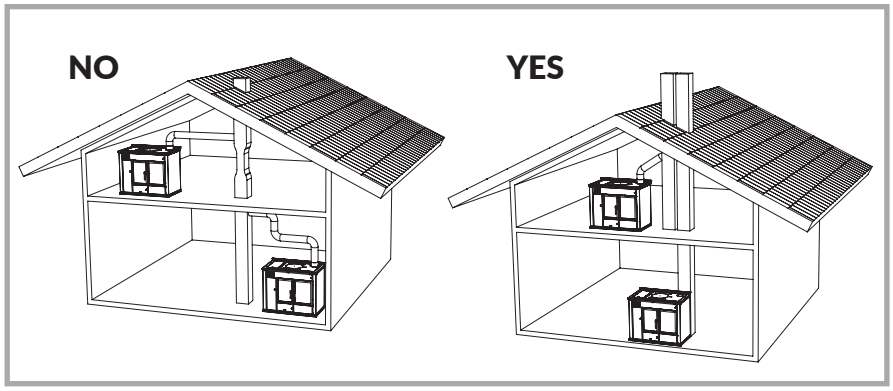
Chimney has a main importance for the correct working of a wood fired thermal cooker. Wood fired thermal cookers are built to insure the maximum efficiency, anyway the performances of the thermal cooker are deeply influenced by the chimney. If the chimney has defects or does not match the building laws, it is not insured the correct working of the thermal cooker. To build the chimney you must use suitable materials, made to work with high temperatures and according to fireproof laws: it is not important the kind of material, on condition that it is right and that the chimney is isolated.
Consult a specialized technician or the chimney sweeper in charge of the area for any problems concerning the fireplace, chimney and connection with the cooker or thermal cooker.



Picture 2 – Components of the chimney. A= Thermal cooker B= Conjunction or fume conduct C= Chimney hood D= Chimney pot E= Reflow zone

2.3 DIMENSIONS AND CORRECT FORMS OF CHIMNEY

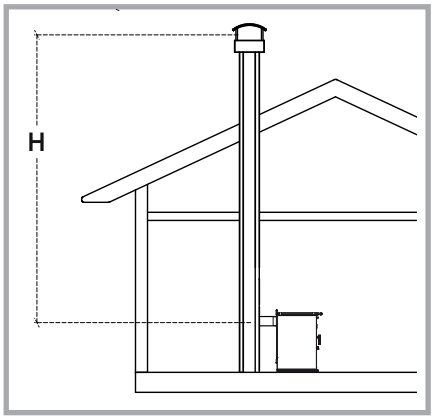
Chimney must be dimensioned in a correct way according to the type of thermal cooker it is connected with, minding the environmental and general conditions of the place in which it is placed. The section of the chimney must permit the flow of the fumes produced by the
thermal cooker without difficulties, but it must not be too big otherwise the chimney will experience problems in heating itself and this may generate problems like weak draught and condensation. In table 1 it is indicated the recommended diameter for the flue according to the model and to the height of the chimney (H). The height of the chimney must be enough to insure the draught necessary to the chosen model. Bigger is the height of the chimney, bigger is the draught; if the chimney is lower than 4 metres, the correct working of the thermal cooker is not insured. The chimney must not have tortuous parts, horizontal parts or counterslope parts; the number of bends must be reduced to minimum. In picture 3 you can see some examples of good and bad chimney connection.



Picture 3 - Samples of correct and incorrect chimney connection.

Model	STP Range
ø entrance	140 mm
ø flue H < 4m	Draught not guaranteed
ø flue 4m < H < 6m	180 mm
ø flue H > 6m	160 mm
Necessary depression	12 Pa

Table 1 - Indications for the dimension of the chimney according to its height.



Picture 4 - H dimension for the sizing of the flue.

2.4 FLUE

The flue must be well isolated and circular if possible. The flue must not have defects, narrowings or losses. All the inspection doors must be closed and well sealed. The connection of other devices to the same chimney is not allowed.

2.5 CHIMNEY POT

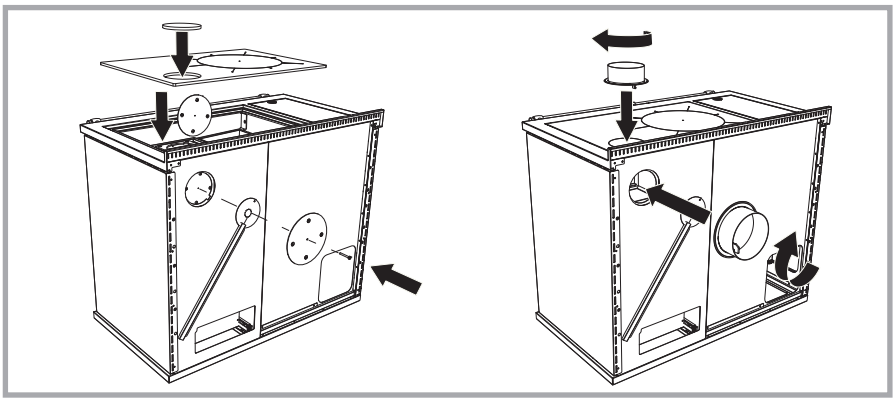
The chimney pot must have an exit section doubled than the one of the chimney, in order to make easier the exit of the smoke. The chimney pot must be enough tall to lean out over the reflow zone generated by the roof: if you are not sure about this contact experienced technicians. If you are in a windy place, it might be necessary to install windproof devices.

2.6 CONJUNCTION

The conjunction of the thermal cooker to the flue must be as short as possible and must not have horizontal or not much inclined parts. The counterslope parts are forbidden and must be absolutely avoided. Near the conjunction, inflammable materials must not be present. The conjunction must not go inside the flue. To increase the safety of the conjunction, we suggest to install a washer on the wall being sure that the connection between the washer and the chimney is walled and well sealed. Also the connection between the thermal cooker and the conjunction must be fixed and sealed.

2.7 FLUE OUTLET PREDISPOSITION

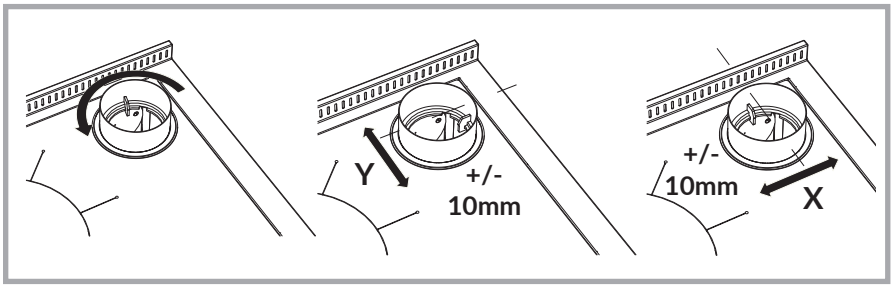
STP is endowed with the predisposition for the flue outlet on the top and in the rear. The thermal cookers is given with both the flue outlets covered. Before connecting the thermal cooker, check that the flue outlet not used is plugged, otherwise use the accessories given together with the cooker for this purpose.



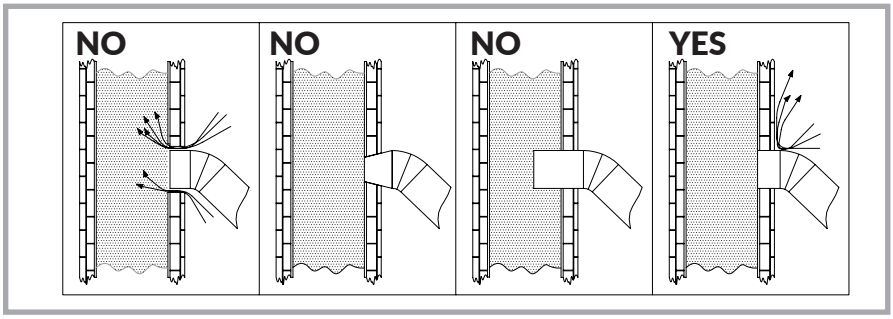
Picture 5 – Predisposition of the flue outlet (STP).

2.8 CORRECT CONJUNCTION TO THE CHIMNEY

If the conduct of the chimney starts from a lower floor than the connection point of the thermal cooker, it may be necessary to close the conduct under the connection pipe with fireproof materials. If you have the chimney behind or up, you have to use the connector with bayonet coupling. This must be inserted and turned so that it can remain blocked. This connector has a tolerance of about 1 cm to make the installation easier. The tolerance is available according to a single direction which depends on the orientation of the connector (see picture 6).
The connection with the chimney must be always well fixed and sealed, it must not have narrowing and must not decrease the usable section of the chimney (see picture 7). If near the thermal cooker there is inflammable material or high temperatures sensible, the connection must be isolated and the safety distances must be strictly observed.



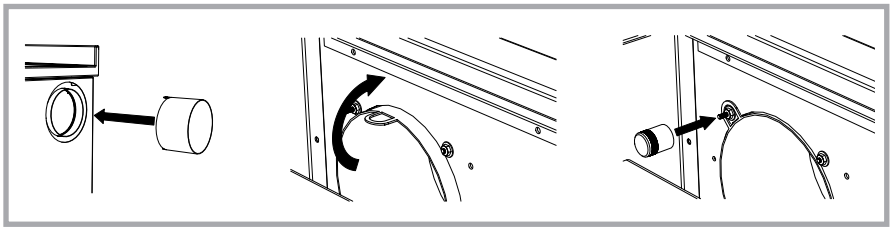
Picture 6 - Tolerance for flue outlet on the top and back. The tolerance depends on the orientation of the connector.



Picture 7 - Samples of correct and incorrect connection to the chimney hood.

2.9 FLUE OUTLET ON THE SIDE (OPTIONAL)

On demand, STP can have the flue outlet on the right side. The connector is extractable. To install it correctly, it is necessary to remove the cooking plate. Now, the connector must be completely inserted inside the wood fired cooker or the chimney, keeping the fixing buttonhole on the same side of the cooker. Then, you can place the wood fired cooker, extract correctly the connector so that it connect the cooker with the chimney. Finally, bend the buttonhole and block the parts with the screw-lock (see picture 8).

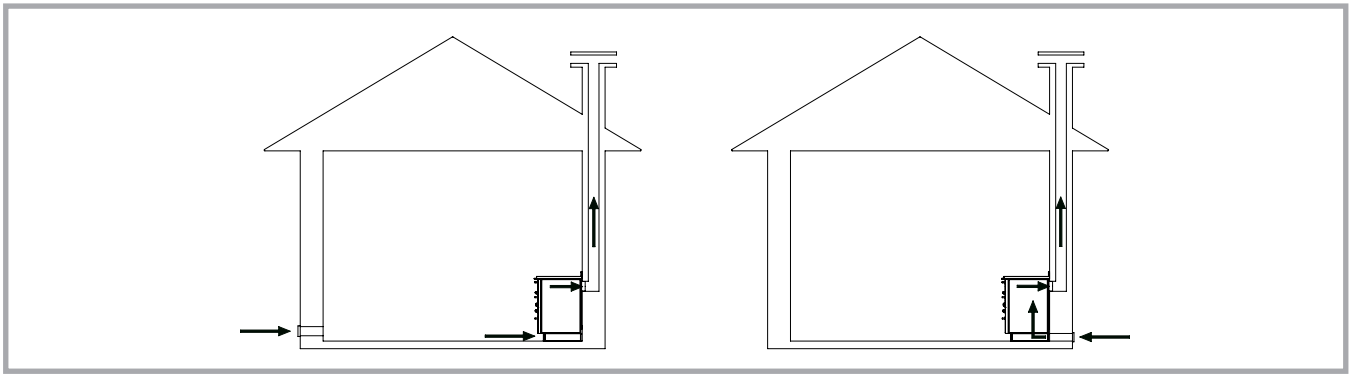


Picture 8 - Flue outlet on the side. Fixed connector for the flue outlet on the side.

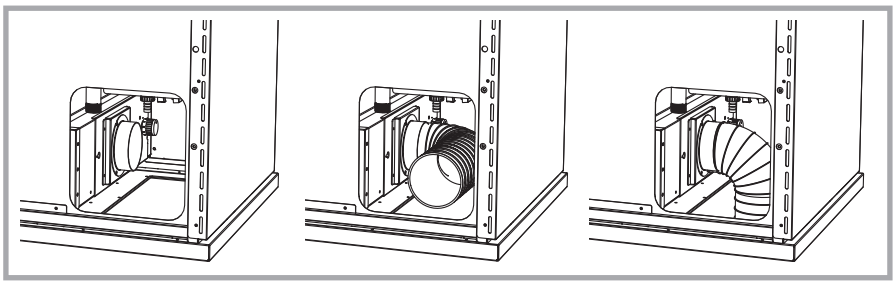
2.10 AIR INTAKE

The standard installation of the wood fired thermal cooker considers that the comburent air is taken from the room where the cooker is installed through the air intake of the cooker located inside the boiler vain. In this case, in the room must be always ensured the recycle of fresh air, in particular if the room is small and window and door frames are hermetic. The correct flow of air in the room must be ensured also in presence of other combustion based devices, aspiring hoods, chimneys and vent-holes. The air intake in the room must have a minimum surface of 80 cm^2, in order to warrant a maximum depression of 4 Pa in the place of installation.
STP range wood fired cookers can also be connected so that the comburent air comes directly from outside. In this way, for the wood fired cooker it is not necessary another air intake in the room of installation. To make this it is necessary to prepare a conduct connected directly with the external part of the house and make a direct connection with the air intake of the cooker. The air intake of the cooker is located inside the boiler vain. For the connection, we suggest to use a flexible pipe and to prepare a device for the eventual closure of the conduct.

WARNING! Aspiring hoods or extracting air fans in the room may generate problems to the device if there is not a suited air intake or in case of air intake sub-dimensioned.

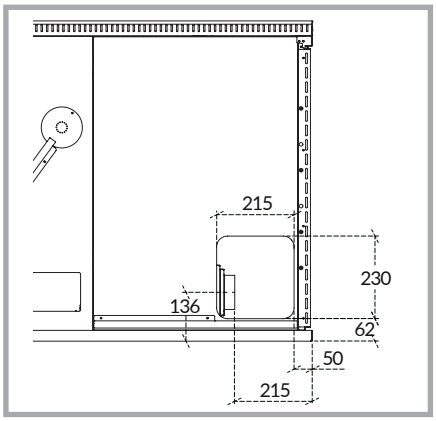


Picture 9 – Installation with air intake in the room and installation with external air intake connected directly to the thermal wood fired cooker.

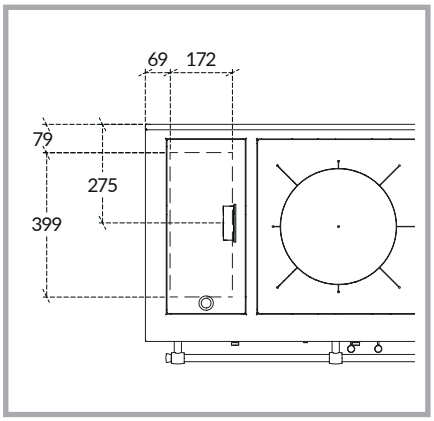


Picture 10 – Different connections of the air intake of the wood fired thermal cooker.

To make the connection easier we suggest to make the external air intake on the floor in correspondence with the internal part of the plinth, or on the wall through the rear part of the thermal cooker (see pictures 11-12). Are also possible other solutions for the connection but they must be decided together with Rizzoli.



Picture 11 – Position of the rear hole for the passage of the air intake conduct. Dimensions in mm.

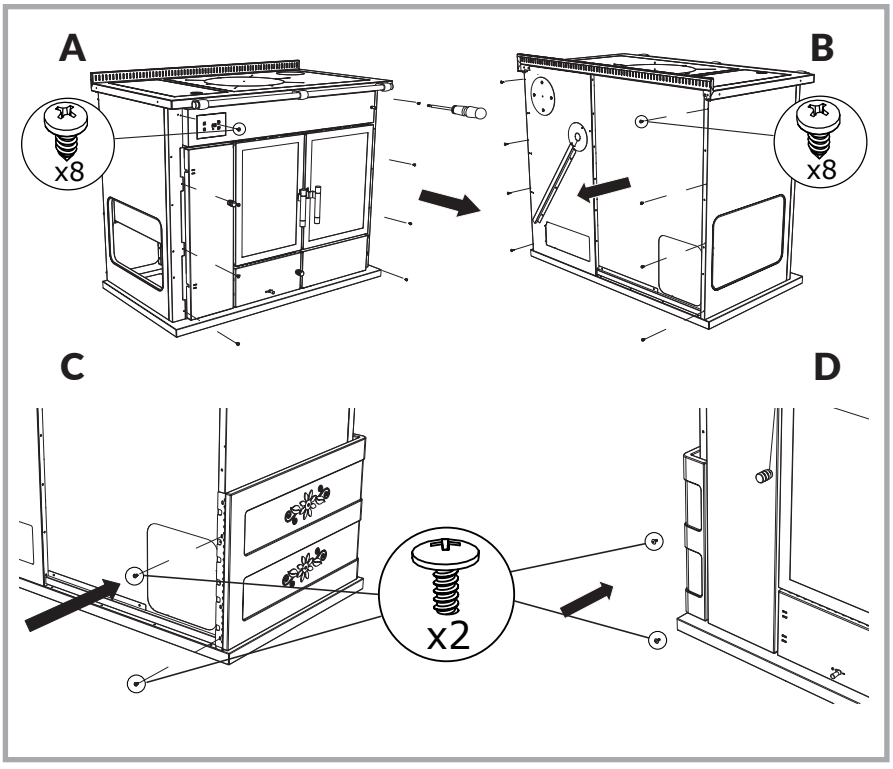


Picture 12 – Position of the lower hole for the passage of the air intake conduct. Dimensions in mm.

WARNING! For the correct working of the device verify that the passage of comburent air is not obstructed or, in case of connection with external air intake, that the air aspiration grill is not obstructed.

2.11 SIDES FIXING (RUSTIK WHITE, RUSTIK RED RANGE)

The device is delivered with both sides unfixed, inserted in a separated package. Before the final placement of the device, it is necessary to fix the covering of the sides.
To do this, the 16 screws already on the device (8 in front and 8 in the rear part) must be removed, then place the covering fixing it with the screws in the original position. On each side, the lower part must be fixed before the upper one.



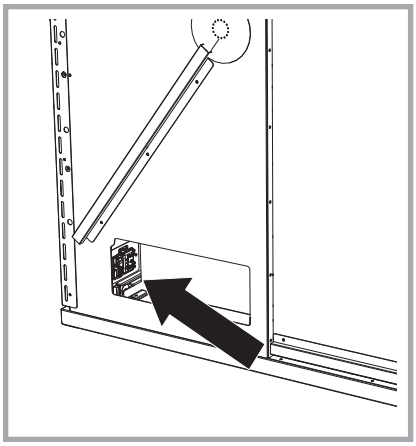
Picture 13 – Position of the screws on the device to fix the covering of the sides and fixing of the sides covering elements.

2.12 TOOL DRAWER

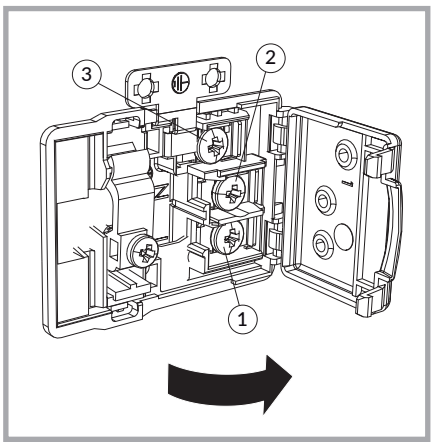
It could be necessary to remove the tool drawer. To do this, extract it completely, then lift it up a little and pull it out at the same time. In this way you access to the lower part of the thermal cooker. To reinsert the wood box you can make the same process reversed.

2.13 ELECTRIC CONNECTIONS

The electric connection of the thermal cookers feeds the electronic control unit, the circulation pump and the oven lamp. The connection to AC power must be done by experienced people and according with existing laws. The installer is responsible of the correct connection according with safety rules.
To make the connection, an electric cable must be connected to the terminal block located on the back of the appliance inside the drawer compartment. For easy access to the terminal board, the accessory drawer can be removed (see chapter 2.12). Must be done the correct connections of line, neutral and earth as described in picture 15. The cable and every other electric device added must be dimensioned for the electric load to sustain and must not be in contact with points 50° C hotter than ambient temperature.



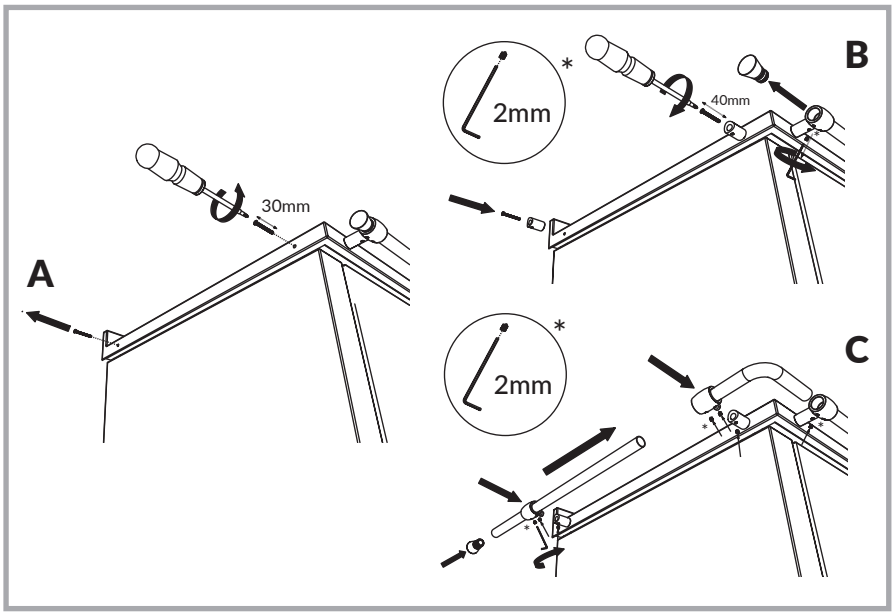
Picture 14 – Position of the terminal board for the connection to the network.



Picture 15 - Terminal board for the connection to the network: 1. Line 2. Neutral 3. Earth.

2.14 HANDRAIL PREDISPOSITION

The STP thermal cookers are supplied as standard with the front handrail.
It is possible to request the accessories to add the handrail on one or both sides. To do this, unscrew the two screws on the side edge of the hob with a star-shaped screwdriver, add the two carriers fixing them with the appropriate screws. At this point the end is removed from the side where the handrail is to be added, simply inserted by pressure, then the curve and the remaining parts of the handrail are inserted. Finally, the Allen screws are fixed with the special key and the end is inserted.
The procedure is reversed to remove the handrail.



Picture 16 - Modification of the handrail.

WARNING! Never place flammable objects on the handrail, such as kitchen towels or pot holders. Do not hang the laundry to dry on the handrail.

2.15 FIRST LIGHTING

Before starting to use the thermal cooker, remove the packaging materials in the oven and in the tool drawer, remove the stickers and remove the plastic film in which is wrapped the plate and remove with a rag the most of the oil on its surface. Before lighting the thermal cooker, it must be connected to a working heating system and water must be present in the boiler. We suggest to make a first lighting of the thermal cooker just to verify the correct installation. The first lighting must be done with moderate fire, using little wood broken in small pieces. In the next lightings you can progressively increase the load of combustible. In the first lightings, bad smell caused by processing residuals might happen. This is normal, it requires the ventilation of the room and will fade quickly.

WARNING! During the first lightings of the device, it is recommended to leave the oven door open to allow the emission of eventual processing residuals, otherwise damage to the cooker or parts of it could happen.

2.16 SETTLEMENTS

Various settlements might happen in all the parts of the thermal cooker, for this reason some light noises could be heard during heating and cooling phases. These symptoms do not absolutely preclude the use of the thermal cooker and will be fading out till disappearance with the constant use of the thermal cooker. During use, the frame may show some deformations, caused by normal sudden changes in temperature and which do not compromise the functionality and duration of the appliance.

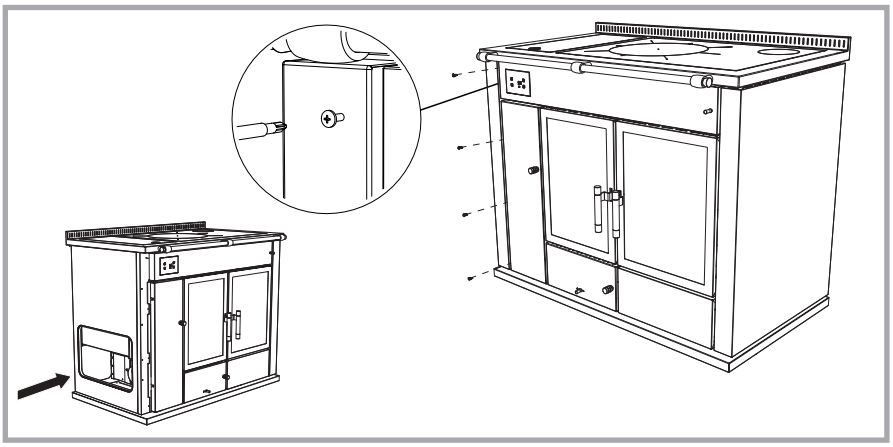
3 HEATING SYSTEM

3.1 HOW IT WORKS

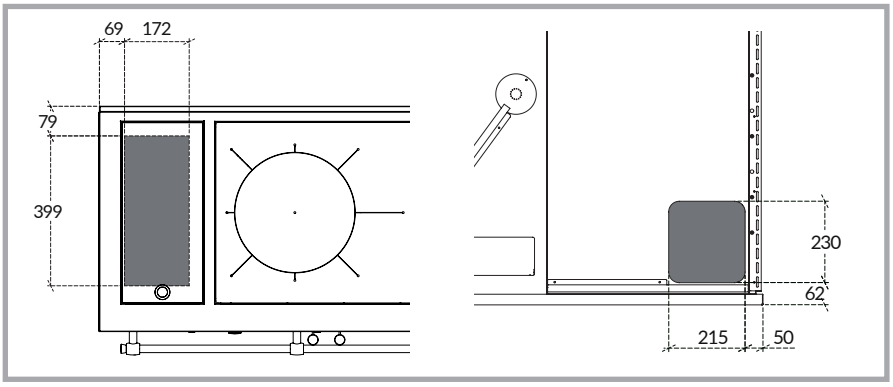
The thermal cooker is endowed with a boiler to exploit the heat produced by the device through a system with carrier fluid for heating and instant production of sanitary hot water. The system must be designed by a qualified thermal technician and then installed by specialized people according to the existing laws. During the working of the thermal cooker, the water inside the internal tank of the cooker is heated. Through two dedicated serpentines, the heat transfers to the heating system or the circuit for the production of sanitary water. It is important to note that the fluid in the tank of the thermal cooker is not directly in contact with the water of the thermosanitary system. They are two separate circuits. For the circuit of the heating system there is also a pump for the circulation, ruled by a programmable electronic control unit. The circuit of the sanitary water, instead, works thanks to the pressure of the incoming cold water. The boiler of the thermal cooker is predisposed with a tank which makes a good thermal flywheel and it also makes an open expansion tank, assuring the safe working of the device.

3.2 REMOVING THE BOILER SIDE

To make the installation easier, in STP thermal cookers the boiler side can be removed also after the placement of the device.
The internal wall of the thermal cooker has an hole that allows to access the vain under the boiler tank and so makes the connection of the pipes easier.
To remove the side, unscrew the 4 screws on the front of the thermal cooker and unhook the side from behind, as indicated in the picture. To fix the side, it is necessary to invert the process.



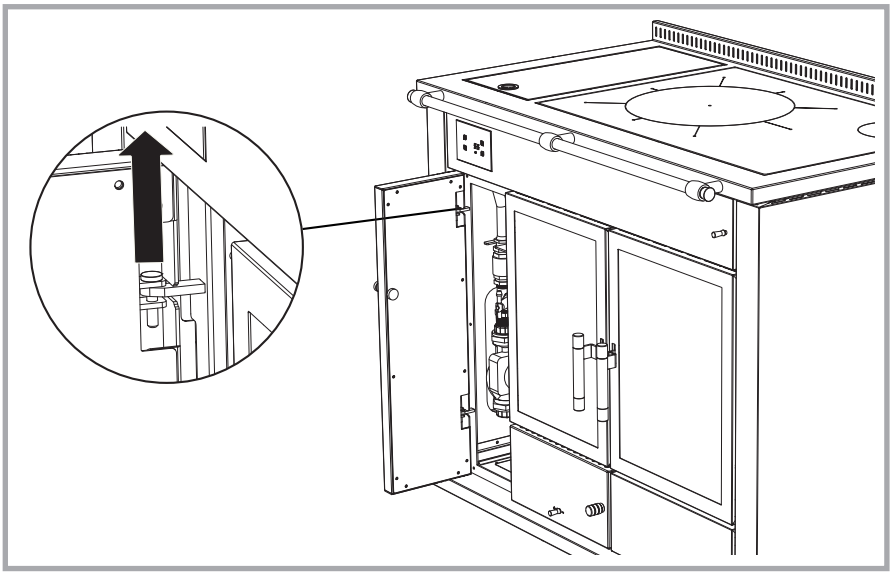
Picture 17 – Removing the boiler side with hole.



Picture 18 – Position of the lower hole for the passage of the pipes.

3.3 CONNECTIONS TO THE HEATING SYSTEM

Before making the connections, we suggest to remove completely the door, in order to make the access to the vain better (see picture 19). Before starting the thermal cooker you must make all the connections to the heating system and you must fill the tank inside the thermal cooker. Using the cooker with empty or not connected boiler would cause the irreversible damage of the boiler itself. It is always necessary to connect to the system the going and return connectors of the heating system and the connector of the safety discharge of the tank inside the thermal cooker. For the connection, it is recommended to use flexible pipes, which can be placed both on the floor or on the rear part of the thermal cooker. The usable space for the way of the pipes is indicated in the pictures 11 and 12. On the circuit of the heating system, it is important to install an overpressure security valve set to 3 bar.
In the presence of large systems or storage tanks, boilers or puffers, it is absolutely recommended to install a specific anti-condensation valve, calibrated at 55 ° C, which acts as a bypass between the storage and the appliance. Alternatively, systems with heat exchanger can be envisaged. The

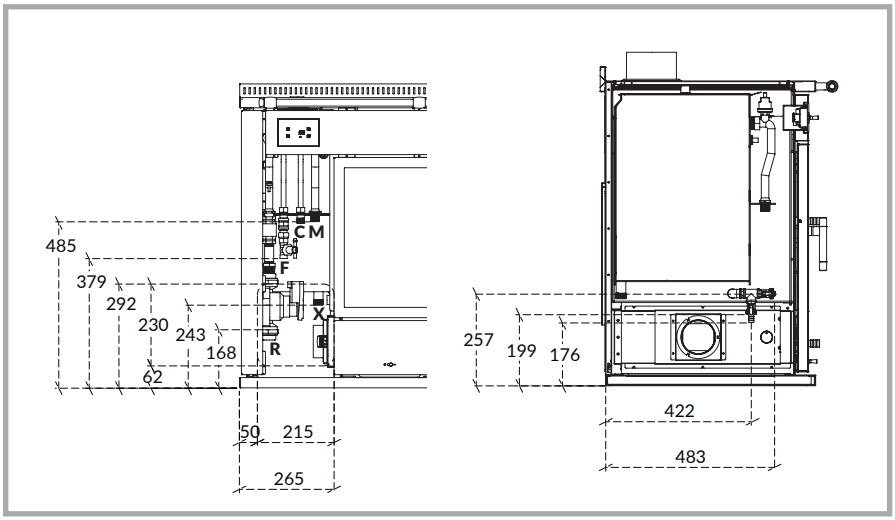


Picture 19 – Detail of the vain door pivots.

application of the anti-condensation valve is always recommended for each type of system.

3.4 PRODUCTION OF SANITARY HOT WATER

To produce instant sanitary hot water it is necessary to let throwaway cold water enter through the dedicated connector. The correspondent exit connector will be connected to the sanitary system. Incoming cold water pressure must not be higher than 2,5 bar, if the water comes directly from the waterworks generally it is necessary to install a valve for the reduction of the incoming pressure. In addition, it is recommended to install on the sanitary circuit also an overpressure security valve set to 6 bar. If in the sanitary hot water circuit is present a non-return valve, it might be useful to insert a small expansion tank.
If you do not mind to produce sanitary hot water with the thermal cooker it is not necessary to fit the connectors and you have just to cover them.

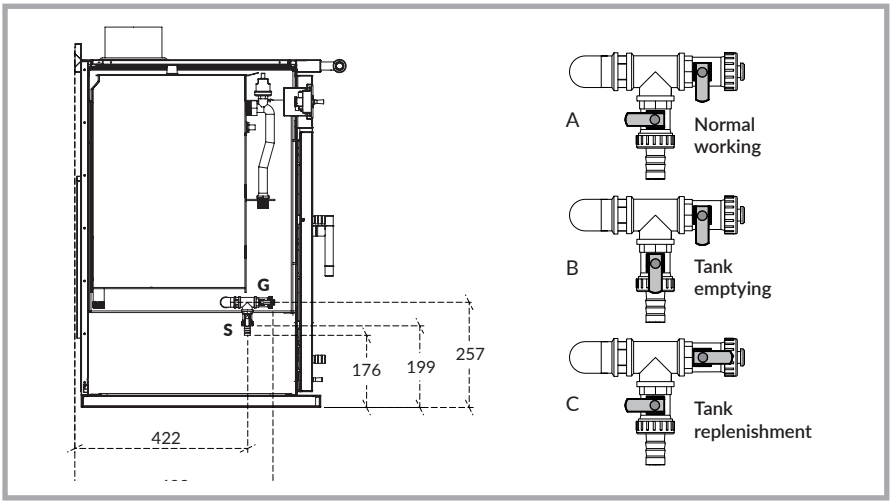


Picture 20 – Position of the connectors for the thermosanitary system. Position of the rear hole for the passage of the pipes.

R Return heating system 1" F
M Going heating system ¾" M
X Safety discharge ¾" M
F Cold water entry ½" M
C Hot water exit ½" M

3.5 SAFETY DISCHARGE

The safety discharge is placed in the technical vain in rear position. This allows to avoid the risen above of the maximum level during the replenishment of the internal tank, it allows also the expansion of the of the water in the boiler and in the tank during the work and it also maintain the boiler constantly to environment pressure. This connector must be taken to an always free discharge because it is the main overpressure safety of the device.



Picture 21 – Connectors for emptying and replenishment of the tank.

S Discharge for tank emptying.
G Tank replenishment entry.

3.6 DISCHARGE FOR TANK EMPTYING

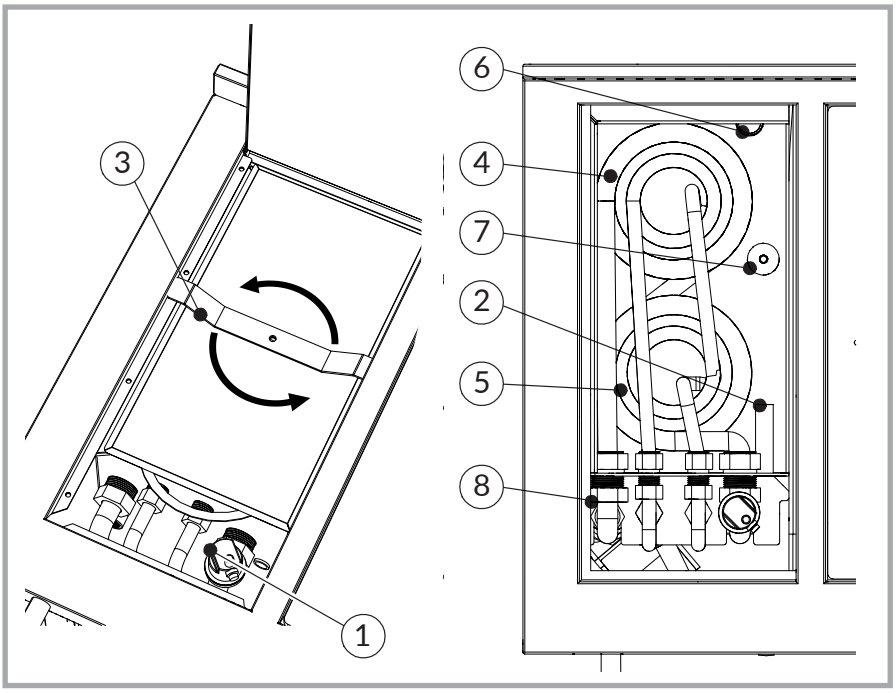
The discharge for tank emptying is placed in the frontal part of the vain and works only to drain the boiler and the tank of the thermal cooker; normally, it is not used, it works only in case of extraordinary maintenance or planned drain. This discharge is ruled by a manual tap. It is not strictly necessary to connect this discharge to a fixed pipe but in this case it must be considered how to collect or drain the entire content of the tank when necessary.

3.7 TANK REPLENISHMENT CONNECTOR

In the frontal part of the vain there is also a connector that allows to make the replenishment of the boiler tank. To make this operation, it is necessary to connect a cold water entry. In this case it is absolutely recommended to connect also the safety discharge.
When the led is lighted on the control unit it is necessary to refill the tank resetting the correct level. Reaching the correct level can be noticed when in the safety discharge some water flows, that in this case works as 'too full' device. Otherwise, it is possible to make a manual refill from upon, by opening the two covers in the upper part.

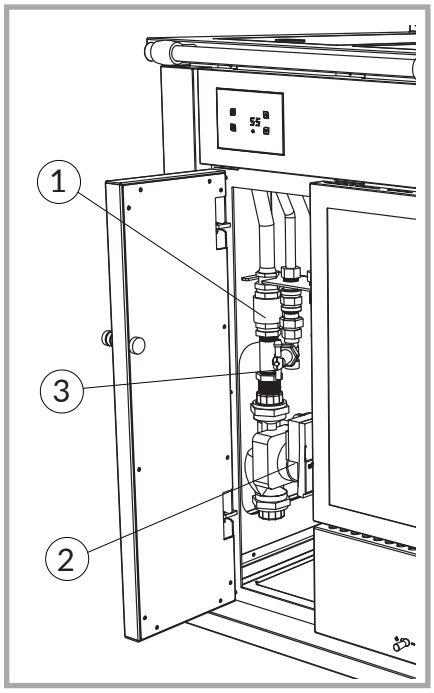
WARNING! For the replenishment of the tank do not use hard water with high residual saturation. Do not use also distilled water.

ENGLISH



1 Automatic air valve
2 Level switch
3 Cover fixing lever
4 Heating system serpentine
5 Sanitary hot water production serpentine
6 Safety discharge
7 Sacrificial anode
8 Temperature sensor

Picture 22 – Internal components of the thermal cooker, upper sight.



1 Non-return valve
2 Circulation pump
3 Flow switch

Picture 23 – Internal components of the thermal cooker, frontal sight.

3.8 REPLENISHMENT OF THE SYSTEM

After the connections, the next step is the replenishment of the system. The replenishment must be done for both external system (including serpentines and connection pipes of the thermal cooker) and internal system (boiler and tank).
The replenishment of the external system must be done using the devices provided by the installer. It is suggested to unscrew completely the cap of the automatic valve for the air outlet. If necessary, unfasten lightly the outlet valve of the flow pipe. Now it is possible to proceed to the replenishment of the heating system: it must be done slowly, so that the system is able to escape air well. Then, it is necessary to close the air outlets previously opened, to close accurately all the connections, included the internal ones and to make air escape from all the radiators. Once the heating system is well filled, it is necessary to fill also the internal tank of the thermal cooker. This can be made opening the upper cover of the vain, the cover of the tank and inserting manually from overhead the necessary water. The tank is full when the level of water reaches the exit of the pipe of the safety discharge.

WARNING! Check the tightenings of all the fittings before loading the system.

3.9 MANAGING THE LEVEL OF THE WATER IN THE TANK

The tank of the thermal cooker must be controlled periodically before the lighting of the thermal cooker and refilled when necessary. Anyway, the complete covering of the serpentines of thermal exchange must be guaranteed. The decrease of the water under the minimum level will cause the lighting of a specific warning light on the control unit (S3): if this happens, fill the tank as soon as possible, by the dedicated tap if present, or manually from upon.

WARNING! Using the thermal cooker without water or with few water in the tank does not make possible the correct working of the device: it might cause not repairable breakings and compromises the duration of the boiler.

3.10 EXPANSION TANK

Every closed hydraulic circuit subjected to variations of temperature must have a device which allows the variation of the fluid contained. The system integrated in the thermal cooker with open expansion tank works for the boiler and the internal tank of the thermal cooker. The secondary circuit for the heating system, being separated, requires a dedicated and well dimensioned according to dimensions of the thermal system expansion tank, to be installed by a technician. The expansion tank for the heating system may also be closed. When connecting to an existent system or when there is another heat generator, the expansion tank might exist and be ready for use.

3.11 SAFETY

In every solid combustible based boiler it is not technically possible to break up immediately the combustion as it happens for the liquid/gas combustible based boilers when necessary. Because of this there is the need to drain always the heating produced, even if the system does not require it or in case of lack of electricity: when this happens, in STP thermal cooker the water may come to the boil but the generated steam is ejected by the safety discharge. STP thermal cooker shall be intended as a solid combustible generator endowed with an internal primary circuit with natural circulation endowed with open expansion tank and a heating exchange system with two secondary circuits separated from the primary one: one for heating and one for the production of sanitary hot water.
For this reason, the thermal cooker can be installed in total security as indicated in the referring laws for what deals with open expansion tank installations,

considering that in this case are already present these safety devices: open expansion tank, thermometer, acoustic alarm. The secondary circuit may be installed with closed expansion tank, without need to make a thermal discharge system with serpentine inside the boiler.

3.12 CONNECTION IN PRESENCE OF ANOTHER HEAT GENERATOR

The thermal cooker may be easily matched also to another heat generator. It is recommended to contact a technician or an experienced installer in order to plan a duly system. It is necessary to mind that the thermal cooker must have the precedence on every other heat generator, because when using solid combustible it is not technically possible to break up immediately the combustion if necessary. This can be managed manually but it can also be automatic, using the advanced features of the control unit of the thermal cooker. With the correct electric connections, the control unit can manage the working of the other heat generator for both heating and production of sanitary hot water.

3.13 CALCAREOUS WATER

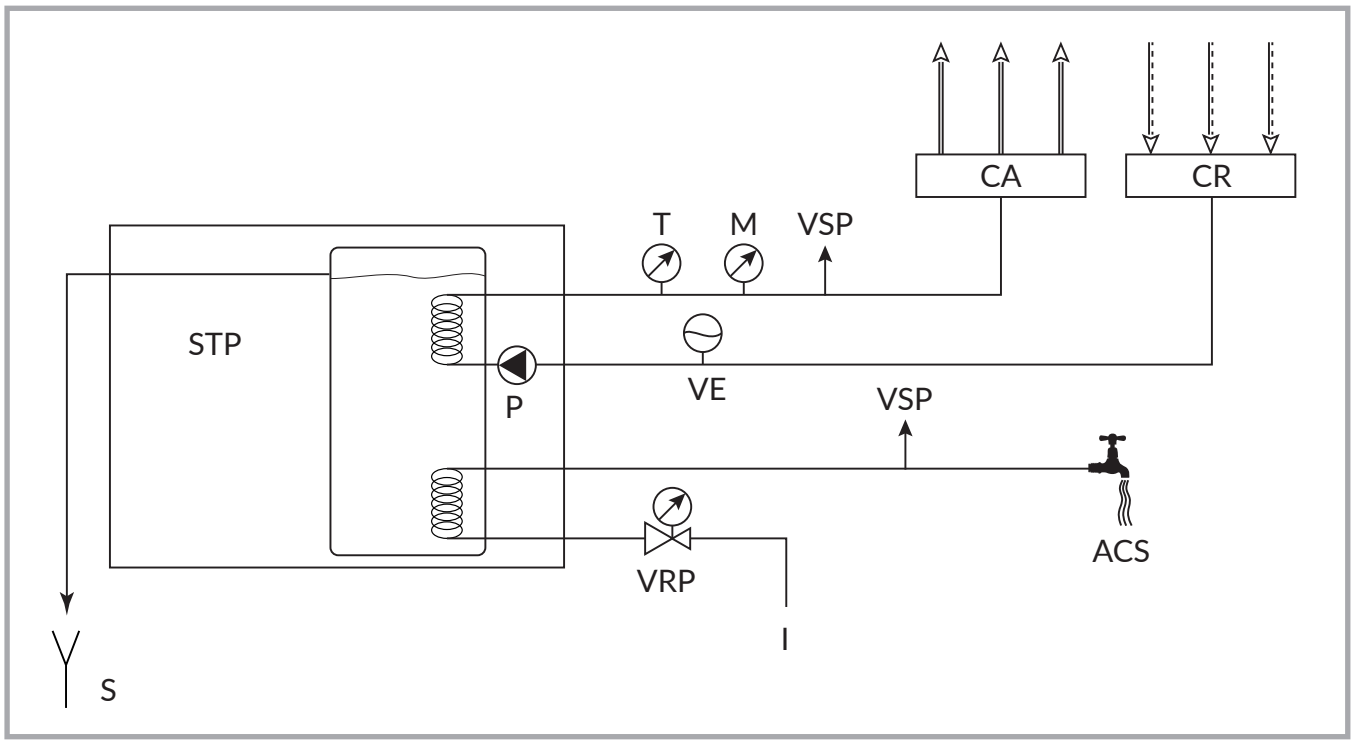
Hard water with high residual saturation may create deposits inside the water circuits. The continuous use in these conditions may damage the device. In these cases, it is recommended to install a softener upstream the entrance of the water inside the thermal cooker, to be chosen according to the features of water. After an extended use of the device, it could be necessary to make the maintenance of the serpentines when showing calcareous deposits on their surfaces. In this case it is suggested to empty the system, removing the serpentines and to proceed to the mechanical cleaning of them.

3.14 SACRIFICIAL ANODE

Inside the tank, there is a magnesium sacrificial anode, which prevents the corrosion due to electro-chemical reactions or wandering currents inside the boiler. When this happens the anode corrodes itself to save the material with whom the boiler is covered. The sacrificial anode must be controlled at least once a year and must be replaced when the diameter is shorter than 10 mm. The anode is just screwed on his support and the replacement is easy and fast. It is recommended to pay attention that the anode is not in contact with the exchange serpentines.

3.15 EXAMPLES

Here are some examples of possible system realization. These schemes are just valid as example and must not be used in the making of the system. Ask always a thermal technician for an installation that best suites your needs.

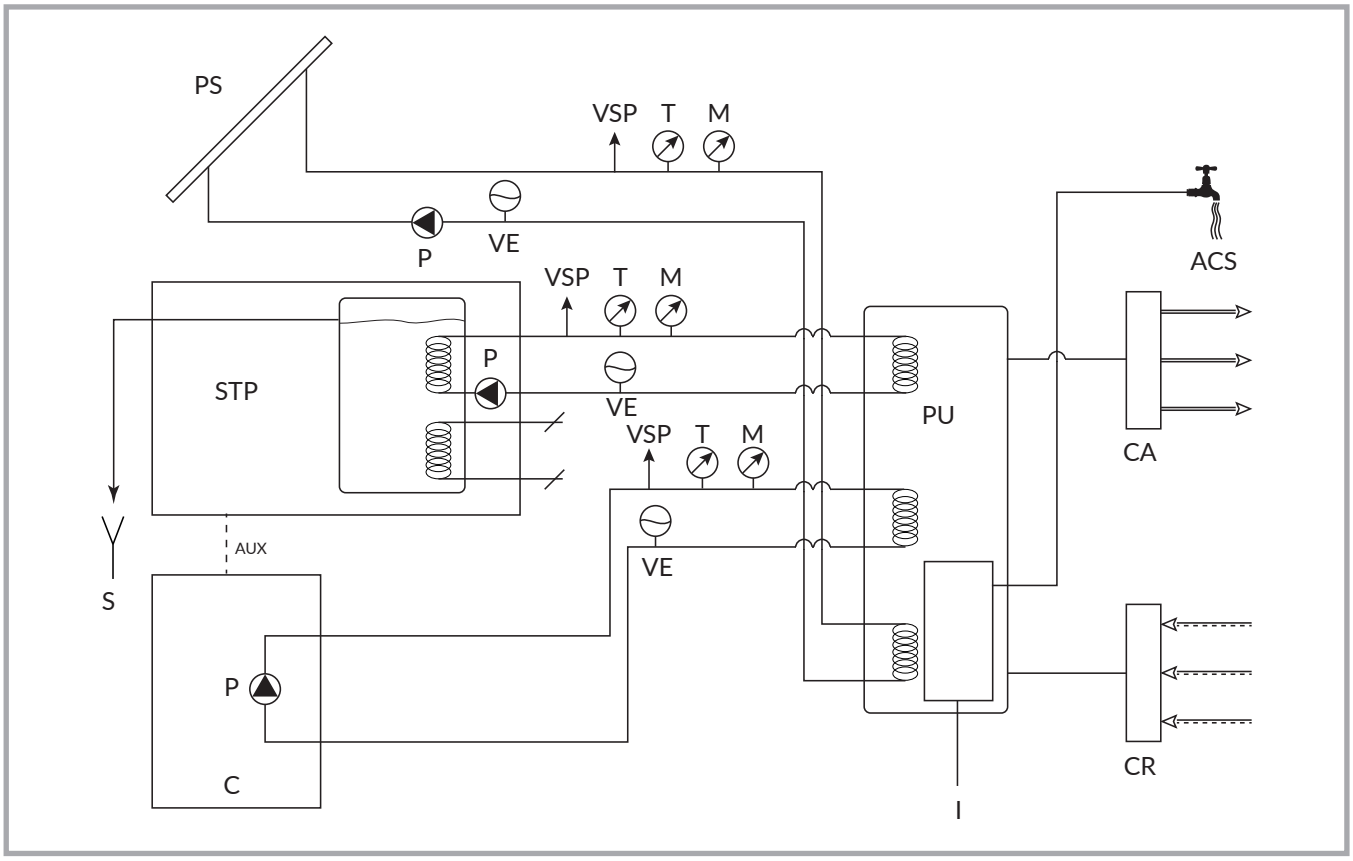


Picture 24 – Simplified installation scheme.

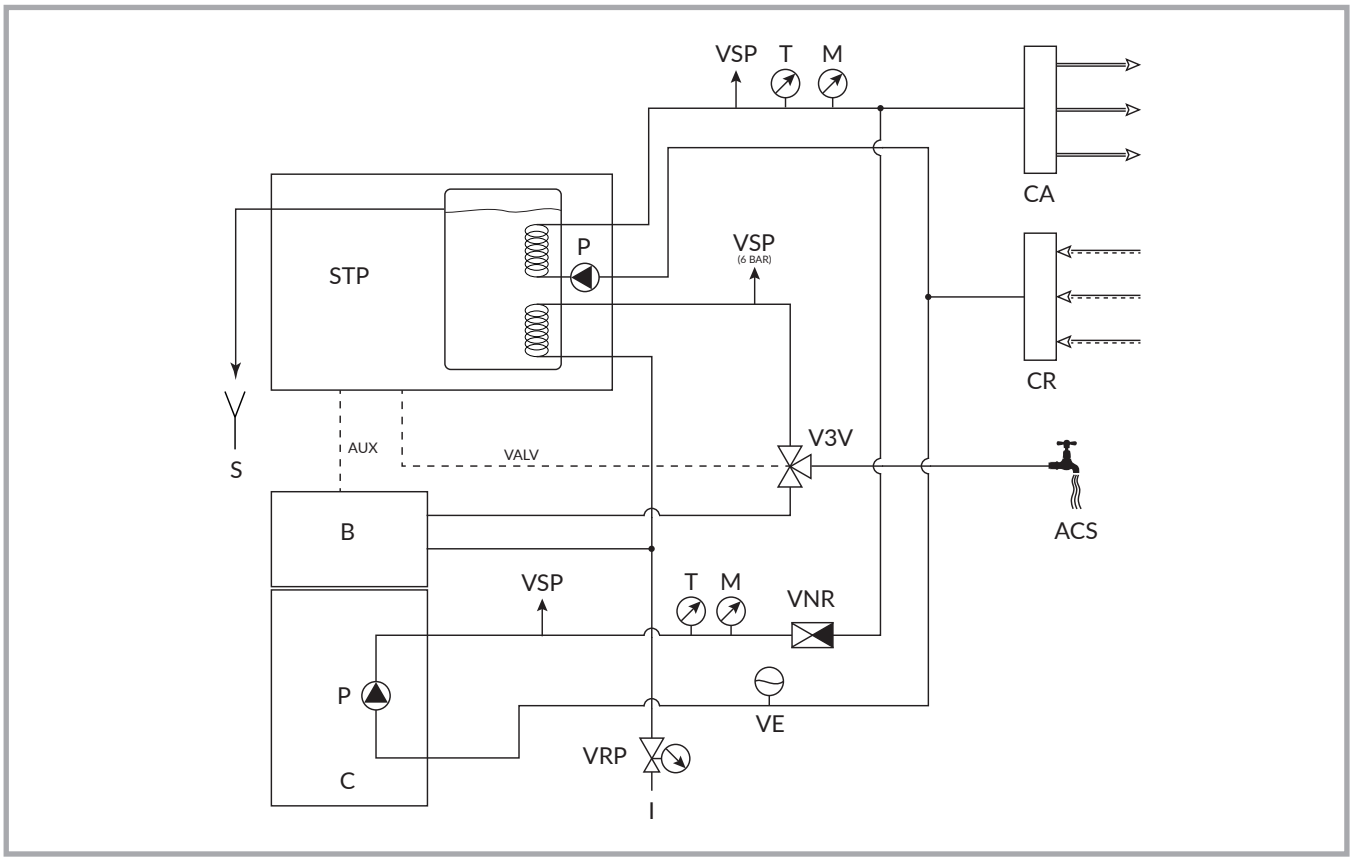
CAPTION

	Hot water	VNR	Non-return valve	VRP	Valve for pressure reduction	I	Cold water entrance
	Cold water	T	Thermometer	S	Discharge		
M	Manometer	VSP	Overpressure valve	B	Boiler		
P	Circulator	PU	Puffer	CA	Going collector		
VE	Closed expansion tank	PS	Solar panels	CR	Return collector		
V3V	Three ways valve	C	Traditional boiler	ACS	Sanitary hot water		

ENGLISH



Picture 25 – Simplified installation scheme.

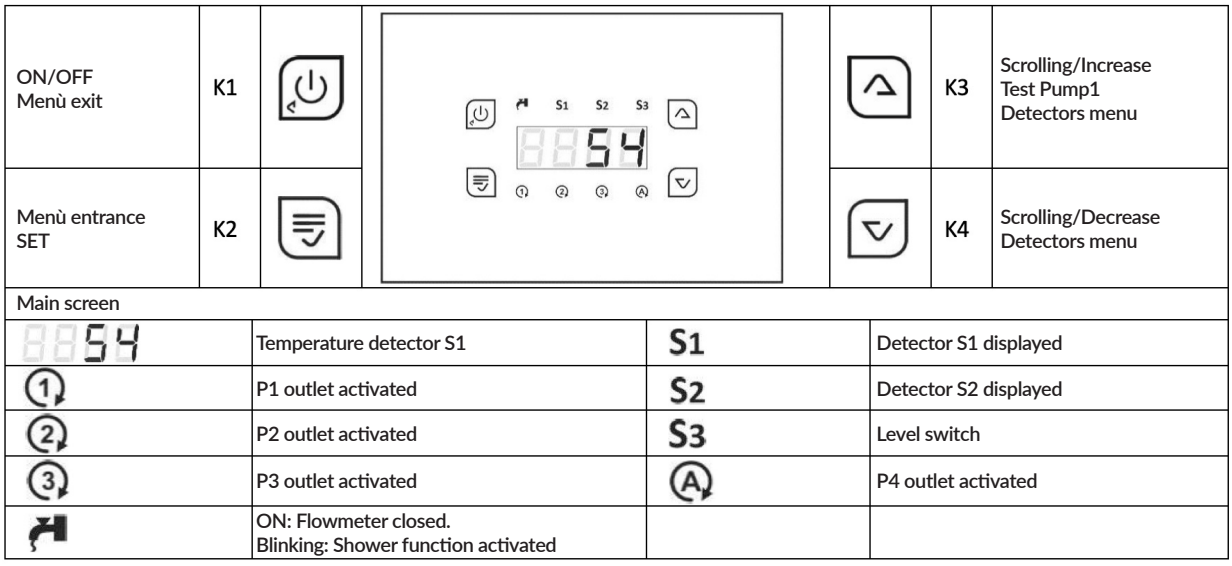


Picture 26 – Simplified installation scheme.

4 CONTROL UNIT

4.1 PRINCIPLE OF OPERATION

The control unit checks the cooker stove devices and some external devices that may be present in the heating system. Basically the control unit detects the boiler water temperature and based on the achievement of the programmed temperatures it activates or not the devices to which it is connected. In addition, the control unit performs some additional safety and control functions.



Main screen			
54	Temperature detector S1	S1	Detector S1 displayed
1	P1 outlet activated	S2	Detector S2 displayed
2	P2 outlet activated	S3	Level switch
3	P3 outlet activated	A	P4 outlet activated
	ON: Flowmeter closed. Blinking: Shower function activated		

Picture 27 - Control unit panel.

4.2 CONTROL UNIT TECHNICAL FEATURES

Condition	
Feeding	230 Vac ± 10% ~50 Hz; Protection fuse T3, 15 A
Temperature detectors	Detector NTC 10K@25°; Working limits 50°C/130°C Santoprene cable. Measure range: 0-99°C Precision ± 1°C
Outlets	Carrying capacity contacts: 5 A 250 Vac
Applied laws	EN 60730-1 50081-1 EN 60730-1 50081-2

Table 2 - Control unit technical features.

4.3 MAIN MENU

The main menu is accessed by simply turning on the control unit by pressing key K1 for a long time.
In the main menu the display normally indicates the temperature of the water in the boiler. Pressing the K3 or K4 key displays the values of the temperatures set as a thermostat to activate the heating system circulation pump, as a thermostat for an external 3-way solenoid valve, as a thermostat for deactivating a generator of external heat possibly present and as a thermostat for a further unspecified device.

4.4 TEMPERATURE PROGRAMMING

The modification of the control unit settings is the responsibility of expert personnel only. It is recommended not to change the values set in the factory unless it is necessary for the correct operation of the heating system. The set temperatures change directly from the main menu:
- Use the K3 and K4 keys to select the temperature to be modified
- With the K2 key, change is entered (the LED remains fixed while the value flashes)
- Use the K3 and K4 keys to change the value
- Use the K2 key to save the change or with the K1 key to cancel the change

Additional parameters can be modified by entering the appropriate installer menu.

WARNING! For a longer duration of the boiler of the thermal cooker, you must not make circulate the water with temperatures lower than 55-60° C. Lower temperatures generate acid condensation and gas-black on the walls of the boiler.

	Description	Standard value	LED
A01	Pump thermostat (°C)	55	1
A02	Valve thermostat (°C)	60	2
A03	Boiler integration thermostat (°C)	40	3

Table 3 - Main menu factory settings.

4.5 FUNCTIONS OF THE UNIT

Basically, the electronic unit checks the working of the heating system; in addition, it has also other auxiliary and safety functions.
Main function - The unit reads the water temperature of the boiler, when it exceeds the set temperature, the unit starts the circulation pump of the heating system. When the temperature goes under the set value, the pump stops, allowing the temperature to go up again.
Secondary functions - When the temperature exceeds the set values (A02, A03), the correspondent clamps activate (Valve, Boiler integration) and then the potential external connected devices. According to the installation, they could not deal with the normal use of the cooker stove.
Sanitary function - When the sanitary hot water function is required, the presence of the liquid flow is detected, so the heating system pump stops and gives prevalence to the sanitary hot water. The pump restarts it the temperature exceeds the temperature set as safety thermostat.
Alarm function - If the temperature exceeds the set value for the alarm thermostat, an acoustic and visible signal will be activated. Pushing any button will deactivate the acoustic signal for 5 minutes.
Level switch function - If the level of the water in the boiler decreases under the minimum value, the S3 indicator will turn on: it will be necessary to add water in the boiler tank. The indicator turns off when the level of the water is restored.
Standby function - If the control unit is off and the temperature exceeds the value set as safety thermostat, the control unit will automatically start and turns on the pump.
Antifreeze function - If the temperature decreases under the value set as antifreeze thermostat, the circulation pump is activated according to the set intervals. The screen indicates ICE symbol.
Pump anti-block function - After a prolonged period of inactivity of the circulation pump, it is activated for a limited time so as to keep the whole system in perfect efficiency. The display indicates the bLP symbol.
Test pump function - The continuous pressure on push button K3 forces the activation of the circulation pump. The screen indicates tSt1 symbol.

4.6 INSTALLER MENU

Changing the settings in the installer menu is the sole responsibility of expert personnel; changing these parameters could compromise the correct operation of the appliance.

Symbol	Description	Standard value
A06	Antifreeze thermostat (°C)	4
A07	Safety thermostat (°C)	75
A08	Alarm thermostat (°C)	92
IA01	Pump thermostat hysteresis (°C)	4
IA02	Valve thermostat hysteresis (°C)	4
IA03	Boiler integration thermostat hysteresis (°C)	4
IA06	Antifreeze thermostat hysteresis (°C)	2
IA07	Safety thermostat hysteresis (°C)	2
IA08	Alarm thermostat hysteresis (°C)	2
T01	OFF time antifreeze pump (min)	30
T02	ON time antifreeze pump (sec)	5
T04	Antiblock pump activation time (sec)	30
T05	Antiblock timer (h)	168
P05	S3 Entrance configuration	4
P08	Antifreeze function activation	1
P13	Sanitary	0
ConF	Hydraulic system configurator	2

- Press K2 and K4 simultaneously and prolonged to access the installer menu
- K3 and K4 keys allow to scroll the symbols of each parameter
- The K2 key allows to display the corresponding value
- Use the K3 and K4 keys to change the value indicated
- Use the K2 key to save the change or with the K1 key to cancel the change

Table 4 - Installer menu standard settings.

4.7 CONTROL UNIT ELECTRICAL CONNECTIONS

The electronic control unit of the cooker stove is already installed, programmed and ready for use. Depending on the type of system you intend to implement, it may be necessary to make additional connections to control devices outside the cooker stove. The additional connections can be useful and necessary if another heat generator is present on the same thermo-sanitary system of the cooker stove. In this case, when the cooker stove is in operation, this must prevail over the other generator.

4.8 3 WAYS VALVE CONNECTION

In some installations it could be useful to have the production of domestic hot water by two different generators. You can make the system take water: from the cooker stove, when it is in operation; from the other heat generator, when it is not.
For this reason, a 3-way valve controlled by the cooker stove electronic control unit can be arranged by the installer. The valve must be connected with a special power cable, which must be connected to the control unit terminal board. The control unit supplies the power supply for the valve. The valve can be powered either in the ON condition or in the OFF condition by simply connecting the cable appropriately.

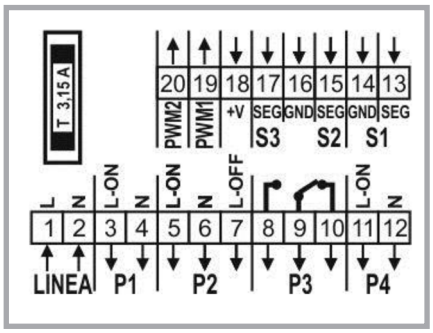
4.9 CONNECTION TO ANOTHER GENERATOR

In the presence of another heat generator to be controlled, this must be connected to the specific terminals of the control unit, directly or indirectly via a room thermostat. The dedicated terminals are those called P3 and provide a clean, normally closed or normally open contact of your choice. To access the control unit's electrical terminal board, first remove the front on which it is mounted. The front is simply fixed with directly accessible screws. At this point it is necessary to loosen the fixed electric cables inside the technical compartment with plastic clamps near the door hinges. The straps must be cut. At this point it is possible to extract the front well, so you can remove the rear metal protection and access the control unit terminals directly.

WARNING! Before any change to the electrical system of the cooker stove or to the connections of the control unit, it is compulsory to disconnect the mains from the appliance.

Connections	Function	Connection to be done	Kind of contact
1-2	Electric feeding	Always	230 V AC ~ 50 Hz
3-4	Internal circulation pump feeding	Always	230 V AC ~ 50 Hz
5-6-7	External 3-way valve control for sanitary hot water	Only when necessary on the terminal board	230 V AC ~ 50 Hz
8-9-10	External generator control or system thermostat	Only when necessary on the terminal board	Contacts in free exchange
11-12	Not available	-	-
13-14	Boiler water temperature detection	Always	Range 0 - 100 °C
15-16	Sanitary hot water production control – flowmeter	Always	Consent ON/OFF
16-17	Boiler water level control	Always	Consent ON/OFF

Table 5 – Electric connections control unit.



Picture 28 – Electric connections control unit.

5 CIRCULATION PUMP

5.1 RECOMMENDATIONS

- Commissioning by qualified personnel only!
- Depending on the operating status of the pump or system (fluid temperature), the entire pump can become very hot. Touching the pump can cause burns!
- Danger due to strong magnetic field! Inside the pump there is always a strong magnetic field that can cause injury and damage to property in the event of incorrect dismantling.
- It is only permitted to have the rotor removed from the motor housing by qualified personnel!
- There is a crushing hazard! When pulling the rotor out of the motor, it may be suddenly pulled back into its initial position by the strong magnetic field.
- If the unit consisting of impeller, bearing shield and rotor is pulled out of the motor, persons with medical aids, such as cardiac pacemakers, insulin pumps, hearing aids, implants or similar are at risk. Death, severe injury and damage to property may be the result. For such persons, a professional medical assessment is always necessary.
- Electronic devices may be impaired functionally or damaged by the strong magnetic field of the rotor.
- If the rotor is outside the motor, magnetic objects may be attracted very suddenly. That can result in injury and damage to property.
- Incorrect commissioning can lead to injuries to persons and damage to property.
- The pump must be electrically isolated and secured against unauthorised switch-on during any maintenance or repair work.

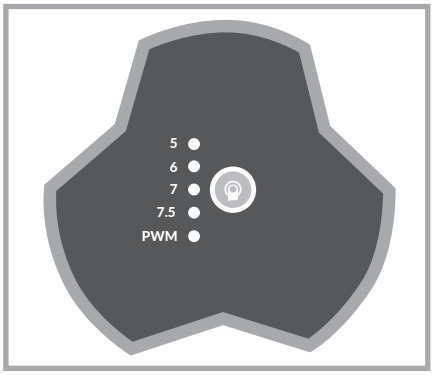
5.2 DESCRIPTION

The pump consists of a hydraulic system, a landless pump motor with a permanent magnet rotor, and an electronic control module with an integrated frequency converter. The control module can have either a operating knob. The pump is equipped with a LED display in order to display the pump operating status. Transport liquid: thin,clean, non corrosive and non explosive liquid, without any solid paticles, fiber or mineral oil. If the circulating pump is used in the occasion of high viscosity, the hydraulic performance of the pump will be reduced.

5.3 FUNCTION

All functions can be set, enabled, or deactivated with the command button. By pressing the button, you can select the different types of adjustments and set the prevalence.
Pump factory setting: GPA -7,5 III Pro -7,5m

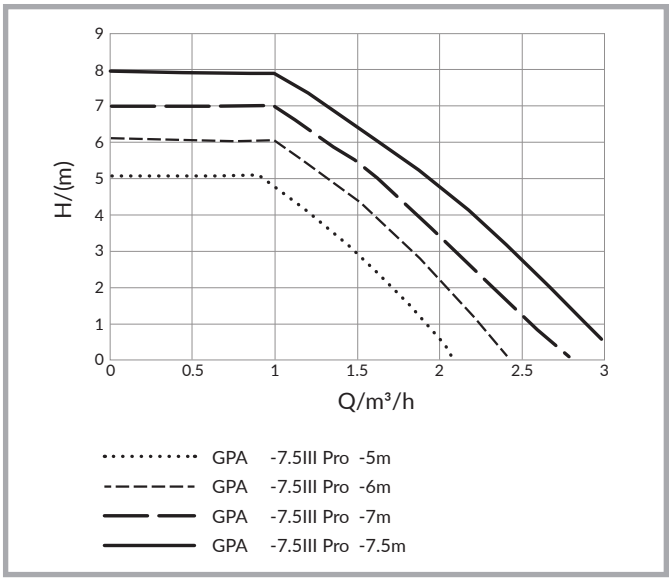
Pressing the button
- Selecting the adjustment mode about the pump prevalence
The selection of the adjustment mode and the corresponding characteristic curves takes place successively from top to bottom.



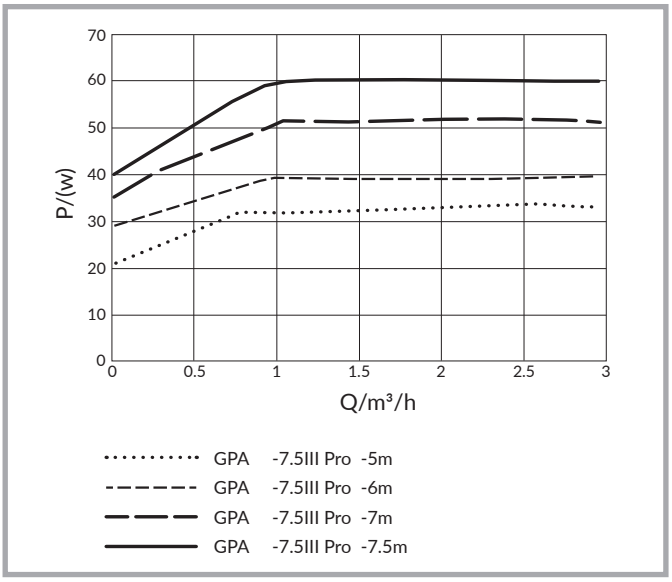
Picture 29 - User interface.

5.4 ADJUSTMENT MODES

CONSTANT SPEED
Recommended for systems with stable resistance which require a constant flow. The pump is constantly operating at the reset fixed speed, base on the head choice.



Picture 30 - Flow-head curves graph.



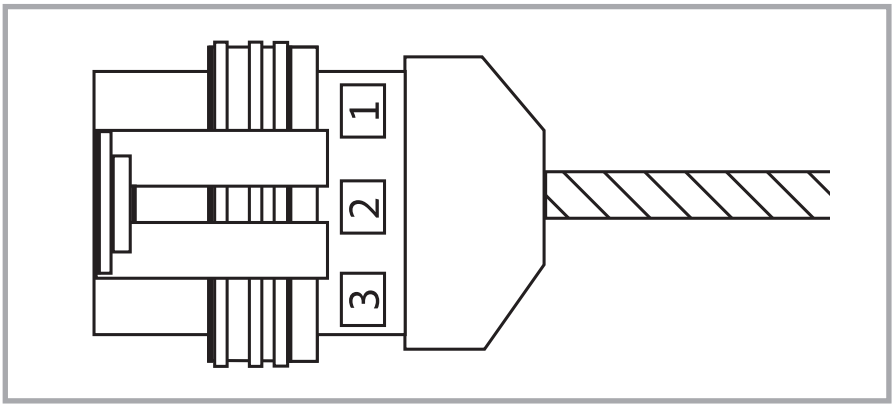
Picture 31 - Flow-power curves graph.

PWM EXTERNAL CONTROL
Unavailable.

5.5 POWER CABLE CONNECTION

ATTENTION! Before any changes to the electrical system and the connections of the circulation pump it is mandatory to disconnect the electrical grid from the appliance.

In the event of a replacement, the pump can be connected directly to the existing 3-pole pump cable:
- Disconnect the connection cable from the power voltage.
- Press the plug stop button and disconnect the plug from the adjustment module.
- Observe the arrangement of the 1, 2, 3 terminals (Picture 32).
- Attach the plug to the grip of the adjustment module until it is grafted into place.



Picture 32 - 1 = brown (L), 2 = yellow/green (Earth), 3 = blue (N).

5.6 TECHNICAL DATA

Description	Value
Power voltage	230 V, 50 Hz
Degree of protection	IP44
IEE Energy Efficiency Index	EEI ≤ 0.20
Internal Fluid temperature	2 °C ~ 95 °C
Room temperature	From 0 °C to +70 °C
Max operating pressure	50 bar (50000 kPa)
Allowed fluids	Heating water (according to VDI 2035)
Maximum prevalence	8 m
Maximum range (Qmax)	3 m³/h
Maximum power absorbed	60 W

5.7 LED FAULTS AND DIRECTIONS

WARNING! Repair failures and electrical connections should only be carried out by qualified specialist electricians.

The green light flicks by failure.

Failure code	Failure description
The gear light flashes once	Over voltage protection, re-start the pump after voltage resumes normal (overvoltage setting: 270 ± 5V).
The gear light blinks twice	Under voltage protection, re-start the pump after voltage resumes normal (undervoltage setting: 165 ± 5V).
The gear light blinks three times	Over-current protection, re-start the pump after 8 seconds.
The gear light blinks four times	Phase loss protection, re-start the pump after 8 seconds.
The gear light blinks five times	Block protection, re-start the pump after 8 seconds.
The gear light blinks six times	Light-load protection, re-start the pump after 8 seconds.
The gear light blinks seven times	Over-temperature protection, re-start the pump after ambient temperatureresumes to operation range for 5 seconds.
	Overheat protection, in the rated voltage, frequency, high temperature environment, high temperature water operation, IPM module surface temperature is higher than 120 ± 5 °C, the pump is reduced to 0.5 times of rated power operation, the temperature is lower than 115 ± 5 °C, the pump returns to normal operation.

Note: By failure the power should be switched off, in order to check out the failure. After troubleshooting turn on the switch and re-start the pump.

6 USE

6.1 WORKING OF THE THERMAL COOKER

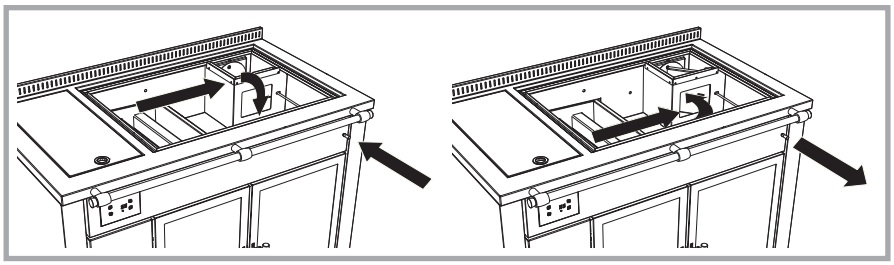
During the working, inside the thermal cooker happens a combustive reaction of combustible (the wood inserted in the combustion chamber) and comburent (the oxygen present in the air of the room in which the thermal cooker is placed). The wood fired thermal cooker makes an intermittent combustion: after the lighting, the combustion goes on till the exhaustion of the combustible but it can be maintained lighted by making another load of combustible and so on. The maintenance of the combustion in time is guaranteed by the correct working of the chimney, which allows to evacuate the fumes and in the same time to feed the flame with comburent air. In this way, the features of the chimney have a big influence on the correct working of the thermal cooker. The combustion of wood requests that the air flow inside the combustion chamber happens in different points to obtain the maximum efficiency. In particular, it is present a primary air feeding that flows in the lower part of the combustion chamber by the grill, and one or more secondary air feedings that flow in the upper part of the combustion chamber. The primary air is the main air and regulates the combustion speed. The secondary air allows the post-combustion of the fumes, generating further heating, knocking down the amount of harmful gas and so improving both the rendering and the impact on the environment. Once started the combustion it cannot be interrupted in a safe way: it must be always faded out naturally with the exhaustion of all the combustible inserted.

WARNING! For the correct working of the wood fired cooker verify that the passage of comburent air is not obstructed or, in case of connection with external air intake, that the air aspiration grill is not obstructed.

During normal operation of the device, cycles of switching on and off of the circulator or pump take place, especially at start-up.
This operation is correct and should not be changed by lowering the circulation activation temperature, not even temporarily.

6.2 STARTING KEY

Before lighting the fire, it is necessary to turn on the control unit by pushing the switch on/off for few seconds.
In order to allow an easier lighting with cold chimneys, STP thermal cooker is endowed with a starting key ruled by a rod, extracting the rod the key opens. Thanks to this device, it is possible the direct connection between the combustion chamber and the exhaust-pipe: in this way, the result is a better draught.
To light the fire, you can use well dried wood, very subtly cut, together with the specific products you can find in commerce. The combustion may be difficult as long as the chimney is cold. The necessary time depends on the chimney and on the weather conditions.



Picture 35 – Starting key. With open lever the key is open to make the starting easier. With closed key the thermal cooker is set for normal working.

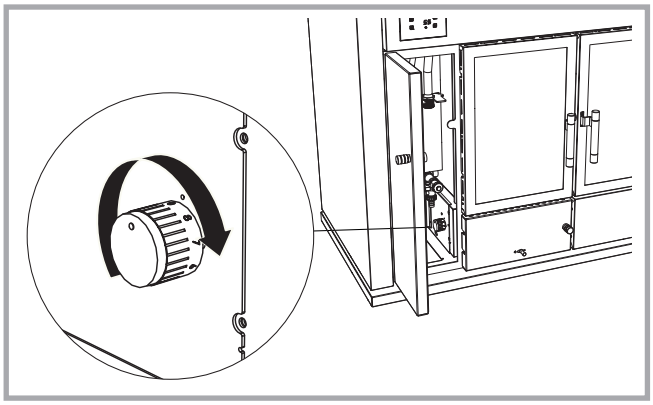
When the flame is strong, close the key in order to force the fume to heat all the parts of the thermal cooker. The thermal cooker is designed for use with the key closed, with key open the thermal cooker cannot reach its better performances and this can cause overheating and damages.

WARNING! It is important that the wood starts to burn quickly. The ignition of a large quantity of wood during ignition can cause a large production of smoke and a rapid emission of gas with consequent damage to cooker or thermal cooker.

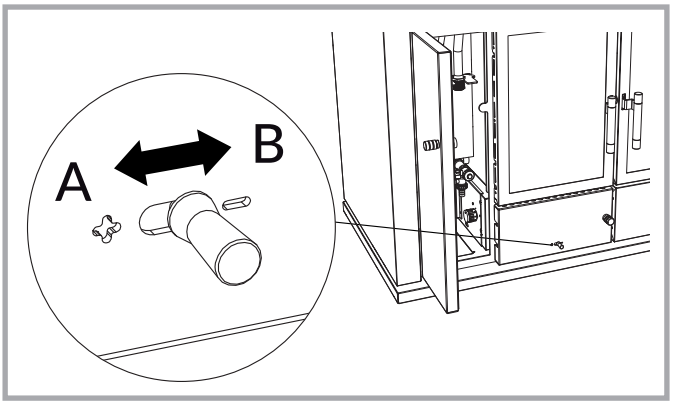
6.3 AIR REGULATION

On STP series thermal cookers there are two primary air settings.
The primary air regulator, located in the boiler van of the thermal cooker, is ruled by a graduate hand grip which regulates the combustion speed. Low values ensure less power and bigger autonomy. High values ensure more power and less autonomy. The regulator is automatic and maintains steady the heating produced by the cooker.
The auxiliary regulation for the primary air, present on the ash door, allows the entry of combustion air into the combustion chamber directly from the installation room. The valve is closed in the right position, while it is open in the left position (see picture 37).
This additional adjustment is particularly useful in the presence of chimneys characterized by poor draft or in situations where a greater supply of primary air is required.
With the thermal cooker switched off, the primary air regulator must be set to 0 and the auxiliary primary air regulation must be closed, so as to limit the passage of unwanted air which would lead to the anticipated cooling of the appliance and the installation room. This precaution is particularly important in the case of appliances installed with an external air intake connected directly. In general, for the proper functioning of the appliance, it is advisable to follow the indications for air adjustments shown in table 6.

WARNING! When loading wood, it is recommended to maintain a gap between the internal glass of the fire door and the combustible, in order to not expose the glass to excessive temperatures that could damage it.



Picture 36 – Primary air regulation.



Picture 37 - Auxiliary regulation of the primary air: the valve is open at the position indicated with the letter A, while it is closed at the position indicated with the letter B.

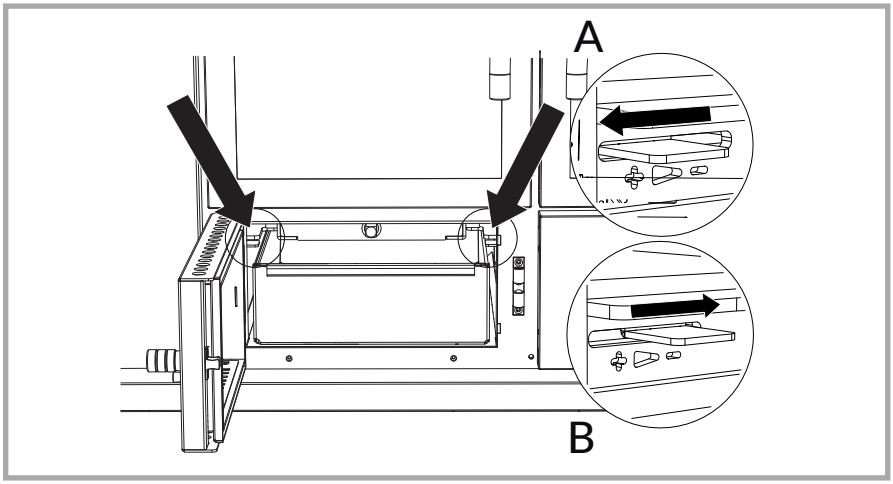
Condition	Primary air	Starting key	Grill
Starting	Open	Open	-
Fast cooking	Open	Closed	High
Slow cooking	Half open	Closed	High
Fast heating	Open	Closed	Low
Slow heating	Closed	Closed	Low

Table 6 – Settings of the wood fired cooker and thermal cooker according to their use.

WARNING! Do not open the fire door during combustion, as otherwise smoke may escape. The appliance is designed to be used with the fire door closed.

6.4 SECONDARY AIR REGULATION

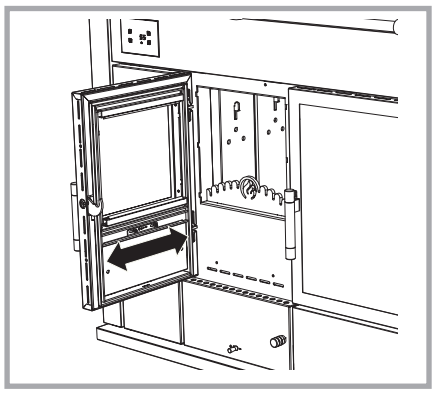
Secondary air is already set to work correctly in standard installation conditions. In case of excessive accumulation of embers in the combustion chamber or in general when it is necessary a bigger quantity of primary air, it is possible to use the addictive regulations in the ash vain, accessible by opening the door (see picture 38). The position towards external is set by manufacturing and it is the one of normal use. The position of the lever towards internal closes the flow of secondary air.



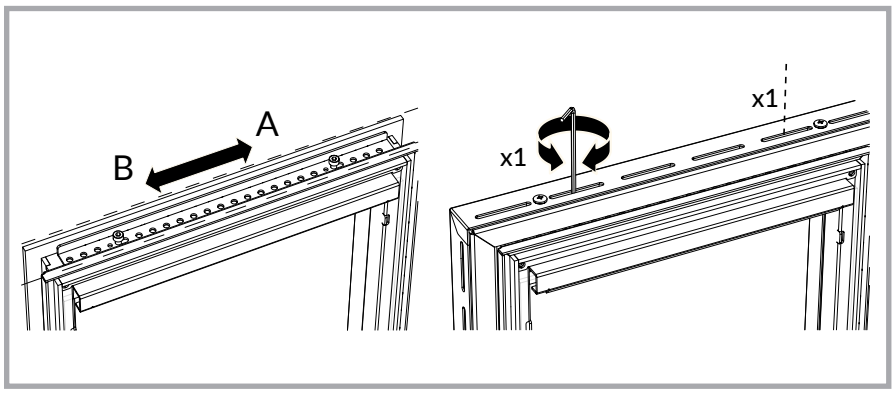
Picture 38. Secondary air regulation: the regulation is open in correspondence of the position indicated with letter A (bigger inflow of secondary air than primary air), while it is closed in correspondence of the position indicated with letter B (bigger inflow of primary air than secondary air).

6.5 GLASS CLEANING AIR REGULATION

On the devices, there are two fixed air inlets for cleaning the glass, one in the lower part of the fire door and an auxiliary in the upper part.
By default both adjustments are fixed and set to their maximum opening, so as to allow optimal combustion and maintenance of the clean glass of the fire door. In the particular case in which the device is installed on a chimney characterized by a particularly high draft, there could be an influx of excessive air not limited by the draft regulator. In these cases it is necessary to partially restrict the air passages, as shown in figures 39 and 40, so as to compensate for the excess of draft. As a rule these adjustments must be made, if necessary, only during installation.
The adjustment procedure is as follows: open the fire door, loosen the fixing screws, slide the adjustment plates and then fix the screws again. The adjustment plate slides horizontally and opens or closes the passage of air according to the indicated direction. It is recommended not to close the passage of air completely, because this could lead to irregular operation which could dirty the glass.



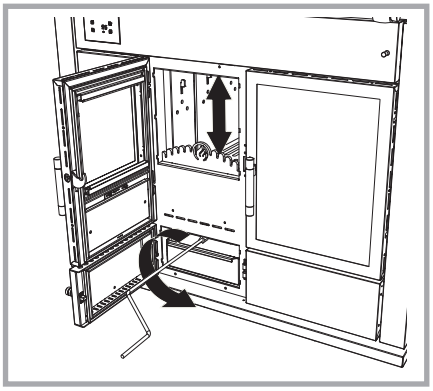
Picture 39 - Air adjustment for glass cleaning.



Picture 40 - Auxiliary air adjustment for glass cleaning: the plate is open at the position indicated with the letter A, while it is closed at the position indicated with the letter B.

6.6 GRILL REGULATION

The thermal cookers are endowed with an height adjustable grill which allows to adjust the combustion chamber's dimensions according to user's needs. The upper position allows to have the flame in direct contact with the plate, it is the best position for cooking. The lower position instead allows to have a more capacious combustion chamber and so to have more autonomy, it is the best solution to keep the room warm for a longer time. The grill must be regulated with cold thermal cooker using the special tool given together with the thermal cooker, the connection point to regulate it is placed inside the ash drawer.



Picture 41 - Regulation of fire grill height

6.7 PLATE COOKING

The radiant plate is designed to allow a fast and simple cooking. The hotter part is situated in correspondence with the hotplate, this is the best part for placing a pot which must get warm quickly. The external parts of the plate are better to keep foods warm. To obtain the maximum cooking speed you have to use broken and thin wood and make the regulations as described in the previous chapters. The plate must not be overheated and made red hot because in such way the thermal cooker may experience damages without having no advantage for the cooking of foods.

6.8 OVEN COOKING

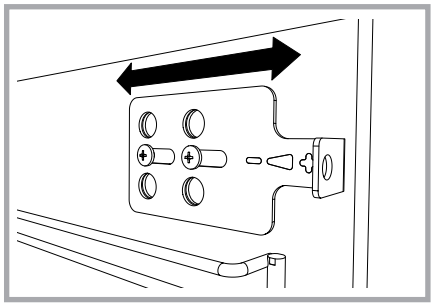
The internal temperature of the oven depends on the combustion speed and on the amount of combustible used. In particular, working in the primary air regulator and so on the speed combustion, you can obtain a more steady combustion in order to avoid sudden changes in temperature inside the oven. If you want to heat the oven starting from cold thermal cooker, we suggest to increase the temperature with bright fire and then to decrease the speed combustion to keep the temperature steady. The thermal cookers with oven are endowed with fire door with glass and thermometer that makes easier the temperature controlling operations; the temperature indicated by the thermometer is approximate ad is useful only for the cooking of foods. If you want to brown the meals, you should keep them in the upper part of the oven: instead, if you want to cook in a steadier way you should keep the meals in the centre. When you do not use the oven, we suggest to keep the oven's door slightly open in order to let the heat go outside the thermal cooker: an overheating can damage the thermal cooker.

For example, to cook the spineless person biscuits in a correct way, it is necessary the pre-heating of the oven at a temperature indicated on the thermometer of 150°, keeping it in temperature by adding some kilograms of wood for every charge as the reaching
of the coals. Once the temperature becomes stable, insert the baking-pan with the biscuits in the central position in the oven for 10 minutes, then extract the baking-pan, rotate it and reinsert it again in the central position for other 5 minutes. In the end, remove the baking-pan from the oven and leave cool the biscuits.

WARNING! Some components of the thermal cooker (for example gaskets) could be damaged due to excessively high temperatures inside the oven. When it is not used for cooking food, it is recommended to keep the oven door slightly open, in order to take advantage of the additional heat produced by the thermal cooker and avoid possible damage. Any damage is not covered by the warranty.

6.9 STEAM EXCESS VALVE

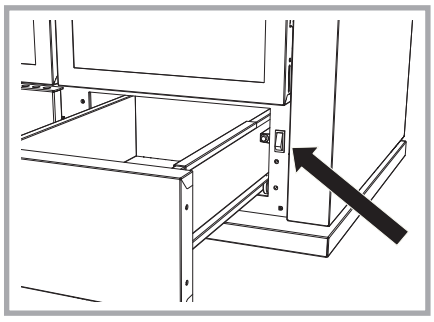
Cooking meals sometimes may generate a steam excess inside the oven. For this reason on models with oven there is a valve that allow to eject the steam in excess. The valve is placed inside the oven on the lateral side towards external and when necessary it shall be regulated to open the air intakes. To avoid possible burns, it is recommended to regulate the valve only before the lighting of the thermal cooker.



Picture 42 - Steam excess valve.

6.10 OVEN LIGHT

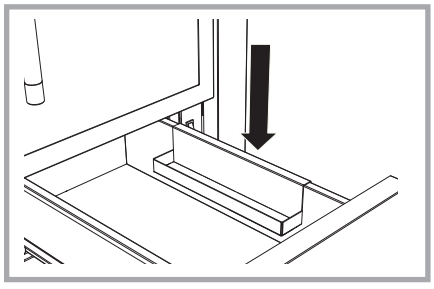
On STP thermal cooker there is a light inside the oven which, together with the wide glass of the door, allows to control the cooking process at sight without opening the door. The lighting switch is located on a lateral upright you can find extracting the tool drawer.



Picture 43 - Switch to light the oven.

6.11 TOOL DRAWER

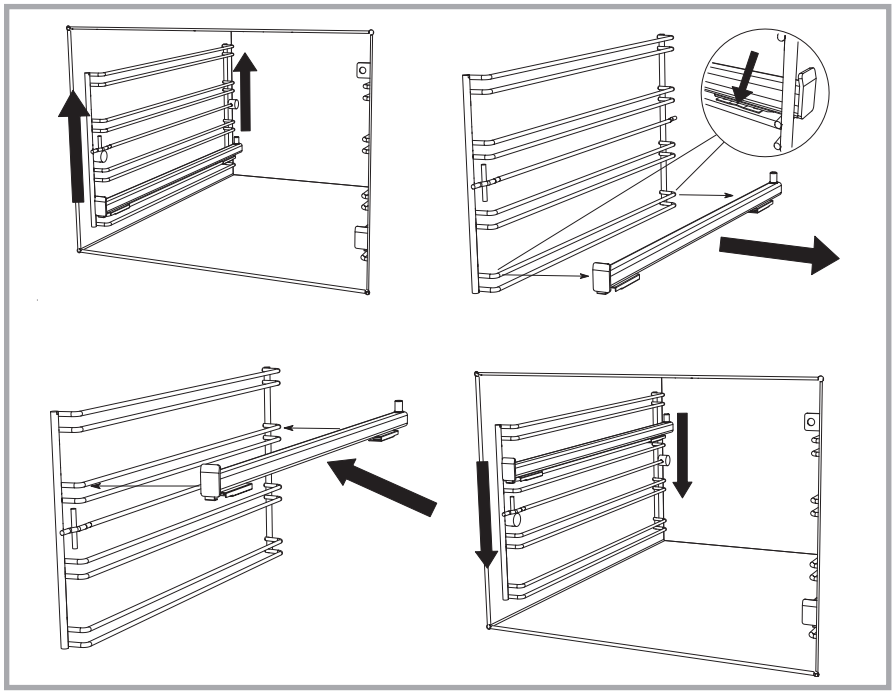
STP thermal cooker is endowed with a drawer for the tools necessary for the use and the maintenance of the device. The glove box given with the thermal cooker must be hooked on the lateral part of the drawer and can be useful for the placement of small tools.



Picture 44 – Glove box fixed on the drawer.

6.12 TELESCOPIC PULLOUT FOR BAKING PAN

STP thermal cooker has a telescopic pullout for endowed baking pan system. In this way, it is possible to extract the baking pan without the necessity to sustain it, ensuring a better practicality. The telescopic pullout is placed in a single position inside the oven but this can be changed by moving it in the lowest part or in the middle-upper and upper position. To make this, see picture 45.

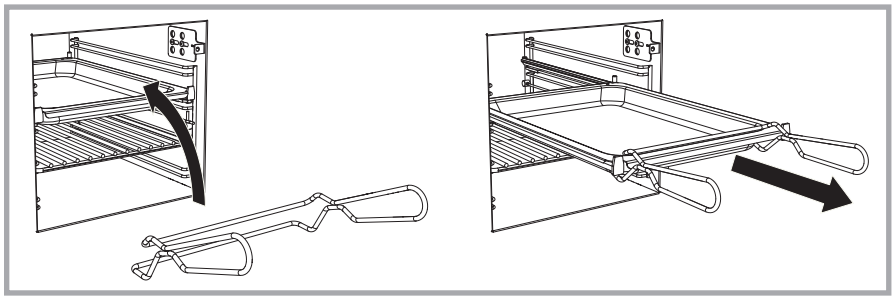


Picture 45 - Instructions for the variation of the position of the telescopic pullout.

WARNING! Do not put inflammable products in the drawer: the objects must not reach the upper part of the drawer.

6.13 BAKING-PAN HOLDER

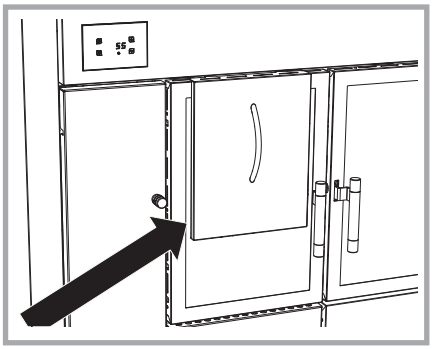
The baking-pan holder allows to extract the baking-pan in a safe way, with no need to use rags or hot pads. The baking-pan holder must be hooked to the baking-pan edge and used with two hands.



Picture 46 – Baking-pan holder.

6.14 FIRE DOOR PROTECTION (OPTIONAL)

The thermal cooker is endowed with a steel protection which could be placed on the fire door. This protection is designed to shield the door when the cooking operations require the continuous presence of the user in front of the thermal cooker or in presence of children. In the other situations the use of the protection depends on your discretion. The placing operations must always be done with cold thermal cooker opening the fire door and placing the protection on the door by joint.



Picture 47 – Fire door protection.

6.15 PLATE COVER (OPTIONAL)

On every thermal cooker it is possible to use, on demand, a stainless steel plate cover, made to cover the plate in the periods in which the thermal cooker is not used. In this way you obtain an uniform desktop. The plate cover must be used with cold thermal cooker. Before placing it, be sure that is not present humidity, that the plate is clean and that all the necessary maintenance is done.

7 MAINTENANCE

7.1 CLEANING

The thermal cooker works better if all its parts are without combustion residuals, a clean thermal cooker will be less exposed to problems due to wear. Cleaning frequency depends on how much and how the thermal cooker is used, as well as on combustible quality.

WARNING! All these operations must be done with cold thermal cooker.

7.2 CLEANING THE VISIBLE PARTS

Stainless steel parts have to be cleaned cold with neutral detersives or with a specific solution for stainless steel in case of hard to remove dirt. Do not use at all abrasive sponges that may scratch the surface. Dry with a soft rag, following the glazing wise.
In some cases, after the installation or after the cooking of meals, it might appear a superficial oxidised stratus, in particular on the stainless steel frame. Also in this case, an accurate cleaning will make the cooker as new.
On request Rizzoli gives specific products to clean stainless steel. For enamelled or painted parts, do not use abrasive and aggressive or acid detersives, in case of stains pour some oil and wait while it absorbs the halo, then clean with a soft rag. We recommend not to use solvents or denatured alcohol on painted parts.

7.3 MAJOLICA OR NATURAL STONE CLADDING (RUSTIK MODEL)

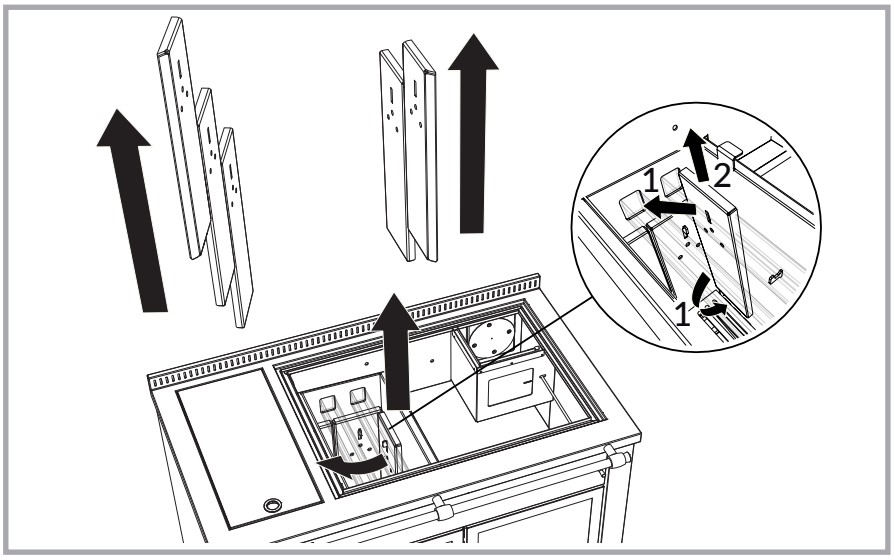
Majolica claddings are products of high craftsmanship and it is normal that they may have micro-dots, cracks, shades, shadows and any other imperfections / chromatic discrepancies, essentially due to the characteristics of the material.
Natural stone claddings may sometimes have chromatic discrepancies due to the natural grain of the material and a non-uniformity of the product, since the stones are cut and finished manually. These characteristics testify to their precious nature and craftsmanship, making the Rizzoli product unique.

ATTENTION! The majolica or Natural stone cladding must only be cleaned when the appliance is cold.

The ceramic coating of the appliance must be cleaned using a soft and dry cloth. In any case, no detergent or liquid should be used for cleaning, so as not to damage the coating itself. The Natural stone cladding must be cleaned using a universal degreaser in the affected area, leaving it to act for a couple of hours and then wipe the surface with a wet cloth.

7.4 MAINTENANCE OF THE COMBUSTION CHAMBER SHEETS

Inside the combustion chamber of the wood fired thermal cooker are placed some mobile steel sheets that have a double function: they allow the entrance of the secondary air after-combustion at an optimal height for the reduction of the emissions and they protect the integrity of the boiler acting as protective shield between the flame and the wall of the boiler.
Anytime it is necessary a deeper ash cleaning, when the thermal cooker is cold it is possible to remove these sheets. To do this, it is necessary to remove the hotplate disc or the circles.
Then it is necessary to remove the plate in order to have more space to do the operation. At this point, remove the sheets starting from the sides of the combustion chamber and last the ones placed in the rear part, unhooking them from the pin and unthreading them up.
To reassembly the sheets it is necessary to do the reversal operation, paying attention to insert them in the correct position and in the correct order, placing in the first time the base and then hooking them to the pin.
The cleaning must be done at least every six months of normal use, like for the chimney sweeping: according to use, you could have to make the cleaning more often.



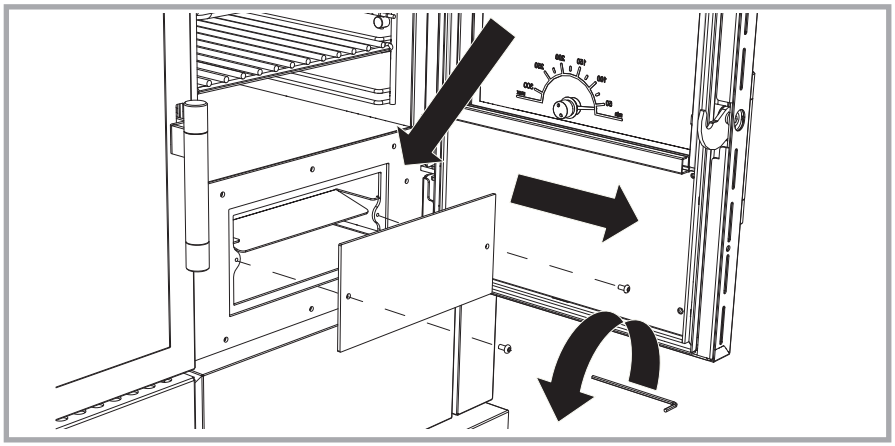
Picture 48 – Maintenance of the combustion chamber sheets.

7.5 GRILL CLEANING

Every time you use the thermal cooker you have to clean the wood carrying grill before, at least you have to clean the more rough deposits: the holes of the grill should not be obstructed. To make this you can use the poker given together with the thermal cooker. If the grill is not well cleaned, the flame could not be well feed and so you could experience an irregular combustion. If the grill is being removed, it must be placed in its housing with the flat part turned upwards.

7.6 FUME-CIRCUIT INSPECTION

In the STP thermal cooker the combustion fumes are forced to turn completely around the oven. For this reason, the thermal cookers with oven are endowed with an inspection door to clean the fume-circuit. The cleaning must be done at least every six months of normal use, like for the chimney sweeping: according to use, you could have to make the cleaning more often. The inspection door is located under the oven door opening the apposite wing.



Picture 49 - Fume-circuit inspection.

7.7 ASH BOX

Every time you use the thermal cooker you have to check the ash box located under the combustion chamber. When the box is full, you have to empty it. If you do not empty it, the ash accumulates itself and makes the cleaning more difficult. In case of excessive cinders the flame could not be well fed and you could experience an irregular combustion.

7.8 OVEN CLEANING

Before cleaning it is recommended to remove both the baking pan and the grill. For an accurate cleaning, it is possible to remove also the lateral grills. The oven must be cleaned with products available in the commerce.

7.9 CHIMNEY CLEANING

The cleaning of the chimney must be done by experienced technicians at least every six months of normal use of the thermal cooker. Anyway, cleaning must be done every time it becomes necessary according to the use or to the combustible used. We recommend to follow strictly all the local laws dealing about chimney cleaning. All the parts of the chimney must be cleaned. Together with the cleaning of the chimney, make also the internal cleaning of the thermal cooker, removing the plate and cleaning the upper part of the oven and the fume-circuits. After the cleaning of the chimney, be sure to have closed all the inspections doors in order to avoid draught problems.

WARNING! If the chimney cleaning is not made as recommended, fire in the flue could happen.

7.10 GLASS CLEANING

The glass in the fire door could get dirty with fucholine during use. In the event of bad combus-tion, poor draft or poor quality wood, the glass could become more dirty. The glass of the fire door and the oven door, can be cleaned with the normal specific products available on the market. The internal part of the combustion chamber door has been designed to clean itself during the use of the appliance. Nevertheless, from time to time it may be necessary to clean the glass in contact with the combustion flame.
It is recommended to carry out the cleaning regularly using a soft damp cloth, dry well after the operation.

WARNING! Do not clean the glass before waiting for its cooling. Suddenly changes in temperature may cause breakings in the glass.

7.11 PLATE CLEANING AND MAINTENANCE

Radiating plates in special steel need regular maintenance, in particular they need cleaning after every use that brings moisture or dust on the plate itself. With cold thermal cooker you have to remove all the pots and boilers that could maintain moisture on the plate. Together with the thermal cooker are given some exclusive products, studied for the cleaning and the maintenance of the plate: the abrasive sponge, the cleaning oil and the plate care oil, on how to use them please read the instructions written on the bottles. The plates are all worked in with non acid anti-corrosion oil. The use of the thermal cooker deletes this oil layer and so the contact with water may cause small rusty stains. In this case you have to wipe the plate with a rag soaked with non acid oil. If the rusty stain is not being cleaned, you could have to wipe the plate with a lightly abrasive paper or with the abrasive sponge given together with the thermal cooker. To restore the protecting layer wipe the plate with little oil. Do not clean the plate with water. It is important to be sure that the expansion cuts and the hole between the plate and the frame are not obstructed by dust or by other residuals: the plate could suffer deformations, also permanent. When it is necessary, you should clean also the beating of the circled removing eventual residuals. Radiating steel plates, exposed to continuous heating, trend slowly to take a burnished colour; if you want to accelerate the process, repeat frequently the oil wiping. If the thermal cooker is not used for long periods, it is suggested to treat the plate with the plate care oil, in this way the plate is well protected from moisture. To remove the plate, you have to lift it up. When you reinsert the plate, keep in mind to leave the 1 or 2 millimetres to allow the thermal expansion of the plate itself.

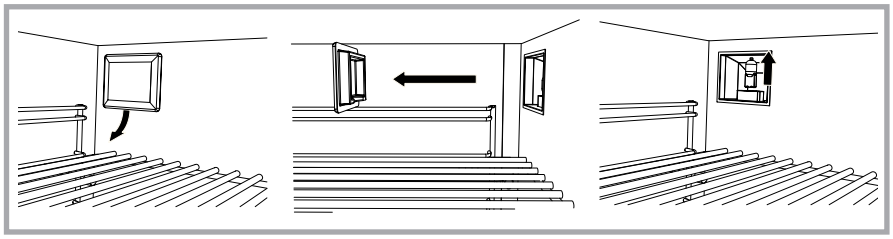
7.12 BOILER MAINTENANCE

The boiler tank must be filled up regularly, according to the use of the thermal cooker. The decrease of the water under the minimum level will cause the lighting of a specific warning light on the control unit, see chapter 3.7, 3.8 and 3.9.
The sacrificial anode must be controlled at least once a year, see chapter 3.14.
After an extended use of the device, it could be necessary to make the maintenance of the serpentines when showing calcareous deposits on their surfaces. In this case it is suggested to empty the system, removing the serpentines and to proceed to the mechanical cleaning of them.

7.13 MAINTENANCE OF THE LIGHT

WARNING! Before starting any maintenance operation for the light, you must disconnect it from AC power and be sure that the thermal cooker is not powered. Verify also if the thermal cooker is cold and if the light was turned on in the previous minutes.

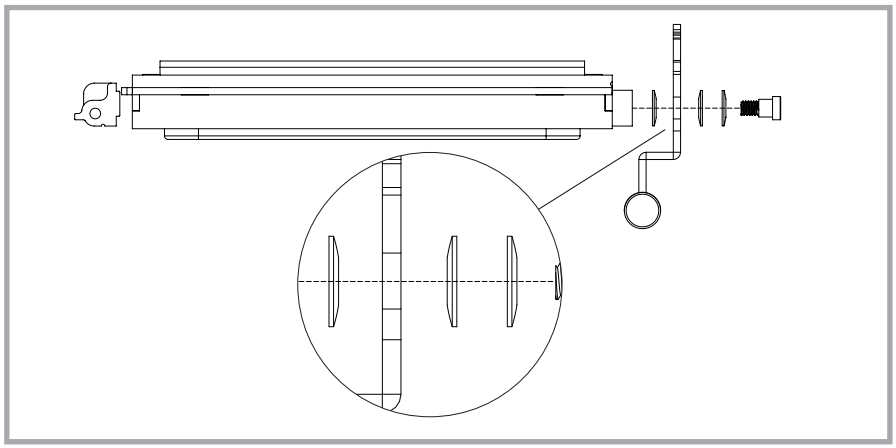
Oven lamp suffers high temperatures. Even if it is designed to work in these conditions, it could become out of order. You have to replace it with a lamp with the same features (halogen lamp 25W 230V 300°C connection G9). To replace the lamp you have to remove the lamp cover built-in inserted, remove the lamp, insert the new lamp and finally replace the interlocking lamp cover.
Seldom, it is necessary to clean the glass of the lamp cover. To make this, you have to remove the lamp cover, remove the external residuals due to the cooking steams, wash the lamp cover and once it is dry you can screw it in its place.



Picture 50 - Take-down the oven lamp.

7.14 HANDLES MAINTENANCE

When it is necessary to replace or to tighten the handles of the fire door or the oven door it is essential to follow the correct sequence of the conic washers, see picture 51.



Picture 51 – Correct position of the rounded washers.

WARNING! The wooden handles, if any, might show different shades because of the natural veins of the material.

7.15 THERMAL EXPANSION

During the use, all the materials of the thermal cooker are subjected to expansion and little movements due to the variation of temperature. This must not be prevented, otherwise deformations and breakings might happen. For this reason, the spaces which allow the expansion inside and outside the thermal cooker must be kept free and clean.

7.16 EXTRAORDINARY MAINTENANCE

Most of the thermal cooker's parts are easy to remove with a simple screwdriver, eventual repairs or modifies will be faster if the concerned piece, directly or by a dealer is sent to our factory. If you need accessories or spare parts, please tell us the the serial number of the thermal cooker indicated in the green booklet given together with the wood fired thermal cooker. The serial number is also indicated on a plate placed on the side of the tool drawer.

8 WHAT TO DO IF...

Problems	Effects	Possible solutions
Bad working	Irregular combustion. Incomplete combustion. Smoke comes out of the plate. Smoke comes out of other parts of the thermal cooker.	• Verify that all air regulations are at their maximum opening • Verify that ash or other residuals do not obstruct the grill • Verify that the grill is not inserted correctly (the flat part is up) • Verify that the place in which the cooker is situated is well aired and that aspiring hoods or other devices are not working • Verify the correct dimensioning of the chimney and of the entrance of the chimney • Verify that the chimney is not obstructed and that it was cleaned recently • Verify that there are no losses in the exhaust-pipe and in the conjunctions • Verify that no other devices are connected to the flue • Verify that the chimney suites the position in which it is situated, in windy places you could have to install an anti-wind chimney • Verify that the combustible is right, dry and of good quality • Verify that the chimney does not go on under the wood fired thermal cooker
Bad working	Bad working due to bad weather	• Allow the flow of air in the room • Open slightly the ash door when you start the thermal cooker • Eventually, use a windproof chimney-pot
Fire	The chimney and other parts near the thermal cooker take fire	• Close all the air regulations of the thermal cooker • Close doors and windows of the room in which the thermal cooker is placed • Call the firemen
Overheating	The thermal cooker overheats. Oven's thermometer is over 300° C	• Close all the air regulations and if it is necessary open the oven door • If also the water in the boiler becomes hot, make flow hot water from the tap to cool the boiler
Black-out	The circulation pump stops, the control unit goes off. The water in the boiler starts to boil.	• Close all the regulations of air on the thermal cooker • Stop feeding the fire • Make flow hot water from the tap to cool the boiler • When the AC power is restored, check the thermal cooker and if necessary fill up the tank • In every case, the safety is guaranteed by the safety discharge
Circulation pump blocked	The control unit indicates a temperature between 55 and 75° C, a fixed image of a tap appears a dash on the display, the circulation pump is blocked.	• The circulation pump is not activated because the flow meter detecting the flow of sanitary hot water • Verify eventual leaks in the system • Verify and clean the flow meter • If necessary, disconnect the flow meter from AC power • Replace the flow meter if not working.
Control unit error	The screen of the control unit indicates "Lo".	• The cable of the temperature detector of the control unit has been disconnected: remake this operation on the rear part of the control unit.
Control unit error	The screen of the control unit indicates "Hi".	The sensor of the control unit is faulty and must be replaced.
The oven does not reach high temperatures	It is not possible to take the oven to high temperatures	• Verify that oven door is well closed • Verify that the starting key is closed • Set all air regulations to their maximum opening • Use good quality wood, well dried and little patched • Verify that combustion has strong flame • Verify that the fume circuit is clean and not obstructed • Verify that the circulation thermostat temperature is set to 55°C - 60°C.
Condensation	Condensation is created inside the thermal cooker	• Verify to use good and well seasoned wood • Verify that the chimney has not imperfections • Verify that the chimney is well isolated • Verify that the chimney is not over dimensioned • Verify that the circulation thermostat temperature is set to 55°C - 60°C.
Condensation in combustion chamber	Condensation is created on the walls of the boiler, a layer of soot or tar hard to remove is produced	• Verify the activation temperature of the circulation pump, it must not be lower than 55°C - 60°C • If big hot water accumulation tanks are present, we suggest to install a valve or anti-condensation system • Verify the correct position of the sheets in the combustion chamber.
Dirty glass	The fire door gets dirty.	• Check the settings of the glass cleaning air and if necessary open them more • Check the chimney draft • Clean the glass with specific products
Missed starting	It is not possible to light the fire.	• Ventilate the room • Open the starting key • Use well dried wood sticks • Use apposite products available in commerce • Verify that other combustion based devices are not working in the same room • If necessary, open slightly the ash door for the time necessary for a safe lighting.
Rust	Presence of rust and deformation on the cooking plate	• Do not clean the plate with water • Do the regular maintenance of the plate as describe • Contact your dealer or the customer service.
Low level of water into the boiler	S3 light turned on/flashing	• Fill up with water

9 WARRANTY

9.1 DECLARATION OF PERFECTLY MADE PRODUCT

Rizzoli warrants that the device has passed all the quality controls and internal tests. Rizzoli also warrants that the device is working, without imperfections due to building or due to materials. This device is the result of the multi-decennial experience of Rizzoli, who warrants a perfectly made product.

9.2 GENERAL CLAUSES

Warranty lasts 2 years since the day of purchase. It is valid for the purchaser only, it is not transferable. To receive the warranty services the customer must provide a valid fiscal document of purchase (cash voucher, invoice etc.) and the enclosed warranty card. Keep them with care.

9.3 WARRANTY MODALITIES

Rizzoli reserves, in its unquestionable judgement, to choose the the action that best fits the problem object of warranty.
The imperfect replaced parts remain property of Rizzoli. Rizzoli, in its unquestionable judgement, will decide if the warranty operations must be done in place or in its own factory. For operations made at home in the period of warranty, the customer must pay a fixed call fee in force. This fee must not be paid if the hood has been bought in the previous 3 months. For reparations made in Rizzoli Customer Service centres, transport charges are due.

9.4 IMPERFECTIONS OR DEFECTS IN THE MATERIALS

Imperfections or defects in the materials must be signalled within 8 days since the customer receives the products and anyway this implies only the obligation to replace what provided, excluding any additional responsibility.

9.5 PARTS NOT INCLUDED IN WARRANTY

This warranty does not cover the following, and the customer will be required to pay repair charge, even for defects occurring within the warranty period referred to above:
- Any defect that occurs due to mishandling.
- Any defect that occurs due to operations performed that are not mentioned in the sections of these instructions.
- Damages due to an excessive use of the cooker with consequent overheating of itself.
- Damages due to the connection of the hood to a wrong sized vent-hole pipe.
- Any defect that occurs due to the lack of application of the national and local laws.
- Any defect that occurs due to not perfectly made installations.
- Any defect that occurs due to repair, modification, cleaning, etc. performed by anyone other than Rizzoli authorized Customer Service centres.
- consumer parts like bulbs, grills, gaskets, baking pans, glasses etc.

9.6 BOILER WARRANTY

The warranty for the boiler of the thermal cooker is 6 years since the date of purchase. The warranty covers eventual defects of the boiler itself. Are excluded from the warranty damages caused by a thermosanitary system connected to the thermal cooker not planned or duly made or the damages caused by a not proper use of the thermal cooker. In particular, are excluded from the warranty the damages caused by:
- circulation pump activation temperature set on the thermostat or on the control unit to a temperature lower than 55° C;
- lack of anti-condensation valve in the system in presence of a heat accumulation system (boiler or puffer) or characterized by considerable thermal inertia;
- lack of a safety system as described in chapter 3 and as stated by the existing technical laws;
- water boiling in the boiler;
- use of the thermal cooker with boiler empty or not connected to the system;
- use of the thermal cooker without the sheets inside the combustion chamber;
- excessive or not proper wood loading in the combustion chamber;
- use of not adequate combustible (wood not dry, coal, other combustibles);
- problems caused by rambling power generated by missed earthing of the system and the thermal cooker;
- use of antifreeze inside the boiler;
- use of calcareous water;
- deterioration and failure to replace the sacrificial anode;
- chimney not adequate, the chimney must meet the specifics indicated in chapter 2.

9.7 OPERATIONS MADE OUT OF THE WARRANTY PERIOD

Possible operations made out of the warranty period or in the cases in which warranty is not applicable, will be charged according to the pricelist in force. In this case will be also charged the price of the spare parts.

9.8 RESPONSIBILITY

Rizzoli is not responsible for incidental or consequential damages due to the lack of application of the national and local law and of the instructions written in this booklet.

9.9 COMPETENT LAW COURT

In case of controversy will be competent the law-court of Bolzano only.

Note

Rizzoli S.r.l. is constantly working to improve its products, for this reason the contents of this booklet may vary without notice.

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Rizzoli ® 11.23

RIZZOLI®

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