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EN

Dear client:

We would like to thank you for choosing one of our products. The model that you have purchased is of great value. For this reason, we invite you to read carefully this instructions manual in order to make the most of your equipment.
It is compulsory to install and use our products according to the instructions of the present manual in order to comply with the safety standards.

1. GENERAL WARNINGS

The installation of a thermo-stove must be done according to the local, national or European regulations.

Our liability is limited to the supply of the equipment. The installation must be done according to the procedures expected for this kind of equipments, according to the indications included in this manual and the rules of the profession. The fitters must be qualified, with official license and they will work for enterprises that accept responsibility of the installation.

In the case of devices with turbine, it must be connected to a 230V - 50Hz - IP20 approved power outlet.

Bronpi Calefacción, S.L. will not be responsible for the modifications made to the original product without the prior written permission as well as for the use of non-genuine spare parts or pieces.



IMPORTANT!!!: this product includes a spray paint can inside the combustion chamber which must be removed before the ignition.

This stove can be used by children aged from 8 years and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge whenever they have supervision or they have received instruction concerning the use of the stove in a safe way and understand the hazards involved. Children must not play with the stove. Cleaning and user maintenance shall not be made by children without supervision.

2. GENERAL DESCRIPTION

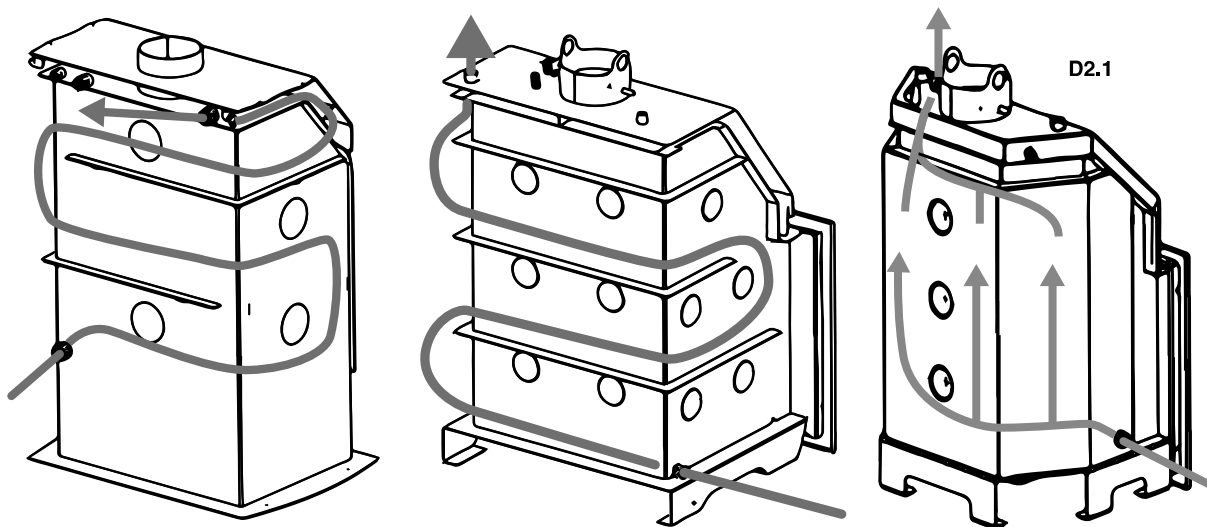
The equipment that you have purchased contains the following pieces:

- Complete structure of the hydro placed on the pallet.
- Inside the combustion chamber you can find: a box/bag with a thermal glove that allows us to handle the air controls, draft-diverter valve, door, etc, in order to avoid burns. One spray paint can to repair possible scratches. The smoke baffle-plate and the safety over pressure valve.

The thermo-stove is made of a set of pieces elements of steel in different thickness welded together. It also has a door with vitro ceramic glass (resistant up to 750°C) and ceramic cord for the air tightness of the combustion chamber.

Heating is produced by:

- Convection:** because the air passes through the body and sump, or the heating through the hood of the facing in which the thermo-stove is put.
- Radiation:** through the vitro ceramic glass and the body the heat is irradiated towards the environment. It also heats by the radiation of the hydraulic circuit in which it is installed (radiators, panels, under floor heating, etc.) due to the fact that the thermo-stove gets a high thermal efficiency because of the big exchange surface and the water capacity, which is generated by a chamber that completely rounds (lateral, higher and lower) the combustion chamber (**see drawing D2.1**).

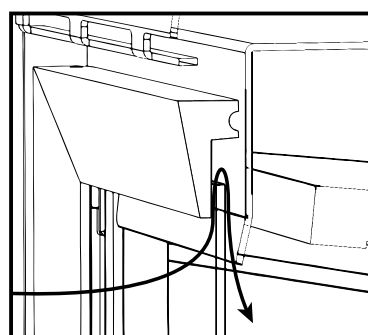
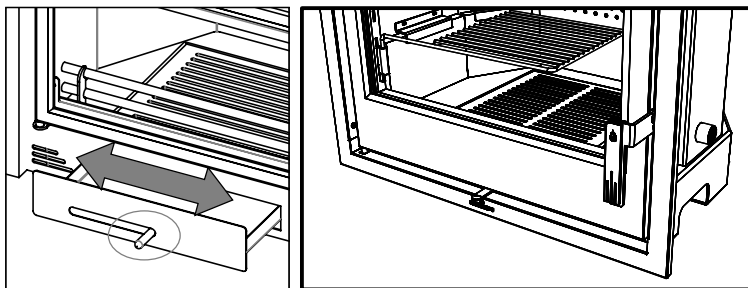


The models have some settings for a perfect combustion control:

Primary air intake

It controls the air that passes through the ash pan and the grate towards the fuel. The primary air is necessary for the combustion process. The ash pan should be emptied frequently so that the ash does not block the primary air intake for the combustion. Also, the primary air rekindles the fire.

- The models of the Hydrobronpi-E and Hydrobronpi-E-Visión series have this air intake control on the frontal of the ash pan and its movement goes from the left to the right (see drawing D2.2).
- The models of the Tecno-Hydrobronpi and Tecno-Hydrobronpi-Visión series have this air intake control on the frontal of the ash pan and its movement goes from the left to the right. the largest air intake corresponds when the control is turned to the left (larger side of the triangle), while the smallest air intake corresponds to the right (smaller side of the triangle) (see drawing D2.2).
- In the thermo-stove model Hydronova Plus, the regulation of this air inlet is located below the door. It corresponds to the regulation located on the right and its movement is made from left to right. The largest air inlet corresponds when the regulation is turned to the right (the largest side of the triangle), while to the left, corresponds the smallest air inlet (the smallest side of the triangle). (see drawing D2.3)

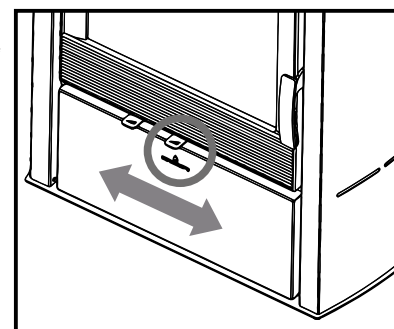


D2.4

Secondary air intake

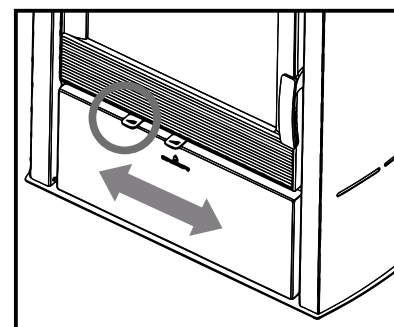
This inlet favors that the unburned carbon in the primary combustion can undergo a post-combustion, increasing the efficiency and ensuring the cleanliness of the glass. On Hydrobronpi-E and Tecno-Hydrobronpi series models this air inlet is located at the top the door. It is not adjustable through any drive. In Tecno-Hydrobronpi and Tecno-Hydrobronpi-Vision models, this air inlet is located at the top of the door. It is not adjustable by means of an actuator. (see drawing D2.4).

regulation is turned to the right (the largest side of the triangle), while to the left, corresponds the smallest air inlet (the smallest side of the triangle). (see drawing D2.5)



D2.3

In the thermo-stove model Hydronova Plus, the regulation of this air inlet is located below the door. It corresponds to the regulation located on the left and its movement is made from right to left. The largest air inlet corresponds when the

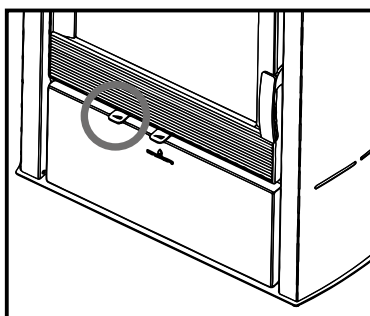


D2.5

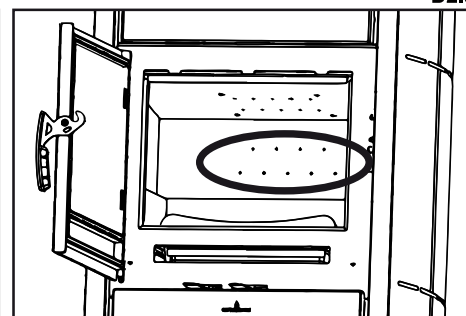
Double Combustion

The Hydronova Plus model and Tecno-Hydrobronpi has double combustion. Through this system, a second preheated air intake is obtained in the combustion chamber; a second combustion of the unburned gases is obtained in the first one, obtaining a high performance, great saving in fuel and reduction of polluting emissions.

In the Hydronova-Plus model, the regulation of this air inlet coincides with the regulation of the secondary air and its operation obeys what has been explained for this regulation (see drawings D2.6 and D2.7). The Hydrobronpi models lack double combustion. Models Tecno-Hydrobronpi have not regulation.



D2.6

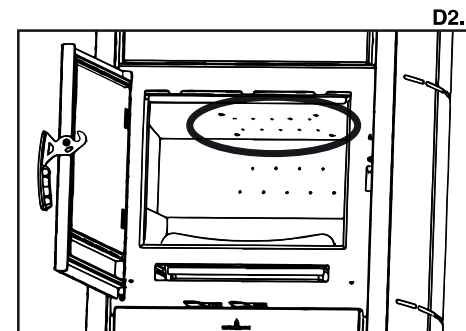


D2.7

Triple combustion

In the Hydronova Plus model the regulation is located below the door and coincides with the regulation of secondary air and double combustion and its operation obeys what has been explained for this regulation. With this regulation open, it is possible to introduce hot oxygen twice into the combustion chamber, thanks to itineraries designed by Bronpi. This combustion process, designed by Bronpi, allows to maximize the calorific power of the wood, reducing harmful emissions and consumption of firewood to a minimum (see drawing D2.8). The Hydrobronpi and Tecno-Hydrobronpi models lack triple combustion.

The combustion is not always stable. In fact, it can be affected by the weather conditions or the outside temperature. This modifies the draw of the equipment. For this reason, all the hydro models have a baffle plate and a draft-diverter valve in Hydrobronpi-E that controls and improves the draw.

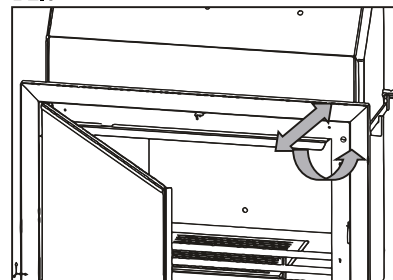


D2.8

Smoke valve

The models Hydrobronpi-E and Tecno-Hydrobronpi are provided with an adjustable smoke valve with automatic opening that regulates the air draft ideally. By using the screw found in the upper right part (when the door is opened) it is possible to position properly the smoke valve (turn right = open the valve, turn left = close the valve). When the door is opened, regardless of its position, the smoke valve opens automatically, avoiding the expulsion of smoke outside (see drawing D2.9). The Hydronova Plus model lacks a smoke valve.

D2.9



Baffle plate

The baffle plate is a fundamental part for the proper operation of the equipment. It must be placed in the right position and the device must not be used without the baffle plate. This would invalidate the warranty.

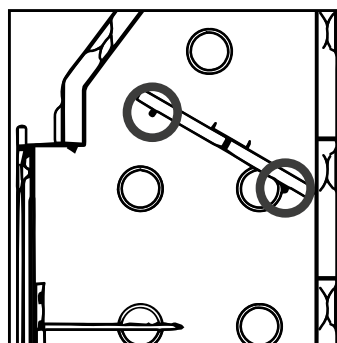


WARNING!

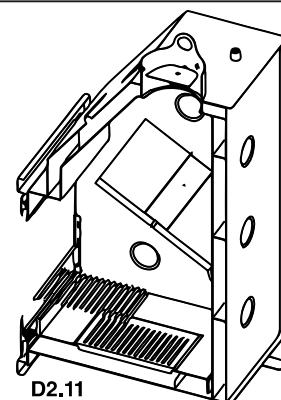
The lack of the baffle plate causes an excessive draw. This causes a fast combustion, excessive wood consumption and the overheating of the equipment.

Due to safety reasons during the transport, the baffle plate is not assembled. You will find it inside the combustion chamber.

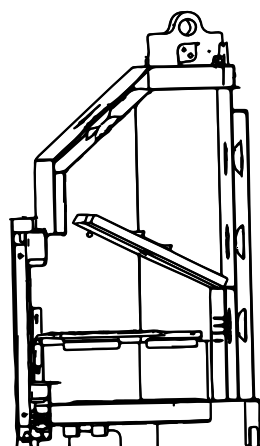
On all Hydrobronpi models, the deflector manufactured in vermiculite (heat refractory material) is supported on four supports that you will find on the sides (2 on each side) of your device, with different height so that the deflector remains as shown (see drawings D2.10 and D2.11).



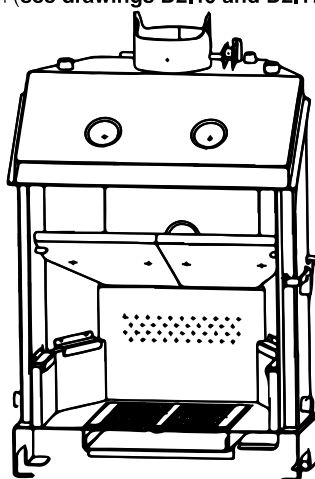
D2.10



D2.11



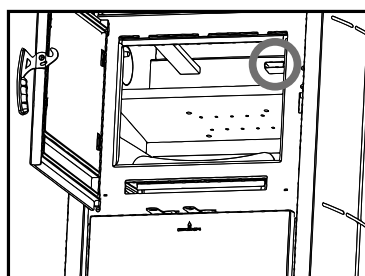
D2.12



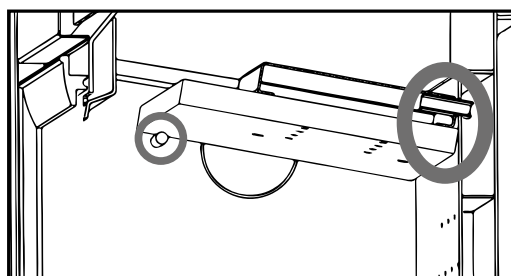
D2.13

On all Tecno-Hydrobronpi models, the deflector manufactured in vermiculite (heat refractory material) is supported on two supports that you will find on the sides and over the rear plate of the same so that the deflector remains as shown (see drawings D2.12 and D2.13).

In the Hydronova Plus model, the deflector also of vermiculite, rests on the left side support located inside the combustion chamber and we must also fit it with the groove through which the double combustion air exits (see drawings D2.14 and D2.15).

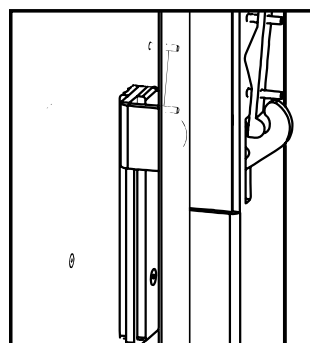


D2.14



D2.15

Door closing



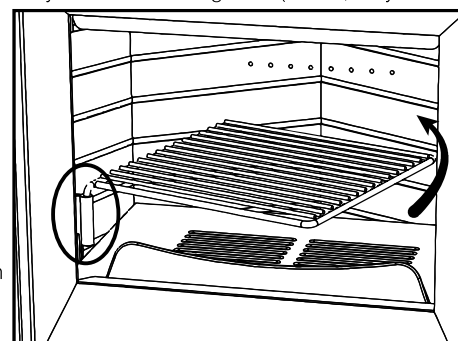
D2.16

regulation

It is advisable to check the state of the door joints because if they are not well integrated (that is, they no longer fit with the front of the device and/or door), they do not ensure the correct functioning of the thermo-stove! You can regulate the adjustment of the door depending on the situation of the joints through the screws placed in the front, by tightening and loosening the screws it is possible to get the correct adjustment of the door. (See drawing D2.16)

Barbecue grill

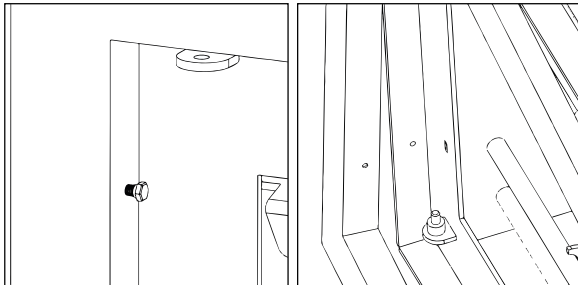
The barbecue grill is an accessory that is incorporated as standard, except in the Hydronova Plus model, which does not have the possibility of placing this grill. It is adjustable in two heights depending on the slot of the side guide we use (see drawing D2.17).



D2.17

In order to avoid the damage of the grill, it is recommended to extract it when it is not being used.

D2.18

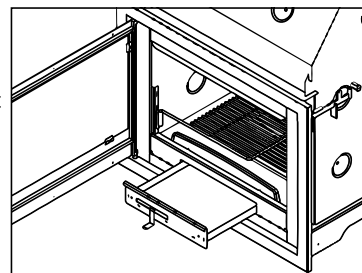


• STANDARD FRAME

The four faces standard frame included in models of the Hydrobronpi-E and Tecno-Hydrobronpi series is removable. To remove it is necessary to unscrew the 4 screws of the frame (2 on each side) (**see drawing D2.18**).

• ASH PAN

In all the models it is located in the lower part of the thermo-stove. You must open the door to remove it, extract it outwards to empty the ashes (**see drawing D2.18**).



D2.19



ATTENTION!! Make sure that the ashes are not hot when you use the rake and glove to avoid burns.

3. INSTALLATION AND SAFETY INSTRUCTIONS

The way of installing the thermo-stove will affect the safety and the proper operation. For this reason, it is recommendable that the installation is carried out by people who are qualified and informed about the compliance with the installation and safety norms. If a thermo-stove is not properly installed it may cause serious damage.

Before the installation, follow the next verifications:

- Make sure that the floor can sustain the weight of the equipment and make a proper isolation in the case that it is made of flammable material (wood) or a material that can be affected by a thermal shock (plaster cast, for example).
- If the equipment is installed on a floor which is not completely refractory or inflammable such as parquet, carpet, etc, it is necessary to replace this part or introduce a fire-resistant base so that it protrudes out the fireplace 30 cm. Example of materials include steel flooring, glass base or any other type of fire-resistant material.
- Make sure that there is proper ventilation in the place where it is installed (air intake) (see section 5 of the manual).
- Avoid the installation in places where there are collective ventilation pipes, hoods with or without extractor, B type gas equipments, heat pumps or equipments that can cause that the draw of the chimney is not good if they are used at the same time.
- Make sure that the smoke duct and the pipes used for the chimney are suitable for the operation of the thermo-stove.

We recommend that you call your fitter in order to check both the chimney as well as the air flow for the combustion.

This product can be installed near the walls as long as they comply with the following requirements:

- The fitter must assure that the wall is completely made of brick masonry, thermo-clay block, concrete, bricks, etc, and that it is coated by materials that can support high temperature. Therefore, for any other type of material (drywall, wood, non-ceramic glass, etc), the fitter must provide sufficient insulation or keep a minimum safety distance to the wall of 80-100 cm. Keep any flammable or heat sensitive materials (furniture, curtains, and clothing) at a minimum distance of about 150cm, including the area in front of the loading door. Measurements below the minimum distances should not be used.

3.1. SAFETY MEASURES

During the installation of the equipment, there are risks to be taken into account, so you should follow the next safety measures:

- Do not place flammable objects above.
- Do not place the insert near combustible walls.
- The thermo-stove should only be used when the ash pan is inserted.
- It is recommended to install carbon monoxide detector (CO) in the room where the equipment is installed.
- Use the glove included for opening and closing the door as well as manipulating the controls as these can be very hot.
- Solid combustion residues (ashes) should be collected in an airtight container and resistant to fire.
- The appliance should never be turned on in the presence of emission of gases or vapours (e.g., linoleum glue, gasoline, etc).
- Do not place nearby flammable materials.



WARNING!!

It is noted that both the thermo-stove and the glass get very hot and should not be touched.

3.2. INTERVENTION IN CASE OF EMERGENCY

If there is fire in the chimney:

- Close the loading door.
- Close primary and secondary air intakes.
- Put the fire out by using carbon dioxide extinguishers (CO₂ powder).
- Request for the immediate intervention of the fire-fighters.

DO NOT PUT THE FIRE OFF WITH WATER.

WARNING:

The manufacturer declines any responsibility for the malfunction of an installation not subject to the requirements of these instructions or the use of additional products not appropriate.

4. CHIMNEY

The chimney is of basic importance in the proper functioning of the thermo-stove and primarily has two functions:

- Evacuate the smoke and the gas safely out of the house.
- Provide sufficient draft to the thermo-stove in order to keep the fire.

Therefore, it is essential that it is made perfectly and that it is subjected to maintenance operations in order to keep it in good condition (many of the claims due to malfunctioning reasons refer exclusively to a bad draft).

The chimney can be made of masonry or metallic pipe compound. It is necessary to comply with the following requirements for the proper operation of the equipment:

- The interior section must be perfectly circular.
- It must be thermally insulated along its entire length in order to prevent condensation (the smoke is liquefied by heat shock) and even more if the installation is outside the house.
- If we use metallic pipe for the installation outside the house, it is compulsory to use thermal insulated pipe. It consist of two concentric pipes and, between them, there is a thermal insulator. Moreover, we will avoid condensation problems.
- It should not have bottlenecks (enlargements or reductions) and it must be vertical with deviations not higher that 45°.
- Do not use horizontal sections.
- If it has been used previously, it must be clean.
- Respect the technical data of the instructions manual.

EN

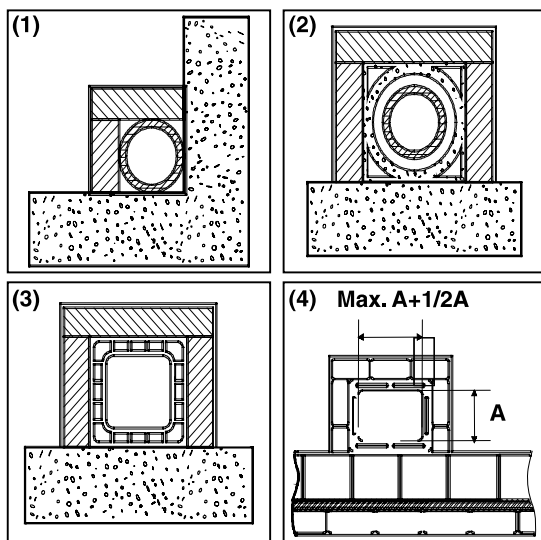
** For the fitter

The optimum draft for the thermo-stove vary between 12+/-2 Pa (1.0–1.4 mm water column). We recommend checking the technical information of the product.

A lower value causes a bad combustion causing carbonic deposits and excessive smoke generation, having leaks and, even worse, an increase of the temperature that could damage the structural components of the insert, while a higher value leads to a too rapid combustion with the heat dispersion through the flue.

Materials that are prohibited for the chimney and, therefore, damage the proper functioning of the equipment are: fibre cement, galvanized steel (at least in the first few meters) and rough and porous interior surfaces. **drawing D4.1** shows some examples of solution.

All thermo-stoves that send smoke to the exterior should have their own chimney.



D4.1

(1) Stainless steel AISI 316 chimney with double insulated chamber and material resistant up to 400°C. **Efficiency 100% optimum.**

(2) Traditional clay chimney with square section and holes. **Efficiency 80% optimum.**

(3) Chimney with refractory material and double insulated chamber and exterior coating made of lightweight concrete. **Efficiency 100% optimum.**

(4) Avoid chimneys with rectangular interior section different to the one of the drawing. **Efficiency 40% poor. Not recommended**

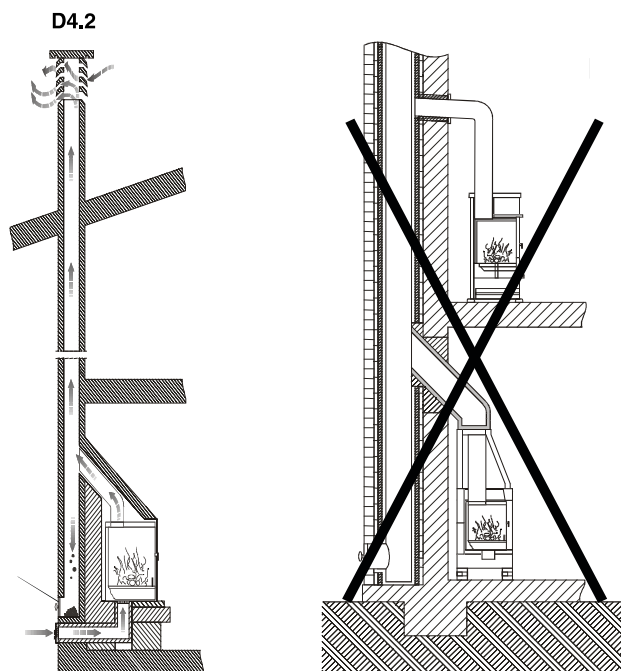


Never use the same chimney for several equipments at the same time (see drawing D4.2).

The minimum diameter must be 4 dm² (for example, 20 x 20 cm) for equipment with a diameter below 200 mm or 6.25 dm² (for example, 25 x 25 cm) for equipments with a diameter higher than 200 mm.

A big section of the chimney (for example, diameter of the pipe superior to the one recommended) may results in a volume too large to be heated and, therefore, it can cause difficulties for the proper operation of the equipment. In order to avoid this problem, it is necessary to enclose the chimney in its entire length. However, a small section (for example, diameter of the pipe inferior to the one recommended) may cause a reduction of the draft.

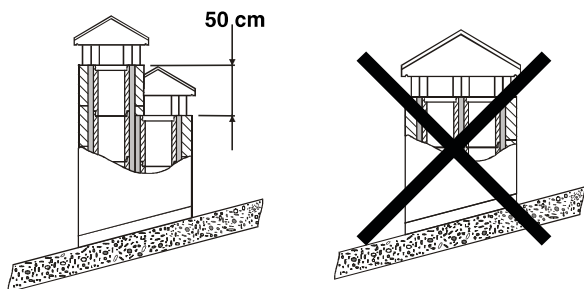
The flue must be away from flammable or combustible materials through an appropriate insulation or an air chamber. In the case that they pass through flammable materials compounds, they should be eliminated. Inside, it is forbidden that there are pipes of installations or air abduction channels. It is also prohibited to do mobile or fixed openings for connecting other different equipments.



D4.2

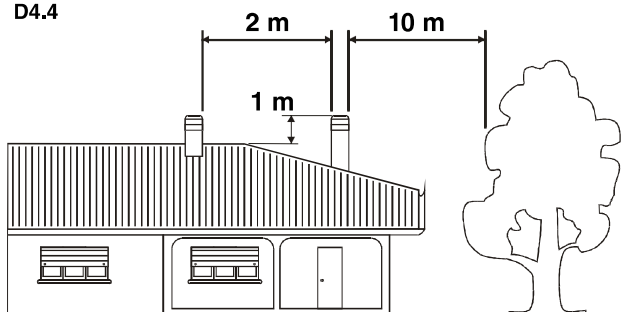
If we use metallic pipes inside a masonry duct, it is essential that they are well insulated and with appropriate materials (insulating fibre coatings) in order to avoid the deterioration of the masonry or the interior coating.

D4.3



(1) In the case that there are chimneys placed side by side, one of them must exceed to the other at least 50 cm in order to avoid pressure movements among them

D4.4



(1) The chimney can't have obstacles around 10 m towards walls or trees. Otherwise, raise it at least 1 m above the obstacle. The chimney must exceed the top of the roof at least 1 m.

4.1. CONNECTION OF THE THERMO-STOVE TO THE CHIMNEY

The connection to the equipment for the smoke evacuation must be done with rigid aluminized steel pipes or stainless steel pipes. It is forbidden the use of flexible metallic pipes or fibre cement pipes because they damage the safety of the connection because they are subject to jerks and breaks, which causes smoke losses.

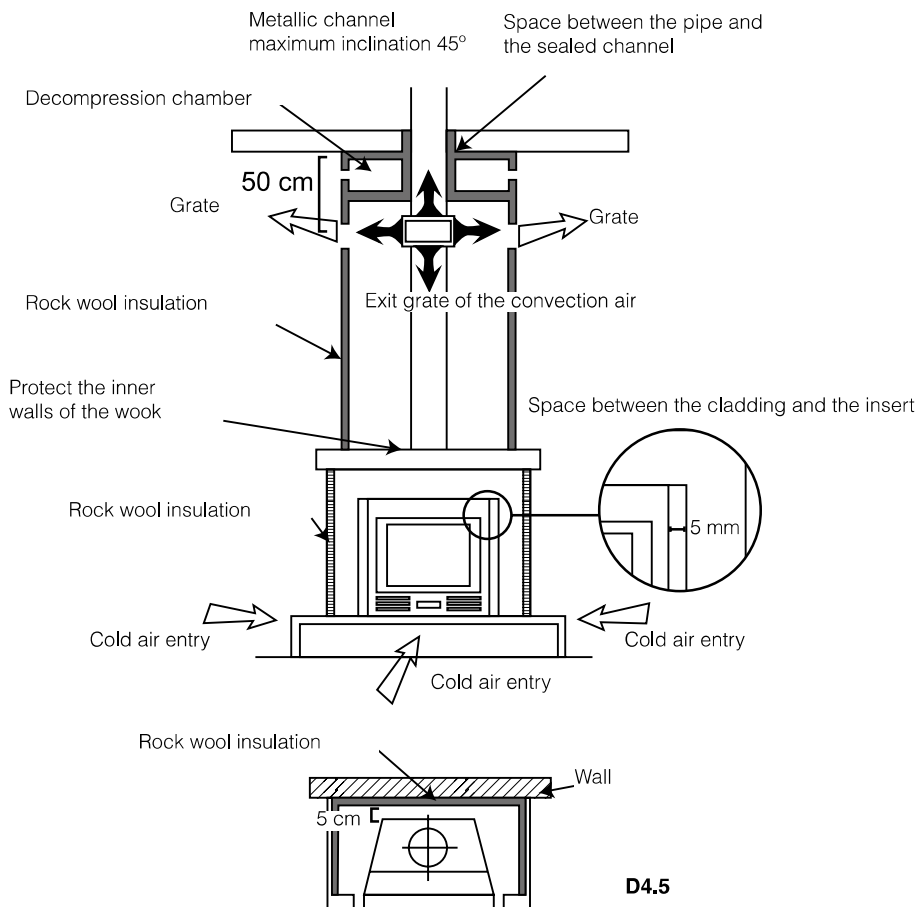
The chimney must be fixed hermetical to the smoke outlet of the thermo-stove. It should be rectilinear and with a material that supports high temperatures (minimum 400°C). It can have a maximum inclination of 45° whereby excessive deposits of condensation produced in the initial stages of ignition and / or excessive soot formation is avoided. Moreover, it avoids the slowing down of the smoke when it comes out.

The lack of sealing of the connection may cause the malfunction of the equipment.

The internal diameter of the connection pipe should correspond to the external diameter of the chimney of the equipment. This service is assured by the pipes complying with DIN DIN 1298.

4.2 COATING AND INSTALLATION OF THE INSERT

When the thermo-stove is installed in a facing or an old chimney it is essential the space among the top and the sides of the equipment and the fireproof material of the hood (which block the base of the chimney) will be constantly ventilated. For this reason, it is necessary to keep a fresh air entry on the bottom of the facing and an exit on the top (hot air exit) by the hood. The function will be improved due to there is a natural convection circuit. Every one of these openings must be free and not blocked with a surface of 3 dm² at least (for example, grille 30 x 10 cm.). (drawing D4.5).



D4.5

4.3. CHIMNEY COWL

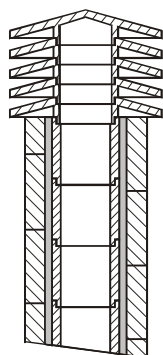
The chimney draft also depends on the chimney cowl.

The chimney cowl should assure the smoke discharge even during windy days, having into account that it must exceed the top of the roof (**drawing D4.6**).

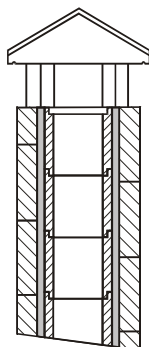
The chimney cowl must comply with the following requirements:

- It must have the same interior section of the chimney.
- It must have a usable exit section that is two times the one of the interior of the chimney.
- It must be constructed so that the rain, snow or any other object do not enter inside.
- It must be easily accessible in order to do servicing and cleaning tasks.

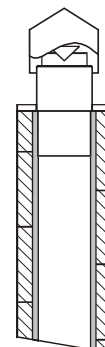
If the chimney cowl is metallic, due to its own design adapted to the diameter of the pipe, the smoke discharge is assured. There are different models of metallic chimney cowl, fixed, anti-return, and rotary or extractor.



(1) Industrial chimney of prefabricated elements that allow a good smoke extraction



(2) Traditional chimney. The proper exit section must be, at least, two times the interior section of the chimney, the best is 2,5 times.



(3) Chimney with interior cone smoke deflector.

D4.6

5. OUTSIDE AIR INTAKE

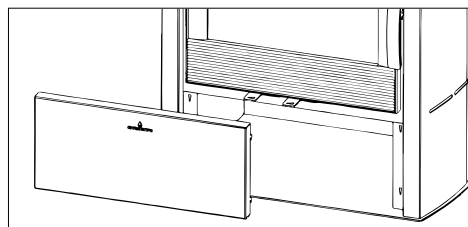
For the proper operation of the insert, it is essential that there is air enough for the combustion and re/oxygenation of the environment where it is installed. In the case of houses built under the requirements of "energy efficiency" with a great degree of air tightness, it is possible that the air intake is not guaranteed *the fitter must assure compliance with the Technical Building Code. This means that the air must be able to move for the combustion through some openings connected to the exterior, even when doors and windows are closed. Moreover, it must comply with the following requirements:

- **It must be placed in so that it cannot be obstructed.**
- **It must be connected to the environment where the equipment is installed and it must be protected by a grate.**
- **The minimum area of the outlet should not be less than 100 cm². Check regulations on this issue.**
- **When the air flow comes through openings that are connected to the exterior of adjacent environments, it is important to avoid air intakes in connection with garages, kitchens, toilets, etc.**

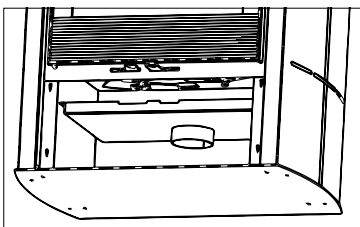
The Hydronova Plus model has the possibility to choose that the primary air inlet comes from an adjacent environment or even from outside the house.

In the case of providing air from the outside or from an adjacent environment, you must purchase the optional kit (KIT-AIR3) of external air intake (hermetic). You simply have to connect this KIT with a 120 mm diameter conduction and the chosen place. Keep in mind that if it is too long or has too many deviations (elbows), it is far from benefiting the air intake, it causes a large loss of load and therefore can cause combustion problems.

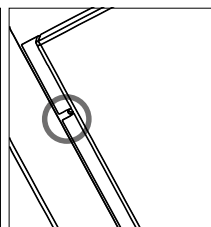
The procedure for installing the optional external air intake kit is as follows.



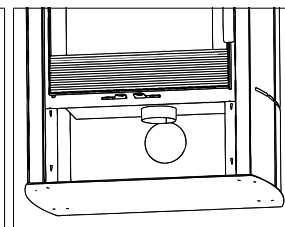
D5.1



D5.2



D5.3



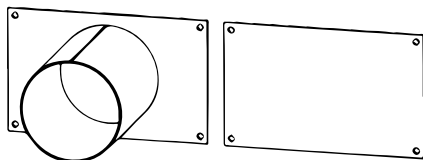
D5.4

- Remove the lower metal piece below the door, this piece is hanging on the front of the stove, just move the piece up and remove it. (**see drawing D5.1**).
- Position the kit under the combustion chamber. You must centre the kit, and screw it with the 4 screws that you will find in the lower part of the combustion chamber (**see drawings D5.2 and D5.3**).
- Break the rear plate on the lower back part of the stove, which is partially perforated, so that it allows you to connect the kit to the outside or the chosen environment, through a conduction of 120 mm of diameter. (**see drawing D5.4**).
- Replace the lower metal part under the door to hide the kit.

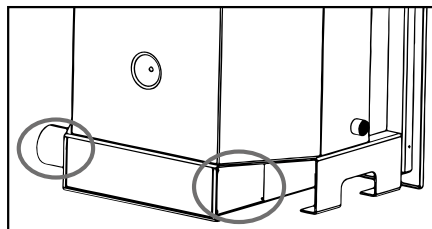
In Tecnohydrobronpi models, you can also choose to receive the primary air intake from an adjacent room or even from outside the house. In the case of supplying air from outside or from an adjacent room, you must purchase the optional kit (KIT-EST) for external air intake (airtight), which consists of two parts (**see drawing D5.4**): a rectangular blind cover and a 100 mm diameter tube. The lower part of the boiler has a steel box with two openings on the sides, for the possible location of the kit. As concern the installation, choose the side on which to place the tube to draw air from the outside and place the blind cover on the opposite side (**see drawing D5.3**). Bear in mind that a too long duct or one with too many deviations (elbows), far from making better the air intake contribution, what it causes is a great loss of charge and, therefore, it can cause combustion problems.



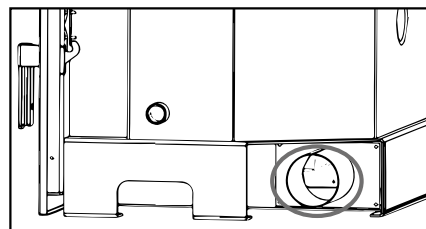
IMPORTANT! Regardless of the installation of the optional kit, please note that the regulation of the primary air intake to the combustion chamber is carried out on the actuator located on the front of the boiler in the ash drawer itself.



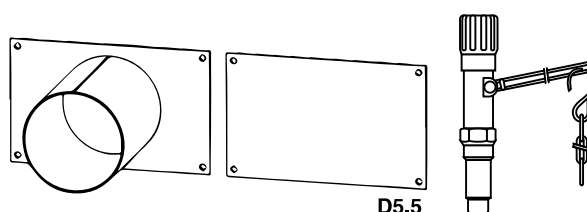
D5.3



D5.4



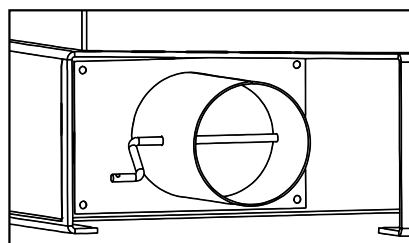
In Tecnohydrobronpi models, you also have the possibility of connecting the external air inlet, which in turn is regulated by a thermostatic draught regulating valve, in order to regulate the temperature of the water in the circuit. In this case, you must purchase the optional kit (KIT-VAL), which consists of three parts (**see drawing D5.5**): a rectangular blind cover, a thermostatic draught regulating valve and a pipe with a 100 mm diameter valve inside. The lower part of the boiler has a steel drawer with two openings on the sides (**see drawing D5.6**), for the possible location of the kit. The thermostatic draught valve must be connected to the 100 mm diameter pipe valve by means of a supplied chain (**see drawing D5.7**).



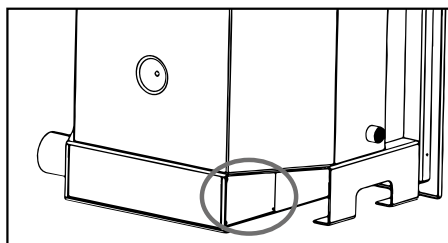
D5.5



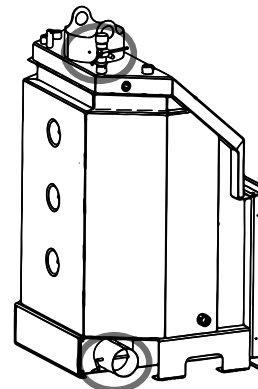
IMPORTANT! You must take into account that on this occasion the regulation of the primary air inlet to the combustion chamber, located on the front of the appliance in the ash drawer itself, must always be open so that the thermostatic valve can regulate the water temperature.



D5.6



D5.7



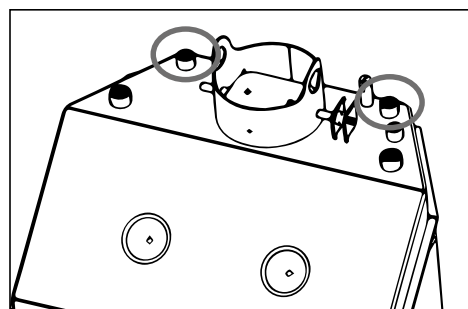
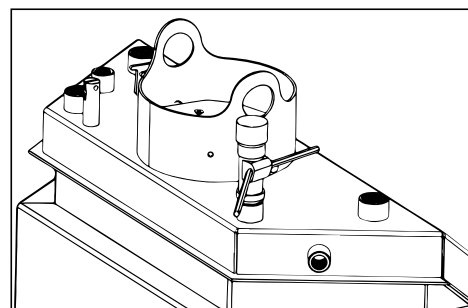
6. THERMOSTATIC VALVE

This thermostatic valve has the following functions:

- It automatically controls the primary air intake, depending on the temperature set for the water.
- It regulates the fire intensity according to the needs of the boiler, by achieving a comfortable room temperature and reducing fuel consumption.
- Regulation Range: 30-90° C
- Maximum water temperature; 120 °C
- Maximum chain load; 100-800 gr.

This valve is not connected, to install it you must follow the following steps:

- Screw the 3/4" conical adaptor to the top of the boiler (3/4" fitting) with the appropriate orientation, it will have to be fixed facing the chosen side (**see drawing D6.1**).
- Remove the plastic tube used for transport and introduce the lever with its chain into the hole from the side without the hole.
- Tighten the screws so that the free part of the lever is above the primary air inlet flap and the lever is as horizontal as possible (as far as the hexagon will allow). Hook the chain into the slot on the lever with the large hook hanging from the chain. Pass the other end of the chain through the anchor point of the trap door and attach the free side of the chain. Check that the chain and the lever can move freely when the hand knob is turned.
- The reference scale shall be the red one



D6.1

Next, you must adjust the valve, to do this:

- Turn on the boiler with the air flap open manually and set the hand knob to 60°C.
- When the water temperature reaches 60°C, allow the water temperature to stabilise for a few minutes and fix the chain on the air inlet flap so that it is open by 1 to 2 mm. Now the regulator is set and the desired temperature can be selected by turning the hand knob. Please note that there are other factors that may vary the temperature of the boiler, for example, the amount of wood and ash inside the boiler or the installation itself.

7. FUELS ALLOWED/NOT ALLOWED

The fuel allowed is wood. Use only dry firewood (max. moisture content 20%, which corresponds to firewood that was cut two years ago). The length of the logs will depend on the model (you can check the technical features of each model in our web site www.bronpi.com).

Compressed wood briquettes must be used carefully in order to avoid harmful overheating of the equipment because they have a high calorific power.

The wood used as fuel must be stored in a dry place. Damp firewood has approximately 60% of water. Therefore, it is not suitable to be burnt because it makes the ignition more difficult due to the fact that the heats is used to vaporize the water. Moreover, the moisture content has also the disadvantage that, when the temperature is lower, the water condense in the thermo-stove and the chimney. This causes the soot accumulation and condensation, with the consequent risk of fire.

Among others, it is not allowed to use> coal, barks and panels, damp firewood or with paint or plastic materials. In these cases, the warranty of the fireplace shall terminate. It is forbidden to use waste and it would damage the equipment.

Paper and cardboard should only be used during the ignition.

Below is an instructions table about the type of firewood and the quality for the combustion.

TYPE OF WOOD	QUALITY
HOLM OAK	OPTIMAL
ASH TREE	VERY GOOD
BIRCH TREE	GOOD
ELM TREE	GOOD
BEECH	GOOD
WILLOW	NOT ENOUGH
FIR TREE	NOT ENOUGH
WILD PINE	INSUFFICIENT
POPLAR	INSUFFICIENT

8. HYDRAULIC CONNECTION

The fitter must anticipate and calculate all the hydraulics elements needed for the correct performance of the installation (circulator, expansion tank, gate valve, anti-condensation valves, thermometers, pressure gauges, sensors, etc.), because only the thermo-stove is provided, not including hydraulic elements for the installation.

The thermo-stove spreads the heat from the thermo-stove to the water heating circuit. Another very important part of the power generated in the thermo-stove is the radiation and convection.

For the normal performance of the model the loading door must be totally closed, the combustion control is made by the controls described previously (see section primary and secondary air intake).

• Recommendations for all models

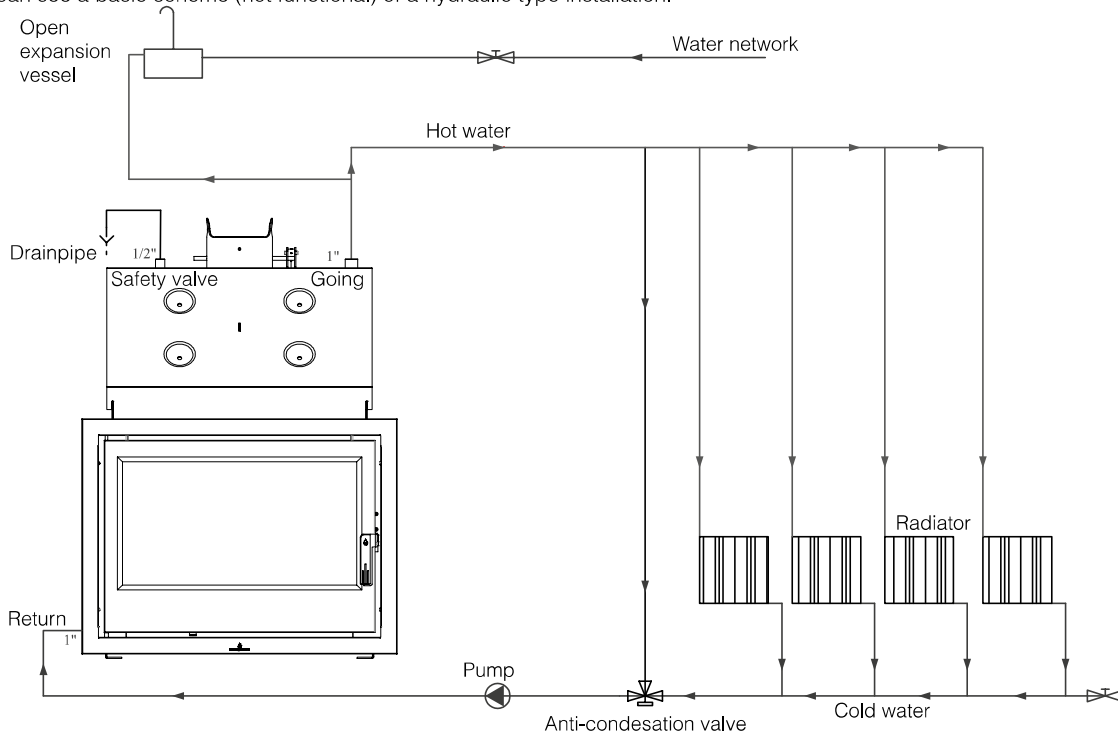
- It is very important that both the connection and the heating circuit are made by qualified staff.
 - The circuit must fulfil all relevant safety measures.
 - The model must never be installed by thermo siphon. It must be installed in a circuit provided with a booster pump.
 - Place all the system elements (circulator, valves, etc.) so that it is easy to access to them for the ordinary and extraordinary maintenance.
 - It is recommended to install the start/stop pump thermostat as closer as possible to the hot water exit of the boiler.
 - It is also recommended that the circuit has other systems to dissipate the heat, a heat leaking radiator, a thermal download valve, a water intake, a cooling thermostatic valve, etc.
 - The circuit must be provided with a water drain valve on the bottom in order to make easier the empty.
 - It is important to calculate the water volume of the installation to scale up the expansion vessel. An expansion vessel in common with another generators is not admitted.
 - Safety valves as well as the others components of the installation must be checked at least once a year by qualified staff.
-  When the thermo-stove is connected to the heating circuit it is necessary to fill up the circuit (**check the technical characteristics to see nominal and maximum pressure**) and test it during 5-6 days, in order to discard possible leaks. When it has been checked by qualified staff, we can cover (in case) the thermo-stove. Bronpi Calefacción is not responsible for charges due to the total or partial demolition and the later rebuilt of the covering, hood, pilaster, etc. as well as paint works by an eventual intervention to replacement or repair of the thermo-stove or its pieces.
- If, by technical reasons, it is not possible to install an open expansion tank it will be responsibility of the fitter to do the installation of the boiler with a closed expansion tank. Also it is compulsory to consider the following minimum requirements:
 1. Be aware do not place closing thermostatic valves in all radiators. It is necessary to leave a minimal part of the installation (radiators) open in order to dissipate the overheating of the thermo-stove.
 2. It is compulsory to place a safety valve tared at 3 bars pressure. The installation must be filled at 1 bar of pressure.
 3. It is recommended to place a thermal download valve (95°C). The drain of this valve must be wide, in a visible place and protected in order to avoid spillings. It is compulsory to avoid every kind of siphon in the pipes that go to the expansion vessel.
 4. The tank load pressure must be the same than the one for filling the installation. The expansion tank volume must be

proportional to the installation water volume.

5. It is recommended to place in the installation a thermostat that stops the circulator when the water on the boiler is under 50°C. This will avoid condensations produced during the ignition of the thermo-stove.
6. When the installation requires it, use de-icing, anticorrosive and anti-crust additive substances.

8.1 MODELS HYDROBRONPI-E AND TECNO-HYDROBRONPI

Below you can see a basic scheme (not functional) of a hydraulic type installation.



• Connection to the heating circuit

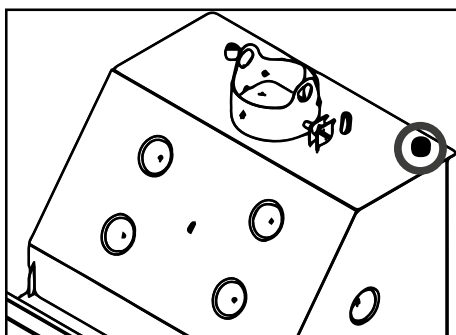
The Hydrobronpi models has a 1" connection at the top right. We will use this connection to connect the heating circuit output (one way) (see drawing D8.1).

In the bottom left, you will find another 1" connection. We will use this to connect the return of the heating circuit (see drawing D8.2).

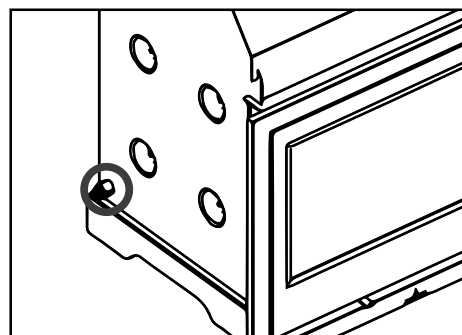
The Tecno-Hydrobronpi models model has two 1" fittings at the top. One of them is used to connect the heating circuit outlet (flow) (see drawing D8.3).

At the bottom, on both the right and left-hand side, you will find two further 1" fittings. We will use one of them to the return of the heating circuit (see drawing D8.4).

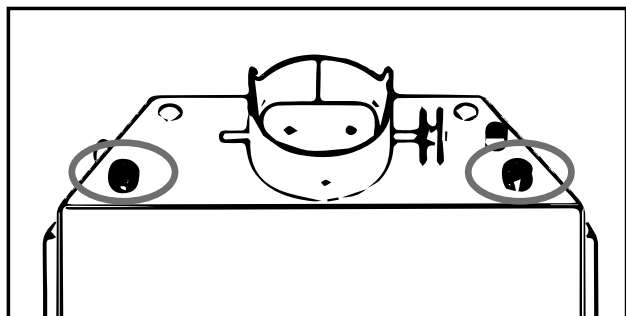
You can use either the right-hand or left-hand fittings (depending on the desired installation). Logically, the two unused fittings (one on the top and one on the bottom) must of course be closed with plugs". Diagonal connection is recommended.



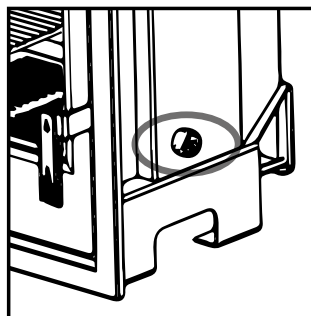
D8.1



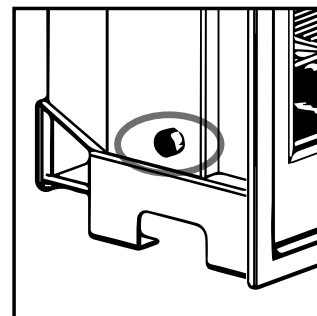
D8.2



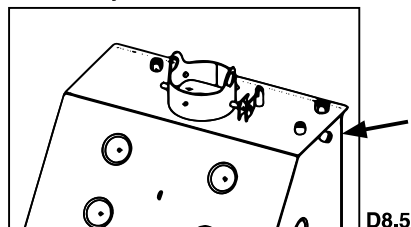
D8.3



D8.4



• Safety elements connection

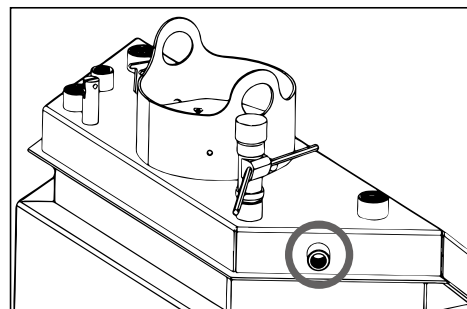


Case connection

D8.5

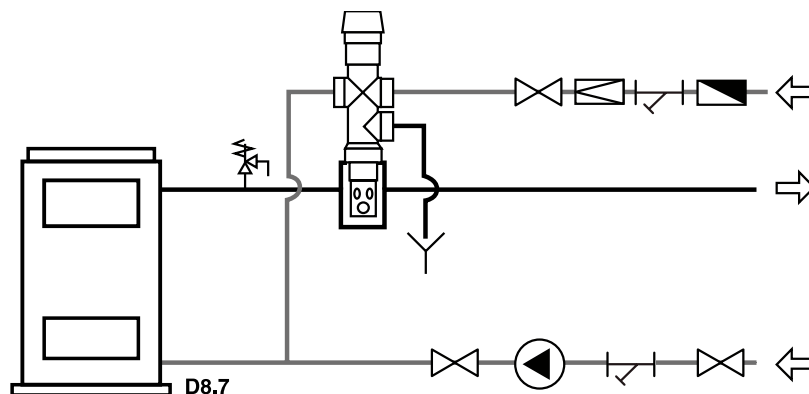
the left (see drawing D8.6):

This boiler has the possibility of connecting a case to introduce a temperature reading probe of the fluid. On Hydrobronpi-E models This connection is located at the top of the right side of the boiler (see drawing D8.5): Instead, on Tecno-Hydrobronpi models the connection is on

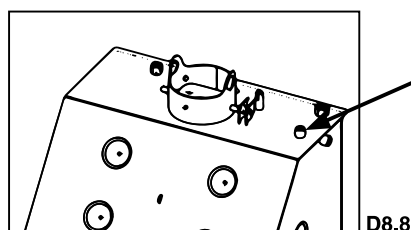


D8.6

It's MANDATORY in all models that the fitter forecast on the hydraulic installation carried out the installation of a cooling thermostatic valve, whose mission is to lower the water temperature, providing cold water from the network, in the event that it rises above 90°C (see drawing D8.7).



D8.7



Safety valve connection

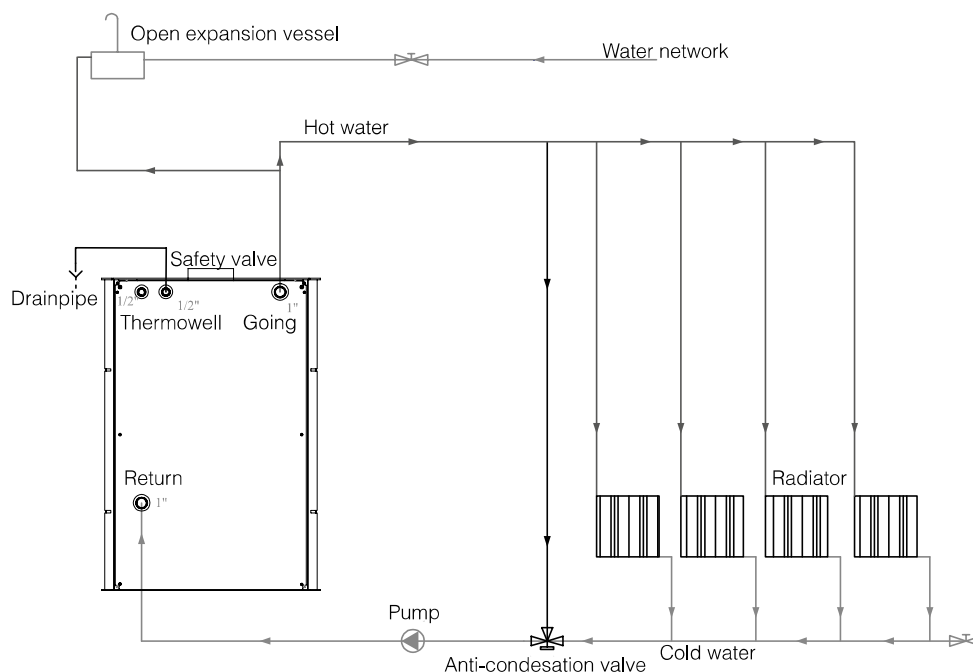
D8.8



In these boilers, the overpressure or safety valve of 3 bar that is supplied with the boiler will be placed in the 1/2" connection, existing in the upper right part of the boiler (see drawing D8.8):

8.2. HYDRONOVA PLUS MODEL

Below there is a basic diagram (not functional) of a typical hydraulic installation.

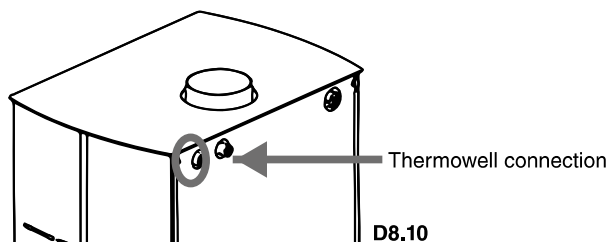


• Connection to the heating circuit

The model has in the rear, in the right upper part (seen from behind), a 1" connector. We will use this connector in order to connect the output of the heating circuit (one way).

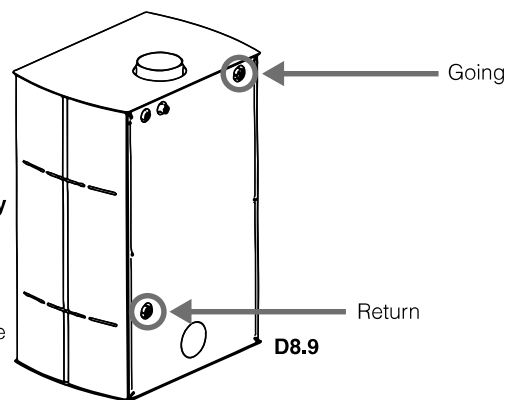
(see drawing D8.9).

At the rear, at the bottom left part, you will find another 1" connector. We will use this to connect the return heating circuit (see drawing D8.9).

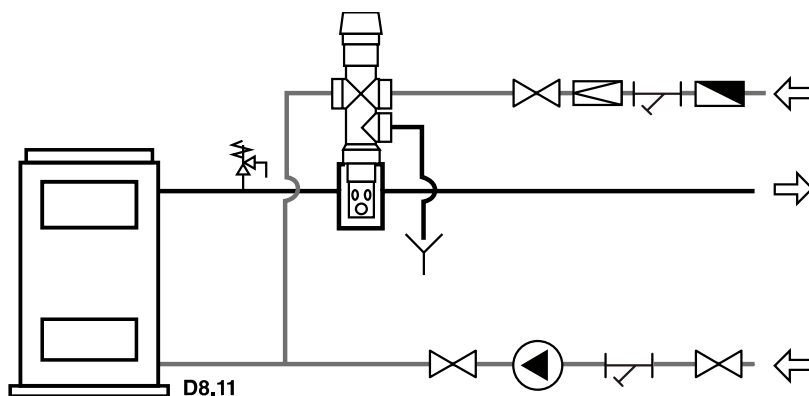
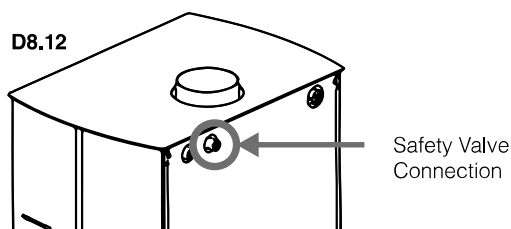


• Connection of safety elements

This thermo-stove has the possibility of connecting a thermowell to introduce a fluid temperature reading sensor. This connection is located at the rear in the upper left part (seen from behind) and corresponds to the connection of 1/2" located to the left (see drawing D8.10):



In this model, it is MANDATORY that the installer must provide in the hydraulic installation, the placement of a thermostatic cooling valve, whose mission is to lower the temperature of the water, providing cold water from the network, if it rises above 90 °C (see drawing D8.11). This valve can be purchased optionally at the Bronpi distributor where you acquired your thermostove (VAL-05).



In this thermo-stove, the 3 bar overpressure or safety valve supplied with it will be placed in the 1/2" connection on the rear, on the top left (seen from behind) and corresponds to the connection on the right (see drawing D8.12):

9. STARTUP (FIRST IGNITIONS)



WARNING!! The thermo-stove must never work without water inside the system. In only one ignition without water the thermo-stove could be extremely damaged.

In order to ignite the fire, we recommend using small wood strips with paper or other means such as fire starters.

It is forbidden to use liquid substances such as alcohol, gasoline, petroleum or similar products.



WARNING!! At the beginning, it is possible that you note smoke or smell which are typically produced when metals are subject to high temperatures or when the paint is still fresh. Never ignite the equipment when there are combustible gases in the environment.

In order to do a proper start-up of the products treated with paints used at high temperatures, it is important to consider the following conditions:

- The materials of the products are not homogenous due to the fact that there are cast-iron parts and steel parts.
- The temperature of the product-s body is not uniform: among different zones there are variable temperatures between 300°C and 500°C.
- During its lifetime, the product is subject to ignitions stoppages even in the same day, as well as intensive use or not use depending on the season.
- The equipment, at the beginning, must be subject to different start-up cycles so that all materials and the paint can complete different elastic expansions.

Therefore, it is important to adopt these measures during the ignition phase:

1. Assure that there is a good air refill in the place where the equipment is installed.
2. During the 4 or 5 first ignitions, do not load excessively the combustion chamber and keep the insert lit during at least 6-10 hours continuously.
3. Then, load it more, respecting the recommended load and try to leave the fireplace lit the maximum time as possible, trying to avoid short ignition periods.
4. During the first ignitions, you should not place any object on the equipment and, in particular, on lacquered surfaces. Lacquered surfaces should not be touched while the equipment is heated.

10. IGNITION AND NORMAL OPERATION

In order to do a good ignition of the thermo-stove, it is necessary to follow the next steps:

- Open the combustion chamber door. Open completely the regulator of the primary air intake and the regulator of the secondary air intake (in models adjustable) (see section 2).
- Insert a fire starter or a paper ball and some wood splinters into the chamber.
- Light the paper or the splinter. Close the door slowly and leave it half-open 10 or 15 minutes while the glass is heated.
- When there is flame enough, open the door slowly in order to avoid smoke returns and load the stove with dry wood logs. Close the door slowly.
- When the logs are lit, use the regulators located on the frontal part (primary and secondary air intake) in order to control the heat emission of the thermo-stove. These regulators should be opened according to the heating needs. The best combustion (with minimum emissions) is reached when the main part of the air for the combustion passes through the secondary air regulator.

In addition to the air regulation for the combustion, the draft also affects the intensity of the combustion and the heating performance of your equipment. A good draft of the fireplace needs a reduced regulation of the air for the combustion, while a lack of draft needs a good regulation of the air for the combustion.

Due to safety reasons, the door must remain closed when the fireplaces is being used. You should only open the door for loading the fuel.

In order to refill the fuel, open the door slowly, open the primary air intake, introduce the wood and close the door. After 3-5 minutes, return to the combustion recommended regulation.

Do not overload the equipment (see maximum fuel load). Too much fuel and too much air for the combustion can cause the overheating and, therefore, damage the equipment. The non-compliance of this rule shall invalidate the warranty.

11. SERVICING AND CARE

The thermo-stoves, the chimney and, in general, the whole installation, must be cleaned completely at least once a year or when necessary.



WARNING!! Maintenance and servicing operations must be done when the insert is cold.

11.1. CLEANING THE CHIMNEY

When the wood is burnt slowly, it produces tars and other organic vapours that combined with the humidity they create the creosote (soot). An excessive accumulation of soot may cause problems in the smoke outlet and even the smoke duct may suffer a fire. A chimney sweep should perform this task and, at the same time, examine the smoke duct. During the cleaning tasks, it is necessary to remove the ash pan, the grille and the smoke baffle plate in order to make easier the fall of the soot.

It is recommended to use anti-soot envelopes during the operation of the insert at least once a week. These envelopes are placed directly on the fire and you can buy them in the same Bronpi distributor where you bought your thermo-stoves.

11.2. CLEANING THE GLASS

IMPORTANT:

Clean the glass only when it is cold in order to avoid that it explodes.

You can use specific products such as vitro ceramic-cleaning products. Do not use aggressive or abrasive products that stain the glass.

You can find Bronpi vitro ceramic-cleaning product in the same Bronpi distributor where you bought your fireplaces.

BREAKAGE OF GLASSES: the glasses, as they are vitro ceramic, resist until 750°C and they are not subject to thermal shocks. The breakage can only be caused by mechanical shocks (crashes or violent closing of the door, etc). Therefore, its replacement is not included in the warranty.

11.3. CLEANING THE ASH

All thermo-stoves have an ash pan for the ash collection.

We recommend emptying the ash pan regularly in order to avoid that it is full completely so that the grille does not overheat. Moreover, we recommend leaving 2-3 cm of ash on the base.

11.4. EXTERNAL CLEANING

Do not clean the external surface of the thermo-stove with water or abrasive products because they may damage the fireplace. Use a feather duster or a rag a bit wet.

12. SEASONAL STOPPAGES

After cleaning the chimney and the insert by removing the ash and other residues, close all doors and regulators.

It is recommended to clean the chimney at least once a year. Meanwhile, check the joints because if they are not in good condition (they do not adjust to the door), they do not guarantee the proper operation of the thermo-stove. For this reason, it would be necessary to change them. You can find this spare part in the same Bronpi distributor where you bought your fireplace.

If there is humidity in the place where the thermo-stove is installed, put absorbent salts inside the equipment. Protect the internal parts with neutral vaseline in order to keep the appearance along the time.

13. TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE REASON	SOLUTION	
The thermo-stove gives off smoke	Inappropriate use of the insert	Open the primary air intake a few minutes and then open the door	
	Smoke duct is cold	Pre-heat the thermo-stove	
	Smoke duct is obstructed	Check the duct and the connector to see if it is obstructed or has excessive soot	PROFES
	Smoke duct is oversized	Install an appropriate diameter	PROFES
	Smoke duct is tight	Install an appropriate diameter	PROFES
	The draw is not enough	Add length to the chimney	PROFES
	Smoke duct with infiltrations	Seal connections between sections	PROFES
	More than one equipment connected to the duct	Disconnect the rest of equipments and seal the entrances	PROFES
Air returns	Inappropriate use of the thermo-stove	Open completely the primary air intake and, later, the door during a few minutes	
	Combustion range too low. Lack of draw	Use the insert with an appropriate range. Increase the primary air intake	
	Excessive ash accumulation	Empty the ash pan frequently	
	The smoke duct does not protrude the top of the roof	Add length to the chimney	PROFES
Combustion out of control	The door is not sealed properly or is open	Close the door or change the sealing cords	PROFES
	Excessive draw	Check the installation or install a draft-diverter valve	PROFES
	Refractory sealing plaster is damaged	Check the joints and use refractory putty	PROFES
	Smoke duct is oversized	Install an appropriate diameter	PROFES
	Strong winds	Install an appropriate chimney cowl	PROFES
	Green or wet wood with bad quality	Use dry wood. Air dried during at least 1 year	
Insufficient heat	Green or wet wood with bad quality	Use dry wood. Air dried during at least 2 years	
	Lack of primary air	Increase the primary air intake	
	Smoke duct with air infiltrations	Use an insulated system of chimney	
	Masonry exterior of the chimney is cold	Insulate thermally the chimney	PROFES
	Heat loss in the house	Seal windows, openings, etc	

** The note PROFES means that the task must be done by a professional.