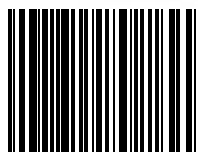


MCZ



HYDROTHERM 80 - 80E - 70 - 70V - 70 DX/SX



**INSTALLATION AND USE
MANUAL**



8901158500

	
<p>MCZ GROUP S.p.A. - Via La Croce 8, I - 33074 Vigonovo di Fontanafredda (PN) Italy.</p>	
	
<p>EN 13229:2001, A1:2003, A2:2004. AC:2006.</p>	
<p>HYDROTHERM 80</p>	<p>HYDROTHERM 80E</p>
<p>Potencia nominal: Potência nominal: Nominal heat output: Brændværdi:</p>	<p>26,2 kw (15,2 kW H₂O)</p>
<p>Emisión CO (al 13% de O₂): Emissão CO (13% de O₂): CO emission (at 13% O₂) CO emission (ved 13% O₂):</p>	<p>0,61%</p>
<p>Eficiencia: Eficiência: Efficiency: Virkningsgrad:</p>	<p>77,1%</p>
<p>Temperadura humos: Tempretura dos fumos: Flue gas temperature: Røggastemperatur:</p>	<p>333°C</p>
<p>Distancias de seguridad (retro): Distancia de segurança (trasiera): Safety clarence distance (back): Sikkerhedsafstand (bag):</p>	<p>180 mm</p>
<p>Distancias de seguridad (laterales): Distancia de segurança (lateral): Safety clarence distance (side): Sikkerhedsafstand (side):</p>	<p>180 mm</p>
<p>Presión máxima de agua: Pressão máxima da água: Permissible max. water pressure: Max. vandtryk:</p>	<p>1,5 bar (150 kPa)</p>
<p>Producto conforme a la instalación de tubos múltiples. Produto conforme para instalação em condutas multiplas. Appliance suitable for installation in a shared flue. Apparatet kan bruges i en røggassamleledning.</p>	
<p>Aparato de funcionamiento intermitente. Aparelho com funcionamento intermitente. Intermittently operating unit. Apparat med intermitterende funktion.</p>	
<p>Utilizar sólo con combustibles adaptados. Utilizar somente combustivel adequado. Use only recommended fuels. Anvend kun anbefalede brændsler.</p>	
<p>Leer y seguir las instrucciones! Leia atentamente e siga as instruções! Read and follow the operating instructions! Følg fabrikantens brugervejledning!</p>	
<p>COD: 890 1028600</p>	

MCZ GROUP S.p.A. - Via La Croce 8, I - 33074 Vigonovo di Fontanafredda (PN) Italy.	
EN 13229:2001, A1:2003, A2:2004. AC:2006.	
HYDROTHERM 70	
HYDROTHERM 70DX	
HYDROTHERM 70SX	
Potencia nominal: Potência nominal: Nominal heat output: Brændværdi:	21,2 kw (13,0 kW H ₂ O)
Emisión CO (al 13% de O ₂): Emissão CO (13% de O ₂): CO emission (at 13% O ₂) CO emission (ved 13% O ₂):	0,87%
Eficiencia: Eficiência: Efficiency: Virkningsgrad:	75,2%
Temperaturadur humos: Tempretura dos fumos: Flue gas temperature: Røggastemperatur:	310°C
Distancias de seguridad (retro): Distancia de segurança (trasiera): Safety clearance distance (back): Sikkerhedsafstand (bag):	150 mm
Distancias de seguridad (laterales): Distancia de segurança (lateral): Safety clearance distance (side): Sikkerhedsafstand (side):	150 mm
Presión máxima de agua: Pressão máxima da água: Permissible max. water pressure: Max. vandtryk:	1,5 bar (150 kPa)
Producto conforme a la instalación de tubos múltiples. Produto conforme para instalação em condutas multiplas. Appliance suitable for installation in a shared flue. Apparatet kan bruges i en røggassamleledning.	
Aparato de funcionamiento intermitente. Aparelho com funcionamento intermitente. Intermittently operating unit. Apparat med intermitterende funktion.	
Utilizar sólo con combustibles adaptados. Utilizar somente combustível adequado. Use only recommended fuels. Anvend kun anbefalede brændsler.	
Leer y seguir las instrucciones! Leia atentamente e siga as instruções! Read and follow the operating instructions! Følg fabrikantens brugervejledning!	
<small>COD: 8901028400</small>	

MCZ GROUP S.p.A. - Via La Croce 8, I - 33074 Vigonovo di Fontanafredda (PN) Italy.	
EN 13229:2001, A1:2003, A2:2004. AC:2006.	
HYDROTHERM 70V	
Potencia nominal: Potência nominal: Nominal heat output: Brændværdi:	21,2 kw (13,0 kW H ₂ O)
Emisión CO (al 13% de O ₂): Emissão CO (13% de O ₂): CO emission (at 13% O ₂) CO emission (ved 13% O ₂):	0,87%
Eficiencia: Eficiência: Efficiency: Virkningsgrad:	75,2%
Temperaturadur humos: Tempretura dos fumos: Flue gas temperature: Røggastemperatur:	310°C
Distancias de seguridad (retro): Distancia de segurança (trasiera): Safety clearance distance (back): Sikkerhedsafstand (bag):	150 mm
Distancias de seguridad (laterales): Distancia de segurança (lateral): Safety clearance distance (side): Sikkerhedsafstand (side):	150 mm
Presión máxima de agua: Pressão máxima da água: Permissible max. water pressure: Max. vandtryk:	2,0 bar (200 kPa)
Producto conforme a la instalación de tubos múltiples. Produto conforme para instalação em condutas multiplas. Appliance suitable for installation in a shared flue. Apparatet kan bruges i en røggassamleledning.	
Aparato de funcionamiento intermitente. Aparelho com funcionamento intermitente. Intermittently operating unit. Apparat med intermitterende funktion.	
Utilizar sólo con combustibles adaptados. Utilizar somente combustível adequado. Use only recommended fuels. Anvend kun anbefalede brændsler.	
Leer y seguir las instrucciones! Leia atentamente e siga as instruções! Read and follow the operating instructions! Følg fabrikantens brugervejledning!	
<small>COD: 8901028500</small>	

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INTRODUCTION

Dear customer,

Thank you for choosing an MCZ product, specifically a fireplace stove of the Forma line.

We are sure that, with use, you will appreciate the quality of an attentively designed and tested product. Our goal is to combine technology with easy use and, above all, safety.

For best fireplace stove operations and to fully enjoy the heat and sense of well being it will spread throughout your home, we suggest you carefully read this booklet before use. Please contact your dealer for full assistance in resolving any doubts or problems.

Congratulations on your choice and remember, the fireplace stove **MUST NEVER** be used by children who should always be kept at a safe distance!

Revisions to the publication

In order to improve the product, the Manufacturer reserves the right to modify and update this publication without prior notice.

Reproduction, even partial, of this manual without the Manufacturer's authorisation is prohibited.



Manual preservation

- Please take care of this manual and keep it in a place that can be quickly and easily reached.
- If this manual should be lost or destroyed, or if it is in poor condition, ask for a copy from your retailer or directly from the manufacturer, providing product identification data.

How to read the manual

- An essential item or one that requires specific attention is published in "**bold**".
- "*Italics*" are used for any additional clarification.
- **NOTE:** the "NOTE" provides the reader with additional information on the subject.

These symbols signal specific messages in this booklet

	<p>WARNING:</p> <p>This warning symbol found in various points in this manual indicates that the user should carefully read and understand the message to which it refers since neglect to follow these instructions could cause serious fireplace stove damage or injury to the user.</p>
	<p>INFORMATION:</p> <p>This symbol intends to emphasise important information for good fireplace stove operations. Failure to observe these instructions could jeopardise product use and operations may be unsatisfactory</p>

1. WARNINGS AND WARRANTY CONDITIONS

1.1. SAFETY WARNINGS

- **Installation, electrical connection, functional check and maintenance of this appliance must only be performed by qualified or authorised personnel.**
- **Install the closed fireplace in compliance with the applicable regulations in force in the place, region or country.**
- **This appliance must not be used by anyone (including children) with limited physical, sensory or mental skills or with little experience and knowledge, unless they are supervised or have been instructed to use the device by the person in charge of its safety.**
- **Only use the fuel recommended by MCZ. The appliance must not be used as an incinerator. The use of liquid fuel is strictly forbidden.**
- For correct use of the fireplace stove and accessories, and to prevent accidents, always follow the instructions in this booklet.
- Before beginning any operation, anyone who uses the stove must read and understand the entire contents of this instruction booklet.
- The fireplace stove must be used only for its intended purpose. Any other use is considered improper and therefore hazardous.
- Check the conditions of the surface that will support the weight of the stove. If it is made of flammable material such as wood, carpet, or plastic, provide suitable insulation.
- Avoid installation in rooms with B type gas devices, hoods with or without exhaust, heat pumps, collective ventilation conduits.
- Do not install several flue pipes in one room, and avoid having a stairwell in the vicinity. Check that in adjacent connected room there are not any units whose simultaneous use would create negative pressure in one of the two rooms.
- The user is fully liable for improper product use, releasing MCZ from any civil or penal liabilities.
- Any tampering with the fireplace stove, or use of non-original spare parts, may be hazardous to the user and releases MCZ from any civil or penal liability.
- Parts of the surfaces of the fireplace stove are very hot (door, handle, glass). Therefore, avoid direct contact with these parts unless wearing protective clothing or specific means such as, for

example, heat protective gloves or "cold" activation devices.

- Incorrect installation or poor maintenance (not compliant with the provisions of this manual) may cause damages to persons, animals or property. MCZ is not civilly or criminally liable in these cases.

1.2. OPERATING WARNINGS

- Turn off the fireplaces stove in the event of faults or poor operations.
- Never place flammable materials closer than 150 cm to the fireplace stove.
- If the chimney flue draught is poor (due to bad weather or improper installation), start the fire decisively while keeping the door slightly ajar. When you close the door, keep the air register completely open. Use small pieces of dry wood. If combustion problems continue, please contact a specialized technician.
- Install the fireplace stove in a location which is suitable for fire fighting, and equipped with all services such as air, water and electricity supply and smoke discharge.
- Do not light the fire with flammable materials.
- To clean the appliance's chimney, remove the smoke deflector. To remove it correctly, lift the front and at the same time slide it forward in order to free it from rear support.

INFORMATION:

- For any problem, please contact your dealer or MCZ qualified and authorised personnel and always request original spare parts for repairs.
- Check and periodically clean the smoke exhaust stack as foreseen by current regulations in the country of installation.
- If there is a fire in the flue pipe, keep the door of the fireplace stove and the combustion air register closed at all times. Request assistance from the competent authorities.
- Carefully conserve the instruction booklet. It must remain with the fireplace stove for its entire life cycle. If the stove is sold or transferred to another user, make sure the manual accompanies the product.
- If lost, please request a copy from your dealer or from MCZ.

1.3. WARRANTY CONDITIONS

MCZ guarantees the product, **except for the elements subject to normal wear** listed below, for

two years from the date of purchase proven by a document that indicates the dealer's name and date of sale, if the completed warranty certificate was returned within 8 days and if the product was installed and inspected by a specialised installation technician and according to the detailed instructions indicated in the instruction manual supplied with the product.

The warranty includes the free replacement or repair of **parts recognised as factory defective**.

1.3.1. Restrictions

The above guarantee does not cover components relating to electrical parts, on which the guarantee period is 1 year from the purchase of the product, documented as specified above. The warranty does not cover parts subject to normal wear such as: **gaskets, glass, and all removable fire box parts**.

Replaced parts will be guaranteed for the remaining warranty period from the date of product purchase.



Specifically, glass is guaranteed from the moment the MCZ installation technician certifies its integrity when installation is completed.

1.3.2. Exclusions

The warranty does not cover any part that may be defective due to negligence or careless use, incorrect maintenance, installation non compliant with that specified by MCZ (see relevant chapters in this manual).

MCZ refuses to accept any responsibility for any damage which may be caused, directly or indirectly, by persons, animals or things as a result of the failure to observe all the provisions set forth in the instruction booklet, especially those concerning warnings on the subject of installation, use and maintenance of the appliance.

In the event of product inefficiency, please contact your dealer and/or area importer.

Damages caused by transport and handling are not covered by the warranty.

Exclusively refer to the supplied manual for product installation and use.

The warranty is null and void in the event of damage due to tampering, weather, natural calamities, lightning, fire, defective electrical and hydraulic systems and the lack or incorrect maintenance as per the manufacturer's instructions.



SERVICE REQUESTS

Service requests must be addressed to the dealer who shall forward the request to MCZ technical assistance.



MCZ is not liable in the event the product and any other accessory is improperly used or modified without authorisation.

Only original MCZ spare parts must be used for all replacements.

1.4. IMPORTANT INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT IN ACCORDANCE WITH EC DIRECTIVE 2002/96/EC



At the end of its working life, the product must not be disposed of as urban waste.

It must be taken to a special local authority differentiated waste collection centre or to a dealer providing this service.

Disposing of a appliance separately avoids possible negative consequences for the environment and health deriving from inappropriate disposal and enables the constituent materials to be recovered to obtain significant savings in energy and resources.

As a reminder of the need to dispose of appliances separately, the product is marked with a crossed-out wheeled dustbin.

2. INSTALLATION IN ACCORDANCE WITH UNI 10683

2.1. OPERATING AREA

For good operations and good heat distribution, the fireplace stove should be positioned in a place where the air required for combustion can flow (at least 60 m³/h must be available) according to installation standards and current regulations in the country of installation.

The room volume must not be less than 60 m³.

Air must enter through permanent apertures on the walls (near the fireplace stove) that open outdoors with a minimum section of 360 cm².

These apertures (air vents) must be made so as not to be obstructed in any way.

Air can also be taken from adjacent rooms as long as these are equipped with outdoor air vents and not bedrooms or bathrooms or rooms where fire hazards do not exist such as garages, wood sheds, flammable material warehouses, strictly observing the provisions of current regulations.



- **Fireplace stoves may not be installed in bedrooms, bathrooms and where another heating device is installed without autonomous air flow (fireplace, stove, etc.).**
- **Placing the fireplace stove in explosive environments is prohibited.**
- **The floor of the room where the fireplace stove is to be installed must be strong enough to support its weight.**
- **In the event of wood floors, install a protective covering in accordance with current regulations in the country of installation.**
- **If walls are not flammable, install the fireplace stove at least 5 cm from the walls.**

2.2. PRECAUTIONS

The fireplace stove must be installed in a suitable surface that permits routine opening and maintenance operations.

The room must be:

- suitable for room operating conditions
- equipped with power supply 230V 50 Hz
- equipped with an adequate smoke exhaust system
- equipped with outdoor ventilation
- provided with an earth connection complying with CEI 64-8


IMPORTANT!

- The fireplace stove must be installed and assembled by qualified personnel.
- The fireplace stove must be connected to a flue pipe or other vertical smoke stack that can discharge smoke at the highest point of the house.
- The fireplace stove must be connected to a flue pipe or an internal or external vertical duct conforming to current standards UNI 7129 - 7131 9615.
- Smoke is generated from burning wood and, therefore, may dirty adjacent or nearby walls.
- Before positioning the fireplace stove, you must make a hole for the intake of external air.

2.3. CONNECTION TO THE EXTERNAL AIR INTAKE

The room where the stove is installed must have at least as much air as requested by normal combustion of the equipment and by room ventilation. This may take place through permanent apertures in the room walls that lead directly outdoors or ventilated rooms according to UNI 10683.

For this purpose, drill a hole with minimum 360 cm² free section near the fireplace stove (22 cm diameter or a 20x18cm rectangle), protected by an indoor and outdoor grille.

The air intake must also:

- directly communicate with the installation room
- be protected by a grill, made of metallic anti-insect mesh or a suitable protection as long as it does not reduce the minimum section.
- be installed so as to avoid obstruction
- for ducts, up to 3.5 linear metres, increase the section by about 5% while increased by 15% for larger measurements.

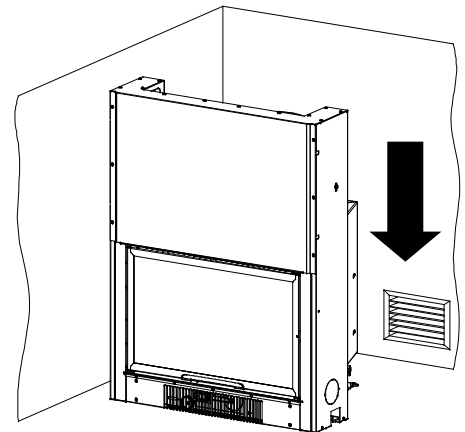


Remember that the ventilation grills always have a cm² useful section on one side. When selecting the grill and hole dimension, make sure the useful grill section is greater than or equal to the section required by MCZ for product operations.

Connecting the air outlet directly to the fireplace stove is not mandatory but the above mentioned section must guarantee about 50 m³/h of air. See standard UNI 10683.


IMPORTANT!

Air flow may also be obtained from a room adjacent to the installation room as long as this flow is free through permanent apertures that directly communicate with the outdoors; avoid air outlets connecting with heating units, garages, kitchens or bathrooms.



2.4. CONNECTION TO THE FLUE PIPE

The connection to the flue pipe is a very important element. The connection must be made with a great deal of care; in the event of erroneous or anomalous construction, it is extremely difficult to remedy without damaging the hood liner. In addition, the connection is made in a part of the stove where temperatures are very high, and for this reason it is important to use materials that are capable of resisting heat and also the acidity of the fumes produced by combustion.

Before beginning work, please note the following:

- The connecting pipe must have a maximum slope of 45 degrees. This is to avoid excessive deposit of condensation produced in the initial phases of lighting the fireplace stove, and/or the excessive accumulation of creosote. It also keeps the release of smoke from being slowed down.
- **The unions must be made of metal and suitable for the specific operating conditions of the product and marked EC (EN1856-2). The use of flexible and extending metal pipes is not permitted.**
- The components making up the connecting pipe must be perfectly sealed.
- The joint to the flue pipe must not be too long (to avoid obstructions), nor too short (to avoid smoke leakage).

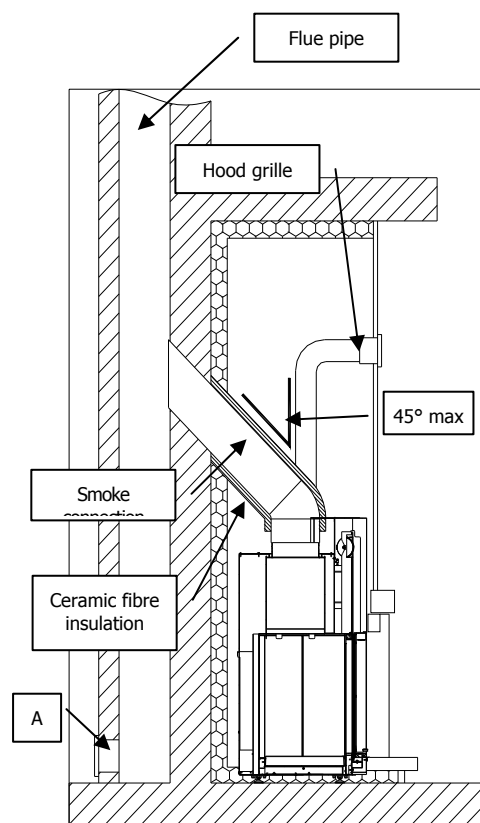


If metal connecting pipes are used, they must be insulated with suitable material such as ceramic fibre matting, to avoid deterioration of the masonry and of the decorative hood liner.



IMPORTANT!

Any increase in the section of the connecting pipe must start immediately above the hood of the fireplace and not along the flue pipe section.



Example of fireplace stove connection in flue chimney

Illustration of a correctly constructed chimney flue with a chamber and sealed door (A) for solid combustion product collection and discharge at the foot of the external ascending segment.

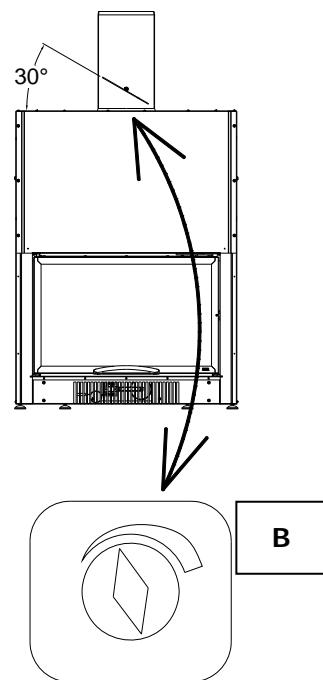
2.4.1. Smoke valve (optional)

In case of excessive draught in the flue chimney, combustion may become unbalanced and consequently less efficient. In this case, in order to improve combustion efficiency, it is advisable to install the smoke valve (optional) directly at the output of the fireplace stove. If you wish to position the control knob (B in the figure) at the front of the product, it is necessary to place a 25 cm extension of the smoke duct between the fireplace stove and the valve.

2.5. FLUE PIPE

The flue pipe is a **fundamental element** in discharging smoke and therefore must have the following requisites:

- It must be waterproof and thermally insulated.
- It must be made with heat resistant materials, resistant to combustion products and any condensation.
- have a vertical arrangement with deviations from the axis of no more than 45° and without kinks.
- must be suitable for the specific operating conditions of the product and marked EC (EN1856-1, EN1443).



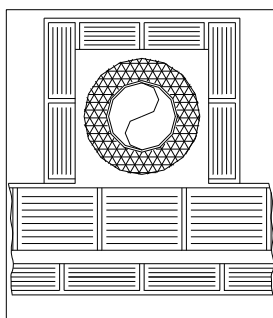
Smoke valve

- must be suitably sized to accommodate the draught/smoke disposal requirements necessary for the correct functioning of the product (EN13384-1).
- It must preferably have a circular interior section.
- If pre-existing and previously used, it must be cleaned.



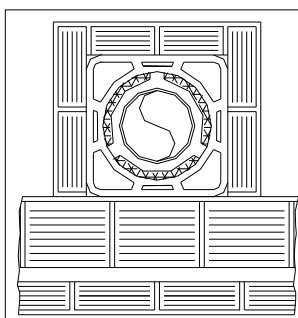
The flue pipe is of primary importance for the correct functioning and safety of your fireplace stove.

2.5.1. Examples of flue pipes



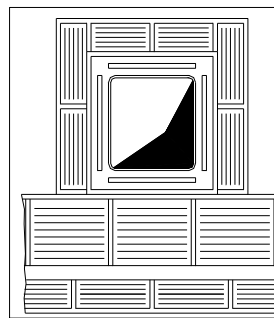
Stainless steel 316 flue pipe with dual chamber insulated with ceramic wool or equivalent resistant to 400°C.

EXCELLENT



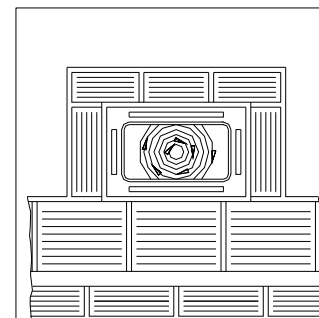
Flue pipe in refractory brick with insulated double wall and external coat of cement mix lightened with honeycomb material such as clay.

GOOD



Traditional square section clay flue pipe with insulating hollow inserts.

GOOD



Avoid flue pipes with internal rectangular sections whose larger side is double the smaller such as 20x40 or 15x30.

AVERAGE

Square or rectangular section flue pipes must have rounded internal corners with radius not less than 20mm. For the rectangular section, the ratio between internal dimensions must be ≤ 1.5 .

The sections/lengths of the flue pipe shown in the technical data table are guidelines for correct installation. Any alternative configurations must be suitably sized in accordance with EN13384-1.

The smoke duct should be equipped with a solid material collection chamber at the mouth of the smoke duct to be easily opened with an airtight door.



IMPORTANT !

In the event of doubt on your chimney flue operations or that its dimensions are different from those recommended, we highly suggest an authorised MCZ technician inspect and measure chimney flue performance (micro-gauge measurements)

MCZ s.p.a. shall not be held liable for poor operation of the fireplace stove that is due to a flue pipe of improper size or installation that does not comply with provided requirements.

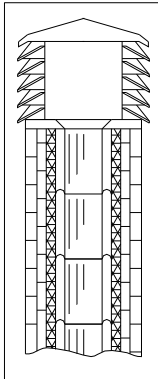
2.6. COWL

If underestimated, it is a severe impediment to correct "chimney system" operations.

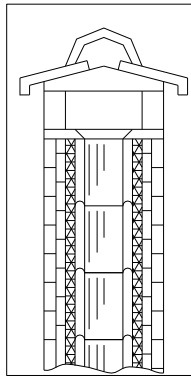
Flue pipe draught also depends on its cowl.

Therefore, if hand made, its four exhaust sections must correspond to **more than twice the internal section of the flue pipe.**

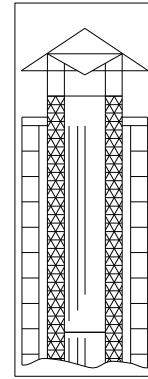
Having to exceed the peak of the roof, the cowl will be exposed to wind, therefore an industrial type is recommended.



An industrial cowl, with prefabricated sections fitting together, allows optimal disposal of the flue gases.



A traditional handmade cowl. The right exhaust section must be at least twice the internal section of the flue pipe, 2.5 times is ideal.



Steel cowl for flue pipe with internal smoke deflector cone.

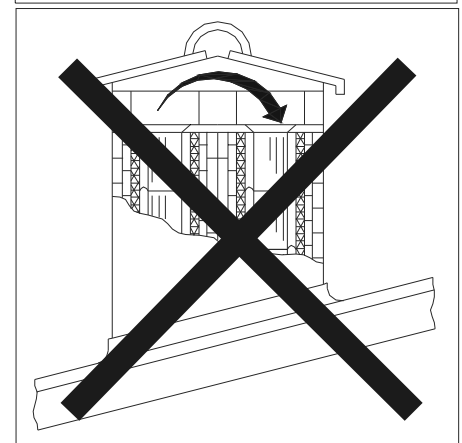
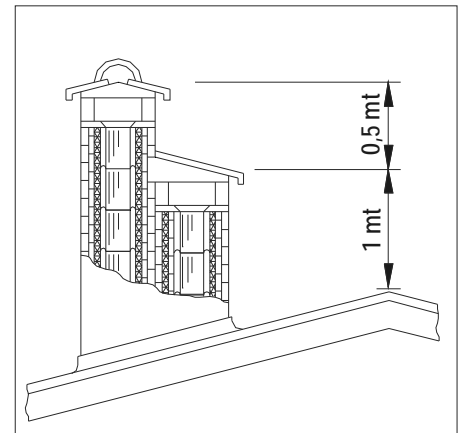
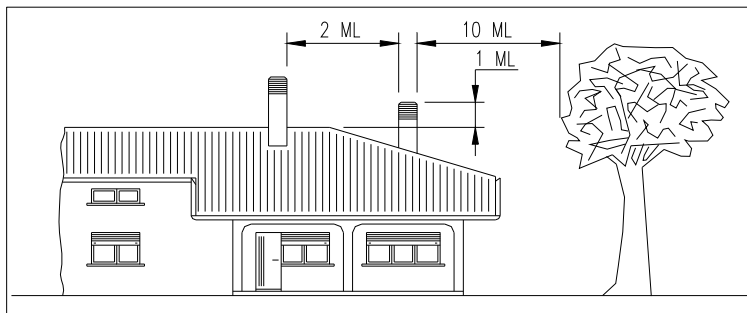
The cowl must meet the following requisites:

- It must have an internal section equal to that of the chimney.
- It must have a useful output section not less than double that of the internal section of the flue pipe.
- It must be built to prevent rain, snow and any foreign objects from getting into the flue pipe.
- They must be installed to guarantee adequate smoke dispersion and out of the reflux area where negative pressure forms.



For paired flue pipes, the cowl for solid combustion and the one for the upper floor must be at least 50cm higher than the other to avoid pressure transfers between paired flues.

The cowl must not have obstacles within 10 m such as walls, roof slopes and trees. Otherwise, raise it at least 1 m over the obstacle and, in the event of other nearby cowls, keep them at least 2 m away. In any case, the cowl must exceed the peak of the roof by at least 1m.



3. DIMENSIONS AND TECHNICAL SPECIFICATIONS

HYDRO THERM 80	Technical specifications	
	Fuel type	Wood
	Hourly consumption	7,1 kg/h
	Nominal thermal power	kW 26,2 - Kcal 22.532
	H ₂ O thermal power	kW 15,2 - Kcal 13.072
	Efficiency	77,1%
	Heatable volume *	563/40-644/35-751/30
	Recommended draught	12 Pa / 0,12 mbar
	Smoke temperature	333 °C
	Smoke outlet	Ø 25 cm
	Net weight	232 Kg
	External combustion air outlet	cm ² 200
	CO emission in smoke (13 %O ₂)	0,61%
	Massive smoke capacity	17,7 g/s
	Permissible max. water pressure	1,5 bar
	Flue pipe	
Up to 5 m	30x30 cm Ø30	
Over 5 m	25x25 cm Ø25	
Note		
Intermittent combustion unit		
* Data may vary according to the fuel used		

HYDRO THERM 80E	Technical specifications	
	Fuel type	Wood
	Hourly consumption	7,1 kg/h
	Nominal thermal power	kW 26,2 - Kcal 22.532
	H ₂ O thermal power	kW 15,2 - Kcal 13.072
	Efficiency	77,1%
	Heatable volume *	563/40-644/35-751/30
	Recommended draught	12 Pa / 0,12 mbar
	Smoke temperature	333 °C
	Smoke outlet	Ø 25 cm
	Net weight	235 Kg
	External combustion air outlet	cm ² 200
	CO emission in smoke (13 %O ₂)	0,61%
	Massive smoke capacity	17,7 g/s
	Permissible max. water pressure	1,5 bar
	Flue pipe	
Up to 5 m	30x30 cm Ø30	
Over 5 m	25x25 cm Ø25	
Note		
Intermittent combustion unit		
* Data may vary according to the fuel used		

HYDRO THERM 70	Technical specifications																												
<p>Front view dimensions: 1283.5 (total height), 623 (height to top of boiler), 538.5 (height to top of burner), 122 (width of burner area), 690 (width of burner area), 847 (total width).</p> <p>Side view dimensions: 70 (height of top section), 1047 (total height), 580 (height of boiler body), 173.5 (height of base).</p> <p>Top view dimensions: Ø200 (flue pipe diameter), 217 (width of side flange), 186 (width of side flange), 20° (flange angle), 691 (total width), OUTLET G 1" (left), INLET G 1" (right).</p>	<table border="1"> <tr><td>Fuel type</td><td>Wood</td></tr> <tr><td>Hourly consumption</td><td>6,5 kg/h</td></tr> <tr><td>Nominal thermal power</td><td>Kw 21,2 - Kcal 18.232</td></tr> <tr><td>H₂O thermal power</td><td>kW 13,0 - Kcal 11.180</td></tr> <tr><td>Efficiency</td><td>75,2 %</td></tr> <tr><td>Heatable volume *</td><td>456/40-521/35-608/30</td></tr> <tr><td>Recommended draught</td><td>12 Pa / 0,12 mbar</td></tr> <tr><td>Smoke temperature</td><td>310 °C</td></tr> <tr><td>Smoke outlet</td><td>Ø 20 cm</td></tr> <tr><td>Net weight</td><td>195 Kg</td></tr> <tr><td>External combustion air outlet</td><td>cm² 200</td></tr> <tr><td>CO emission in smoke (13 %O₂)</td><td>0,87%</td></tr> <tr><td>Massive smoke capacity</td><td>14,4 g/s</td></tr> <tr><td>Permissible max. water pressure</td><td>1,5 bar</td></tr> </table>	Fuel type	Wood	Hourly consumption	6,5 kg/h	Nominal thermal power	Kw 21,2 - Kcal 18.232	H ₂ O thermal power	kW 13,0 - Kcal 11.180	Efficiency	75,2 %	Heatable volume *	456/40-521/35-608/30	Recommended draught	12 Pa / 0,12 mbar	Smoke temperature	310 °C	Smoke outlet	Ø 20 cm	Net weight	195 Kg	External combustion air outlet	cm ² 200	CO emission in smoke (13 %O ₂)	0,87%	Massive smoke capacity	14,4 g/s	Permissible max. water pressure	1,5 bar
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<p>Note</p> <p>Intermittent combustion unit</p> <p>* Data may vary according to the fuel used</p>																													

HYDRO THERM 70V	Technical specifications																												
<p>Front view dimensions: 1283.5 (total height), 623 (height to top of boiler), 538.5 (height to top of burner), 122 (width of burner area), 690 (width of burner area), 847 (total width).</p> <p>Side view dimensions: 70 (height of top section), 1047 (total height), 580 (height of boiler body), 173.5 (height of base), G 3/4" (top connection), G 1/2" (middle connection).</p> <p>Top view dimensions: Ø200 (flue pipe diameter), 336 (width of side flange), 186 (width of side flange), 20° (flange angle), 691 (total width), OUTLET G 1" (left), INLET G 1" (right).</p>	<table border="1"> <tr><td>Fuel type</td><td>Wood</td></tr> <tr><td>Hourly consumption</td><td>6,5 kg/h</td></tr> <tr><td>Nominal thermal power</td><td>kW 21,2 - Kcal 18.232</td></tr> <tr><td>H₂O thermal power</td><td>kW 13,0 - Kcal 11.180</td></tr> <tr><td>Efficiency</td><td>75,2 %</td></tr> <tr><td>Heatable volume *</td><td>456/40-521/35-608/30</td></tr> <tr><td>Recommended draught</td><td>12 Pa / 0,12 mbar</td></tr> <tr><td>Smoke temperature</td><td>310 °C</td></tr> <tr><td>Smoke outlet</td><td>Ø 20 cm</td></tr> <tr><td>Net weight</td><td>212 Kg</td></tr> <tr><td>External combustion air outlet</td><td>cm² 200</td></tr> <tr><td>CO emission in smoke (13 %O₂)</td><td>0,87%</td></tr> <tr><td>Massive smoke capacity</td><td>14,4 g/s</td></tr> <tr><td>Permissible max. water pressure</td><td>2,0 bar</td></tr> </table>	Fuel type	Wood	Hourly consumption	6,5 kg/h	Nominal thermal power	kW 21,2 - Kcal 18.232	H ₂ O thermal power	kW 13,0 - Kcal 11.180	Efficiency	75,2 %	Heatable volume *	456/40-521/35-608/30	Recommended draught	12 Pa / 0,12 mbar	Smoke temperature	310 °C	Smoke outlet	Ø 20 cm	Net weight	212 Kg	External combustion air outlet	cm ² 200	CO emission in smoke (13 %O ₂)	0,87%	Massive smoke capacity	14,4 g/s	Permissible max. water pressure	2,0 bar
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HYDRO THERM 70SX	Technical specifications	
<p>Technical drawings of the HYDRO THERM 70SX boiler. The side view shows a height of 1283.4 mm and a width of 815 mm. The front view shows a height of 625 mm and a width of 737 mm. The top view shows a width of 695 mm and a height of 186 mm. The boiler has a Ø200 flue pipe outlet and a G 1" inlet. The net weight is 204 kg.</p>	Fuel type	Wood
	Hourly consumption	6,5 kg/h
	Nominal thermal power	kW 21,2 - Kcal 18.232
	H ₂ O thermal power	kW 13,0 - Kcal 11.180
	Efficiency	75,2 %
	Heatable volume *	456/40-521/35-608/30
	Recommended draught	12 Pa / 0,12 mbar
	Smoke temperature	310 °C
	Smoke outlet	Ø 20 cm
	Net weight	204 Kg
	External combustion air outlet	cm ² 200
	CO emission in smoke (13 %O ₂)	0,87%
	Massive smoke capacity	14,4 g/s
	Permissible max. water pressure	1,5 bar
	Flue pipe	
Up to 5 m	25x25 cm Ø25	
Over 5 m	20x20 cm Ø20	
Note		
Intermittent combustion unit		
* Data may vary according to the fuel used		

HYDRO THERM 70DX	Technical specifications	
<p>Technical drawings of the HYDRO THERM 70DX boiler. The side view shows a height of 1283.4 mm and a width of 815 mm. The front view shows a height of 625 mm and a width of 737 mm. The top view shows a width of 695 mm and a height of 186 mm. The boiler has a Ø200 flue pipe outlet and a G 1" inlet. The net weight is 204 kg.</p>	Fuel type	Wood
	Hourly consumption	6,5 kg/h
	Nominal thermal power	kW 21,2 - Kcal 18.232
	H ₂ O thermal power	kW 13,0 - Kcal 11.180
	Efficiency	75,2 %
	Heatable volume *	456/40-521/35-608/30
	Recommended draught	12 Pa / 0,12 mbar
	Smoke temperature	310 °C
	Smoke outlet	Ø 20 cm
	Net weight	204 Kg
	External combustion air outlet	cm ² 200
	CO emission in smoke (13 %O ₂)	0,87%
	Massive smoke capacity	14,4 g/s
	Permissible max. water pressure	1,5 bar
	Flue pipe	
Up to 5 m	25x25 cm Ø25	
Over 5 m	20x20 cm Ø20	
Note		
Intermittent combustion unit		
* Data may vary according to the fuel used		

4. INSTALLATION AND ASSEMBLY



IMPORTANT!

The fireplace stove must be installed and connected to the smoke duct only by a specialized technician, so that all local and national regulations are complied with.

Installation must in any case be carried out in compliance with UNI 10683.

When the fireplace is unpacked, check for perfect operation of all its parts or any damage which may have occurred during shipping. The retailer or the carrier must be immediately informed of any damage.

If the fireplace stove is installed in a place that is difficult to reach, its weight can be reduced by removing the internal parts that make up the fire box. However, be sure to put all of the parts back in place. This operation is to be carried out only by specialized personnel.

MCZ shall not be held liable if the preceding warning is not complied with.

4.1. PREPARATION AND UNPACKING

Open the packaging, remove the stove unit from the pallet and position it in the chosen location, taking care that its position complies with the above instructions.



The fireplace stove must always be kept VERTICAL while moving and only using hand trucks. Do not drag the unit as this may damage the support feet.

Be especially careful that the door and its glass are protected from mechanical collisions that could jeopardise their integrity.

Moving the product must be done with care. If possible, unpack the fireplace stove in the area where it is to be installed.

The materials which make up the packaging are not toxic or harmful, so no special procedures for disposal are required.

The final user must store, dispose or recycle packaging material in accordance with local regulations.

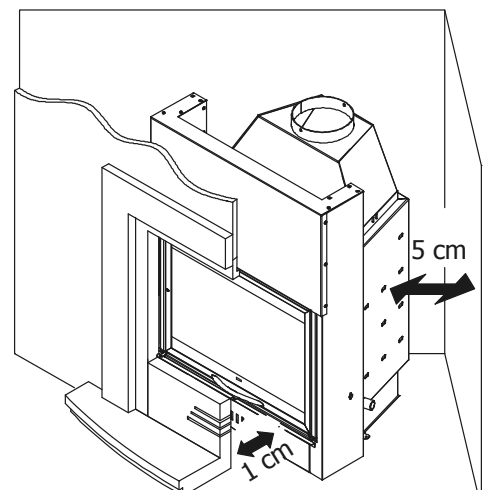
4.2. POSITIONING

The HYDROTHERM fireplace stove can be placed in a corner or along a wall. You can customize with MCZ claddings or install them during construction with materials that are resistant to high temperatures.

The fireplace stoves are self-supporting single-piece units that simplify installation and do not require any additional support.

Always evaluate the structural condition of the surface which will take the weight, and always leave a minimum 5 cm airspace between the stove and any walls.

Install dry the fire bed of the cladding leaving an opening of 1 cm for the insulation.



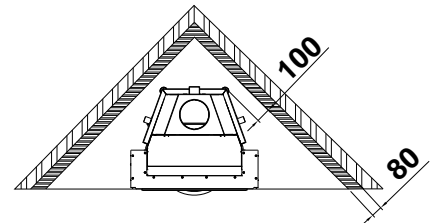
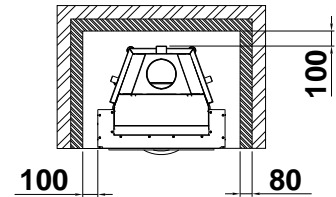
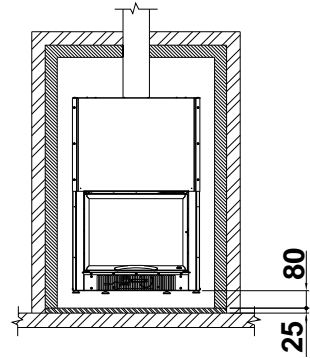
For installation near flammable material, comply with the following minimum safe distances:

- Distance from the sides and back= 100 mm
- Height above floor = 80 mm
- Insulating material on sides and back= 80 mm
- Insulating material on the floor = 25 mm



If the stove is positioned over a floor or close to walls made of flammable materials, it is advisable to use sufficient insulation.

The hot air outlets must be placed at least 300 mm from other materials (e.g. curtains)



4.3. HEIGHT ADJUSTMENT

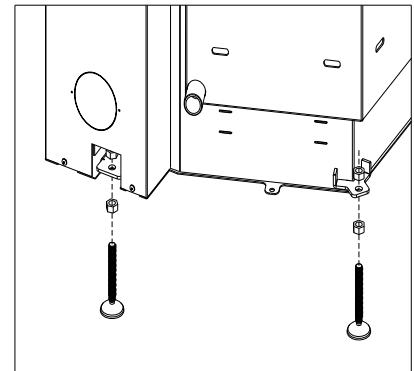
The Hydrotherm fireplace stove is equipped with adjustment feet, whose purpose is to allow the easy levelling of the fire bed. The feet allow an adjustment of about 6-7 cm and are mounted on the pre-set brackets (See figure)

If you want to raise the fireplace stove by more than 6-7 cm, you need to create a masonry pedestal to set the product on. Do not eliminate the feet. They are indispensable for levelling.



If the fireplace stove is not placed level, there is the risk that door will not close perfectly, and that the internal counterweights strike the structure, causing noise each time the door is raised or lowered.

It is possible to adjust the levelling of the fireplace stove by checking the sliding of the door until it no longer makes any noise.



4.4. RELEASE OF COUNTERWEIGHTS

The fireplace stove is delivered with the sliding counterweights locked in place. In this way, during shipping and handling, they will not strike and damage the sliding parts, the door and the ceramic glass.

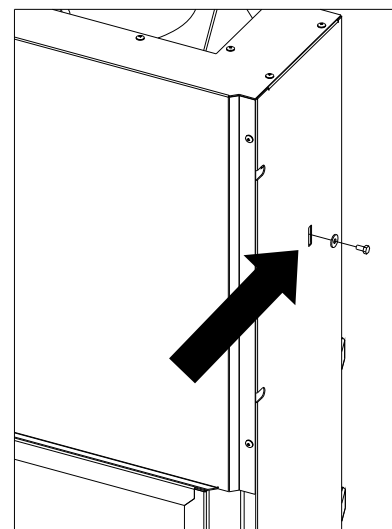
To release the counterweights and therefore also the door, remove the screws as shown in *figure 2* from both sides of the fireplace stove.



Remove the screws that hold the counterweights only after you have positioned the fireplace stove and to ensure that the glass is in good condition.

DO NOT MOVE THE FIREPLACE STOVE WITHOUT THE SCREWS THAT HOLD THE COUNTERWEIGHTS.

Damage caused by failure to observe this rule is the responsibility of the client or his representative.



4.5. MCZ CONTROL UNIT CONNECTION



MCZ shall not be held liable for any damage to persons or objects due to incorrect connections or improper use of the device.

The Hydrotherm fireplace stove must be managed by a control unit fitted with temperature probe, to manage the activation of the pump and the acoustic signal warning that the safety temperature has been exceeded.

The MCZ control unit consists of:

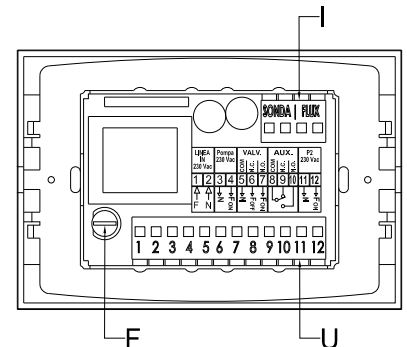
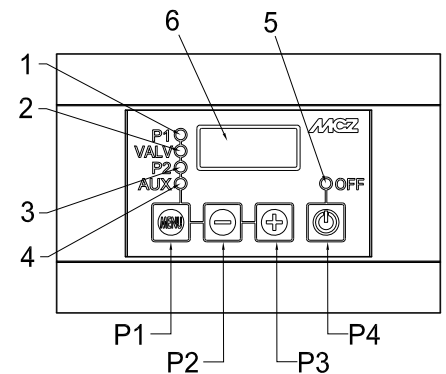
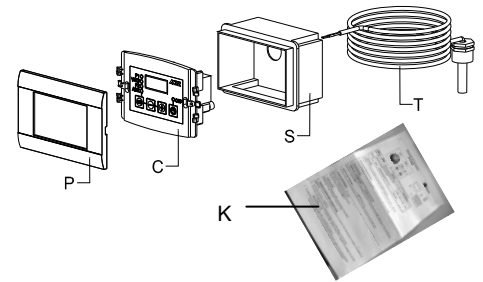
- Recessed box (S).
- Temperature probe (T).
- Cover plate (P).
- Control unit body (C).
- Instruction sheet (K).



The control panel must be installed far from heat sources and in a way that the length of the cables provided is sufficient.

The box must not be installed on the hood of the cladding.

The cables must not remain in contact with the metal structure.



When installing the control panel, a 230Vac-50Hz power supply cable must be provided.

4.5.1. The control unit MCZ

The thermal adjuster has the task of:

- Detecting, measuring and displaying the temperature of the boiler.
- Control the control devices in the system.
- Signal when the boiler exceeds the safety temperature through an acoustic and luminous signal.

TECHNICAL CHARACTERISTICS

Power supply:	230 Vac ±10%~ 50 Hz; Protection fuse T3,15 A
Power consumption:	2VA~
Temperature probe:	In silicone/pvc cable Operating temperature: -50°C / 130 °C Measure limits: 0 – 99 °C Precision: ± 1°C
Outputs:	PUMP output: powered at 230 Vac - max flow 5A - 250 Vac VALV output: free contact - max flow 5A - 250 Vac AUX output: free contact - max flow 5A - 250 Vac
Dimensions:	Recessed thermal adjuster: 120 x 80 x 50 [mm]

P	Cover plate
C	Control unit
S	Recessed box
T	Temperature probe
I	Inputs
U	Outputs
F	Fuse
P1	MENU button
P2	Increase button
P3	Increase button
P4	ON/OFF button
1	Pump LED 1
2	3-way valve LED
3	Pump LED 2
4	Auxiliary LED
5	ON/OFF LED
6	Display

4.5.2. Electrical connection of the control unit MCZ

The thermal adjuster is made up of:

- Recessed control unit.
- Fruit box.
- Thermal probe and well (included in the supply)

For correct operation and to avoid any damage to electrical/electronic parts:

- Place the device in a dry place far from direct heat sources.
- Place the PROBE by using the specific manifold (optional) in a way to read the correct temperature of the boiler, avoiding direct or indirect contact with the flame.
- Place the container-box without the control unit body.



The installation and the electrical connections must be made by a qualified electrician using adequate equipment.

Connection to the power supply network must be made only after connecting the wires in the terminal board.

LINE

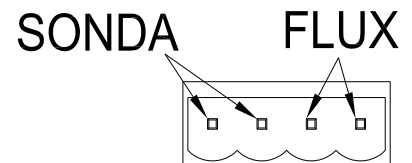
Connect the 230 Vac $\pm 10\%$ ~ 50 Hz electric line to the terminal boards [1] and [2] to power the control unit. Protection fuse T3.15 A

INPUTS (I)

Probe: Connection to the probe of the fireplace stove that detects the system temperature.

Temperature range 0 – 100 °C

Flux: ON/OFF permission for the connection of a flow switch or thermostat of a boiler for domestic hot water



OUTPUTS (U)

Pump: Connection of the water circulation pump in the heating system. Terminals [3] and [4]

Valv: Connection of a possible 2/3 wire solenoid valve serving as domestic valve. Terminals [5] [6] and [7]

Aux: Auxiliary connection to connect a gas boiler to control the shutdown. Terminals [8] [9] and [10]

P2: Connection to the domestic hot water circulation pump. Terminals [11] and [12]

LINEA IN 230 Vac		Pompa 230 Vac		VALV.			AUX.			P2 230 Vac	
1	2	3	4	5	6	7	8	9	10	11	12
↑ F	↑ N	↓ N	↓ F ON	↓ N	↓ F OFF	↓ F ON				↓ N	↓ F ON

4.5.3. Operation of the control unit MCZ

ON/OFF:

The control unit is turned on/off by pressing the **P4** button for a prolonged time (**ON/OFF**)

The OFF status is signalled by the lighting of the **OFF LED**

MAIN MENU:

Setting the THERMOSTATS for the operation of the controlled outputs:

1. **PUMP thermostat:** to control the operation of the system pump
2. **VALV thermostat:** to directly control the solenoid valve or another application
3. **AUX thermostat:** to integrate the gas boiler, solenoid valve control or another application

How to change them:

- By simply **clicking** the **P1 (MENU)** button, the values of the set Thermostat scroll, as signalled by the flashing of the associated **PUMP / VALV / AUX LED**
- To make a change move to the value of the Thermostat to be changed
- Change the value using the buttons **P3(+)** and **P2(-)**
- To save the change wait about 5 seconds or scroll the values with the button **P1(MENU)**

Main menu parameters:	Min.	Default values	Max
PUMP thermostat	20	40	85
VALV thermostat	20	40	85
AUX thermostat	20	40	85

ALARM FUNCTION:

If the temperature read by the **PROBE** exceeds the value of the Alarm Thermostat **A01**:

- an acoustic and visual signal is triggered
- **SILENCE** function: the acoustic signal may be deactivated for 5 minutes by pressing any button.
- After this time, if the alarm condition persists, the acoustic signal is triggered again.

If the **PROBE** does not work and/or the **Lo** alarm appears:

- an out of range downwards is signalled (Temperature below 0°C): **Probe interrupted**

If the **PROBE** does not work and/or the **Hi** alarm appears:

- **Hi:** indicates an out of range upwards (Temperature above 100°C): **Probe in short circuit**



In this case it is advisable to immediately reduce the combustion and eliminate the causes for the excessive heating.

It is always advisable to use the hourly quantity of wood set by MCZ to keep the temperature constant and obtain the performance ensured (page 12)

ANTI-FREEZE FUNCTION:

If the temperature read by the probe goes below the set value of the anti-freeze thermostat **A03**:

- The PUMP output is activated
- The display shows **ICE**

STANDBY FUNCTION:

If the device is **OFF**

in condition of **ALARM** or **ANTI-FREEZE**

- the device automatically switches to **ON**

PUMP ANTI-SEIZURE FUNCTION:

In case of inactivity of the pump for more than the anti-seizure timer **T01** (about a week)

- the **PUMP** output is activated for **T02** seconds
- The display shows **blP**

This function is active also in **STANDBY**.

PUMP TEST FUNCTION:

By pressing the **P3(+)** button for a prolonged time

- The **PUMP** output is activated while pressing the button
- The display shows **tSt**

SANITARY FUNCTION:

This function aims to manage any system for the production of domestic hot water (flow switch, 3-way valve, etc..) completely from the control unit. If the complete MCZ domestic hot water kit is purchased, this function is not necessary since the various elements are managed by the electronic board of the kit, suitably cabled.

For those who wish to use this function, instructions for the connections can be found inside the packaging of the control unit.



MCZ shall not be held liable for any damage to the product or the components provided (control unit) if non MCZ components are connected.

4.6. PLUMBING CONNECTION



MCZ shall not be held liable for damage due to incorrect connections or connections made by unqualified personnel



IMPORTANT !!

The water system must be connected and the perfect seal of the boiler must be checked also when the fire is lit, before cladding the fireplace stove.

Failure to comply with the installation instructions shall make the product guarantee void and lift MCZ from any involvement concerning any damage to people and objects.

In light of the above, MCZ shall not be held liable for any possible break of the cladding in case the compulsory preventive operating checks are not performed.



To minimise the formation of limescale in the ducts, in case of hard water being used, it is advisable to install a softener filter.

4.6.1. Water characteristics

The characteristics of the water used to fill the system are very important to prevent the build-up of mineral salts and the formation of incrustations along the pipes, in the boiler and in the heat exchangers.

Therefore, please GET YOUR PLUMBER'S ADVICE CONCERNING:



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

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



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

4.6.2. Hydraulic connection with Open Tank

In order to achieve a good running of the Hydrotherm fireplace stove installed with open tank, please closely follow the installation rules stated below:

- The system must be loaded only by natural fall from the expansion tank open in the del return of the fireplace stove with a duct of 1". Direct loading with the pressure from the mains is prohibited. The maximum operating pressure is 1.5 bars.
- The expansion tank must be of the open type with vent tube of minimum Ø 1". This must be placed at a height higher than 3 meters from the highest point of the radiators. **If the kits in diagrams 2 and 3 are used, the expansion tank can be placed near the fireplace stove.**
- The vent tube of the expansion tank must feature no shut-off valve or unneeded curves. Both the open expansion tank and the vent tube must be protected against the cold.

4.6.3. Hydraulic connection with Closed Tank

In order to achieve a good running of the Hydrotherm fireplace stove installed with closed tank, please closely follow the installation rules stated below:

- **The system must be loaded only with the pressure from the mains. The maximum operating pressure is 1.5 bars.**
- **The expansion tank must be of the closed type.**

4.7. HYDRAULIC DIAGRAMS



The distance of the hydraulic kit, as stated in the diagrams below within the speckled area, from the fireplace stove must not exceed 1 metre.



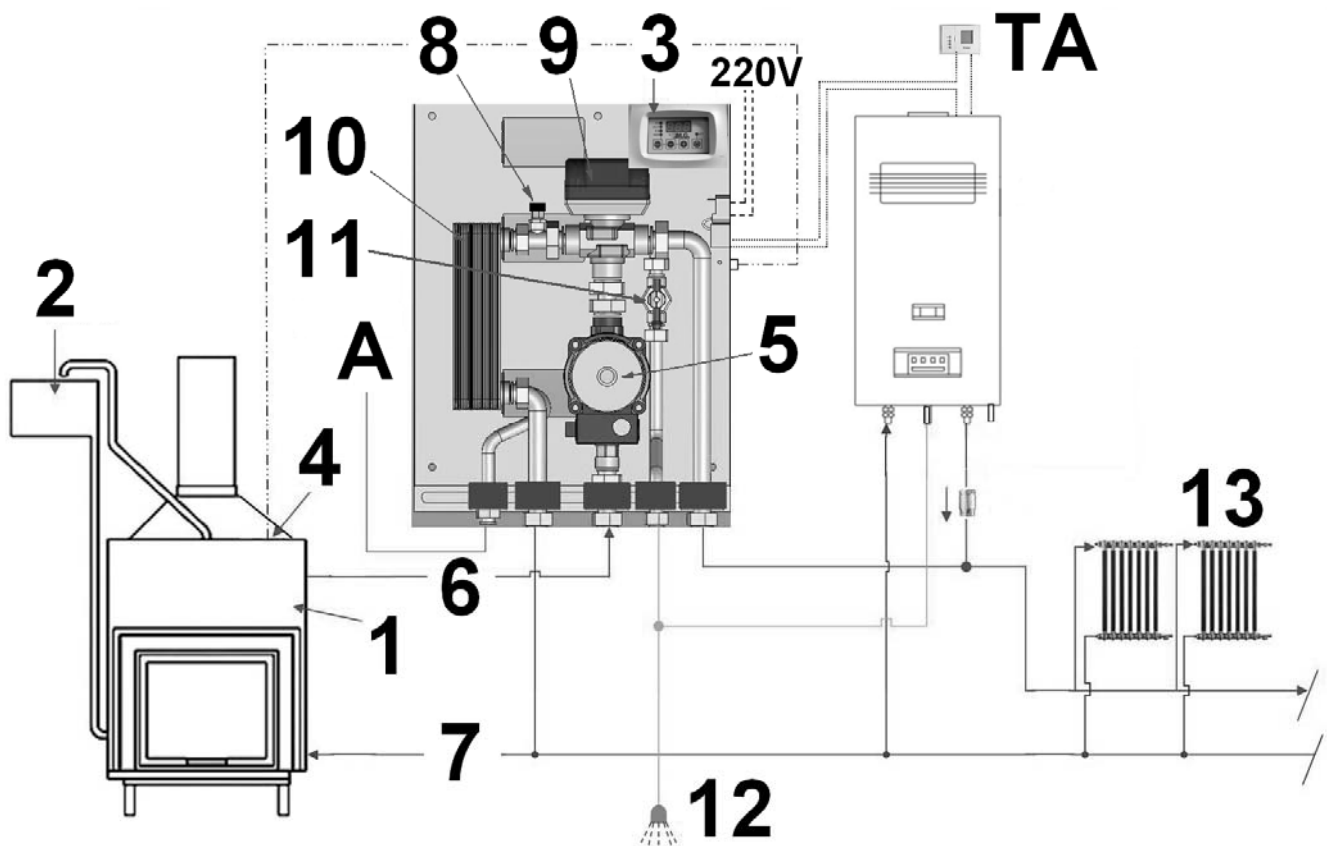
The following diagrams are to be used only as a guideline. For proper connection, follow the notes and the instructions of the plumbing and heating installer, in compliance with regulations in force.

4.7.1. Diagram 1 OPEN TANK (KIT 1 OPEN TANK)

DESCRIPTION: Fireplace stove as the only heat source with production of domestic hot water (DHW).

ACTIONS:

- fireplace stove heating;
- domestic hot water with fireplace.



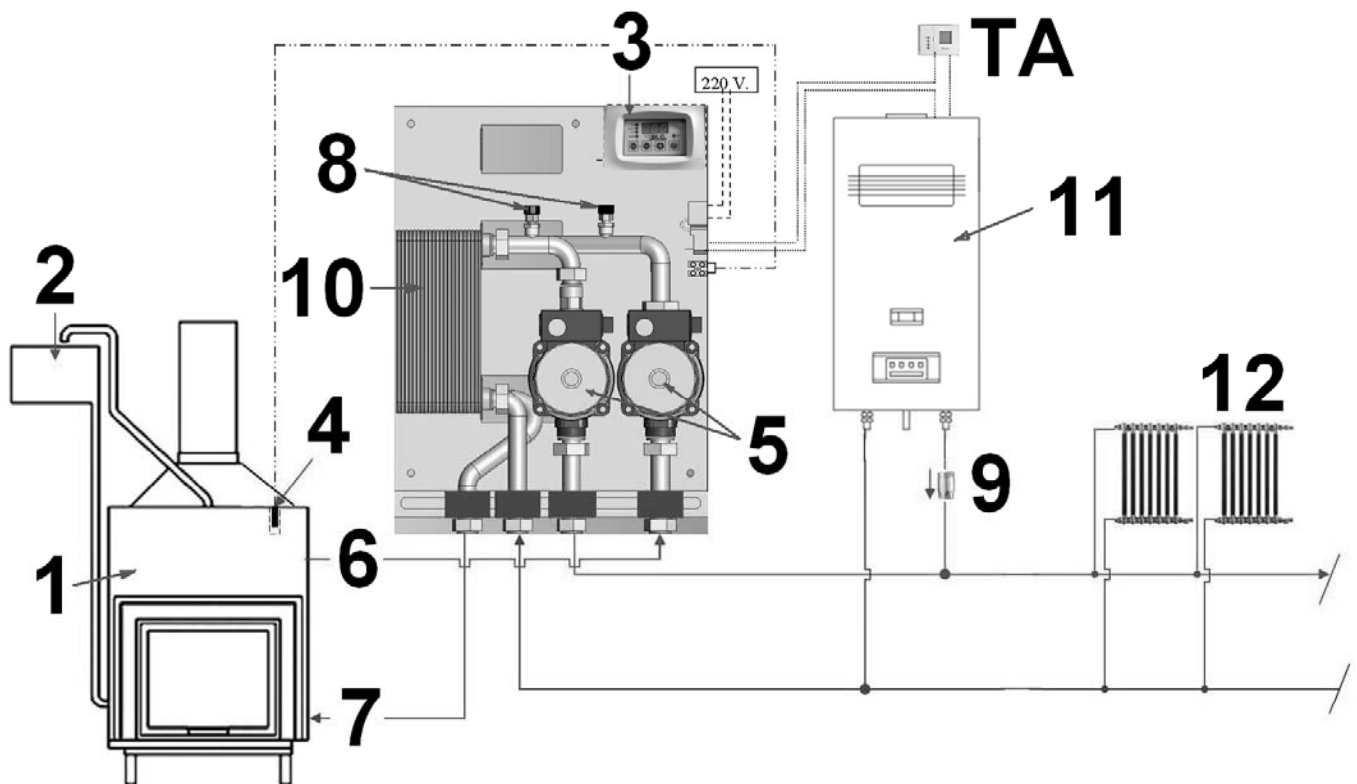
1-Fireplace stove	6-Delivery circuit	11-Flow switch
2-Open expansion vessel with float	7-Return circuit	12-Domestic water
3-Control unit	8-Automatic vent valve	13-Radiator
4-Temperature probe	9- 3-way valve	A- Aqueduct
5- Circulator	10 - Domestic hot water exchanger	TA-Room thermostat

4.7.2. Diagram 2 OPEN TANK (KIT 2 OPEN TANK)

DESCRIPTION: Fireplace stove combined with gas boiler without production of domestic hot water. It is composed of a main circuit (open tank heat source) and a secondary circuit (closed tank heat source). It allows the expansion tank to be installed approx. 30 cm above the fireplace. The control unit is used to turn off the gas boiler when the fireplace stove reaches the required temperature.

ACTIONS:

- fireplace stove heating;
- heating with boiler;



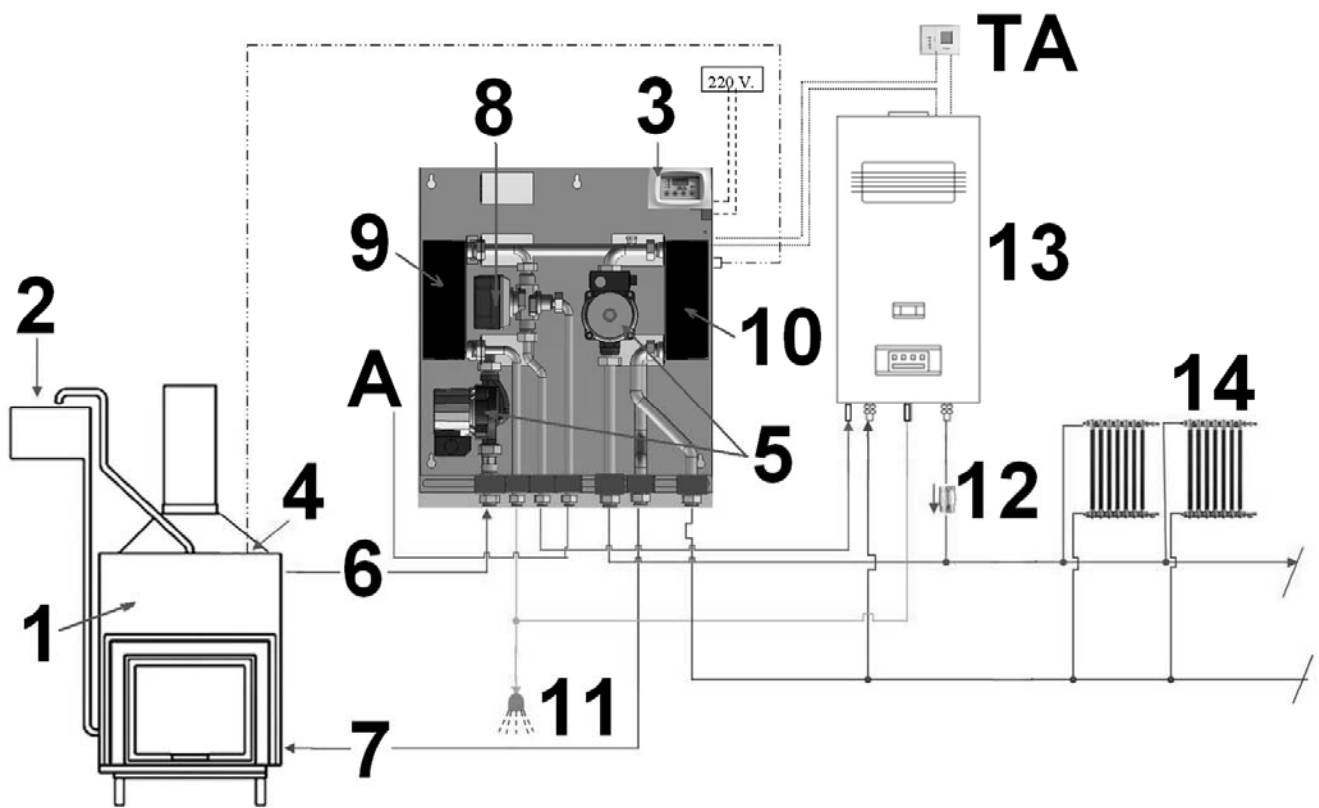
1- Fireplace stove	5- Circulator	9- Non-return valve
2- Open expansion vessel with float	6- Delivery circuit	10- Separation exchanger
3- Control unit	7- Return circuit	11- Boiler
4- Temperature probe	8- Safety valve	12- Radiator
		TA-Room thermostat

4.7.3. Diagram 3 OPEN TANK (KIT 3 OPEN TANK)

DESCRIPTION: Fireplace stove combined with gas boiler with production of domestic hot water. It is composed of a main circuit (open tank heat source) and two secondary circuits (heating and domestic water system). It allows the expansion tank to be installed approx. 30 cm above the fireplace. The control unit is used to turn off the gas boiler when the fireplace stove reaches the required temperature. It produces instantaneous hot domestic water.

ACTIONS:

- heating with boiler;
- fireplace stove heating;
- hot water with fireplace stove.



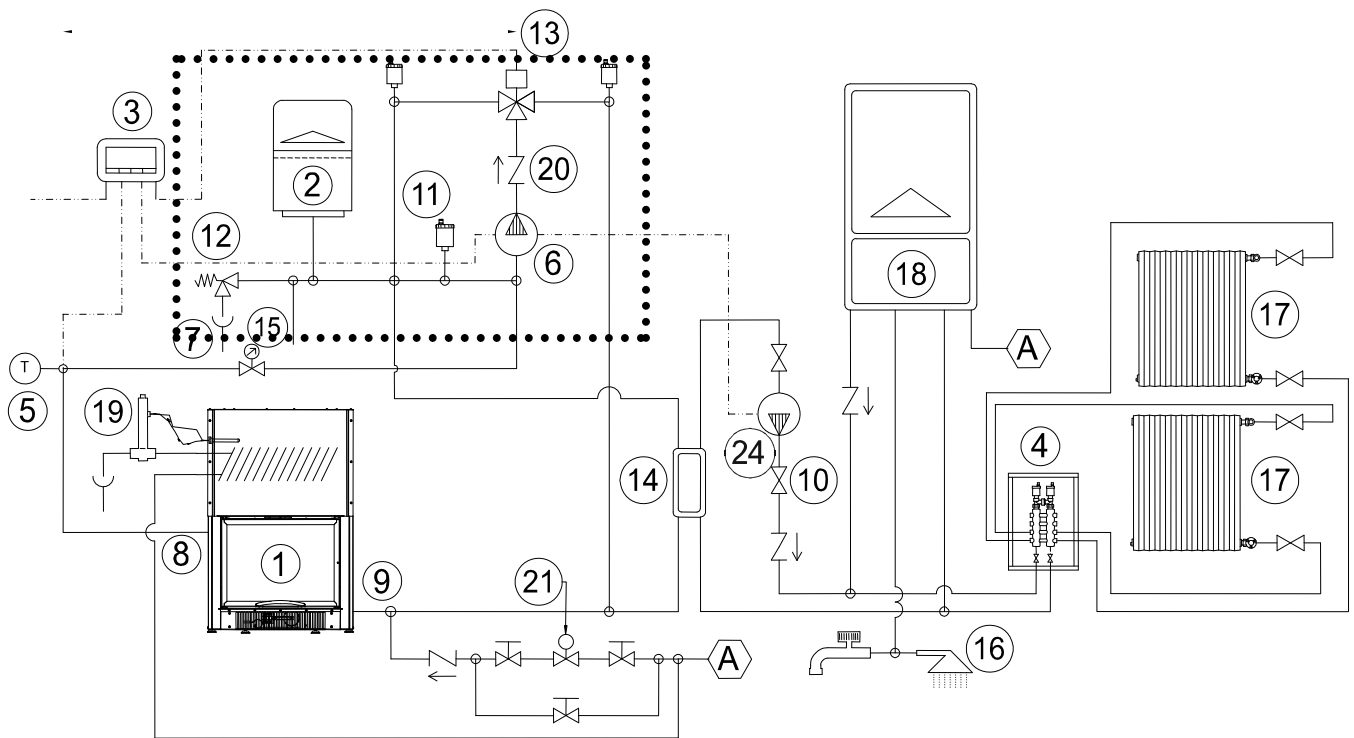
1-Fireplace stove	6-Delivery circuit	11- Hot water
2-Open expansion vessel with float	7-Return circuit	12- Non-return valve
3-Control unit	8- 3-way valve	13-Boiler
4-Temperature probe	9- Domestic hot water exchanger	14- Radiator
5- Circulator	10- Separation exchanger	A- Aqueduct
		TA-Room thermostat

4.7.4. Diagram 1 CLOSED TANK (KIT 1 CLOSED TANK)

DESCRIPTION: Fireplace stove without production of domestic hot water.

ACTIONS:

- heating with boiler;
- fireplace stove heating;
- domestic hot water with boiler and heating with fireplace.



1-Hydrotherm fireplace stove	9-Return circuit Ø1" min.	17-Radiator
2-Expansion tank	10-Valve	18-Boiler
3-Control unit	11-Automatic vent valve	19-Thermal discharge valve
4-Manifold	12-Safety valve	20-Non-return valve
5-Temperature probe	13-3-way valve	21-Filling unit
6-Circulator	14-Separation exchanger*	24-Radiator system circulator*
7-Overflow drain	15-Pressure gauge	
8-Delivery circuit Ø1" min	16-Hot water	A- Aqueduct

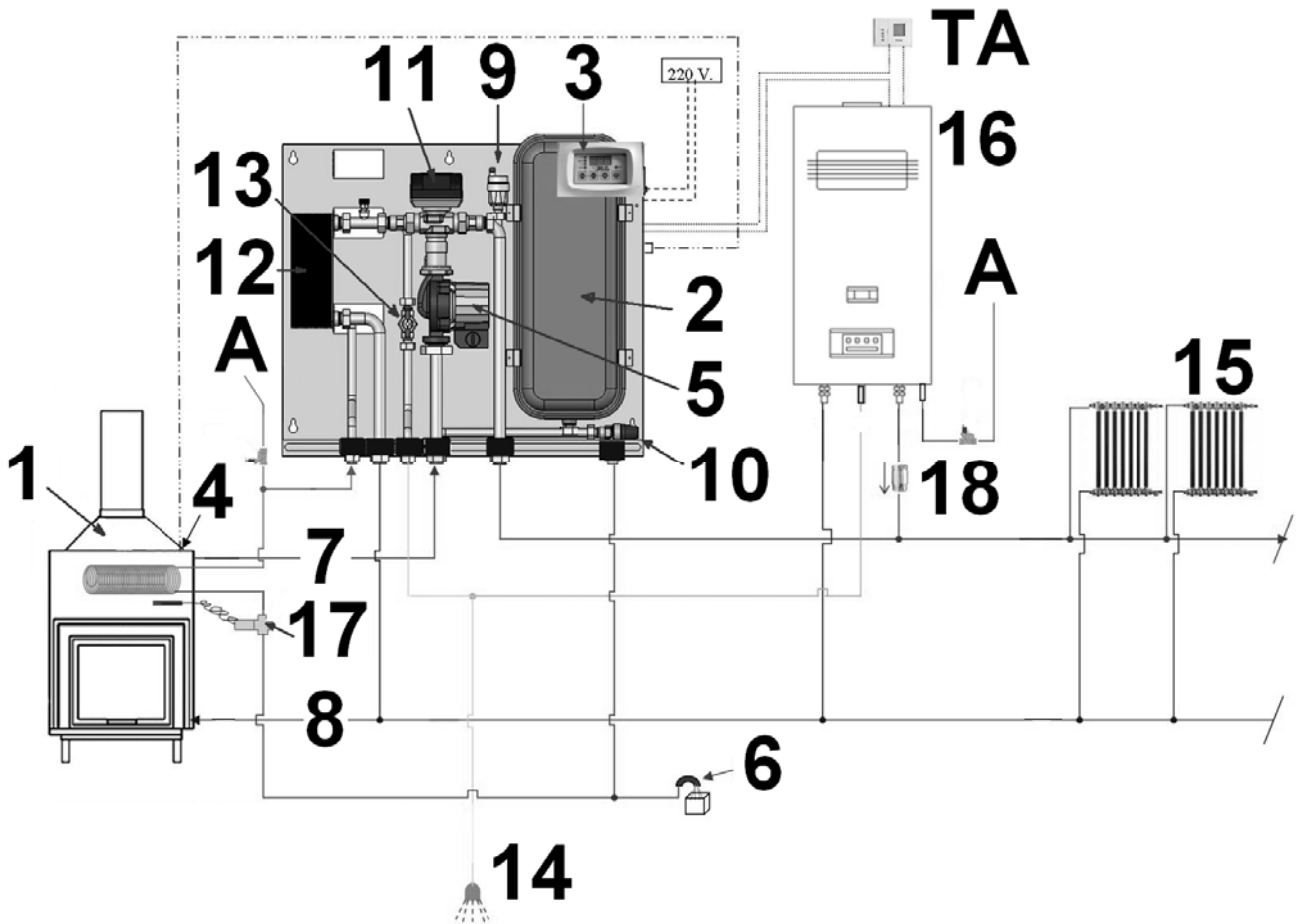
* Not included in the kit. To be purchased separately.

4.7.5. Diagram 2 CLOSED TANK

DESCRIPTION: Fireplace stove with production of domestic hot water.

ACTIONS:

- heating with boiler;
- fireplace stove heating;
- domestic hot water with boiler and heating with fireplace stove;
- domestic hot water with fireplace stove and heating with boiler.



1-Fireplace stove	8- Return circuit	15- Radiator
2-Open expansion vessel with float	9- Automatic vent valve	16- Boiler
3-Control unit	10- Safety valve	17- Thermal discharge valve
4-Temperature probe	11-3-way valve	18- Non-return valve
5- Circulator	12- Domestic hot water exchanger	A- Aqueduct
6- Overflow drain	13- Flow switch	TA-Room thermostat
7- Delivery circuit	14- Hot water	

4.8. THERMAL SAFETY DISCHARGE VALVE FOR CLOSED TANK CIRCUIT (HYDROTHERM 70V)

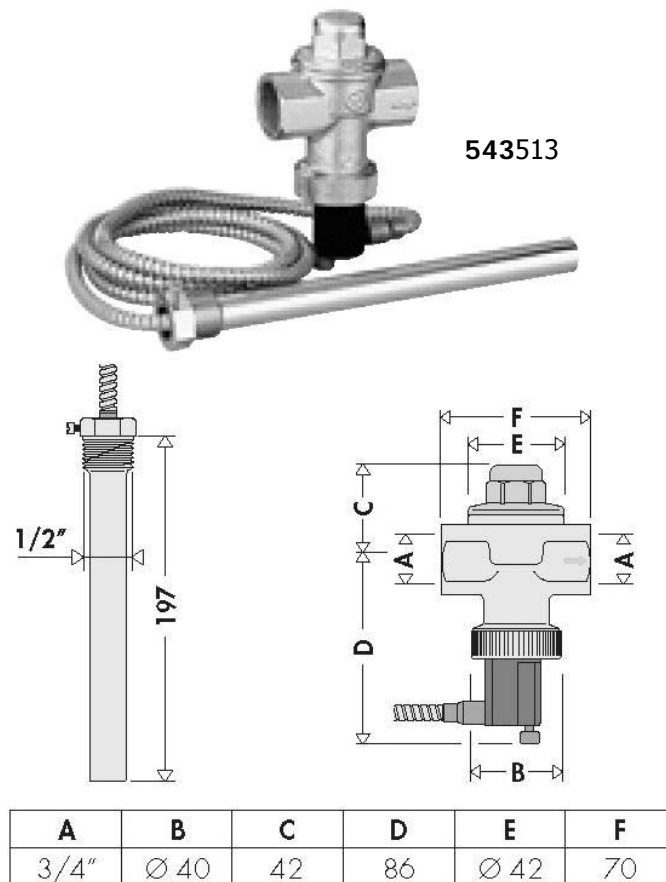
4.8.1. Function

The Hydrotherm 70V features a closed tank circuit. In this type of installation it is compulsory to assemble the thermal discharge valve (optional accessory). This is a device that limits the water temperature. In case of boiler overheating it activates an emergency exchanger that causes the immediate cooling of the water. Its use is regulated by the standards EN 13229, I.S.P.E.S.L. (file "R" - ed. 2005) and UNI 10412-2. It also complies with EN 14597 and can be used on systems complying with EN 12828, concerning solid fuel boilers with non automatic loading and a power of less than 100 kW.



A THERMAL SAFETY DISCHARGE VALVE FOR CLOSED TANK CIRCUIT (HYDROTHERM 70V) MUST BE INSTALLED

4.8.2. Technical specifications



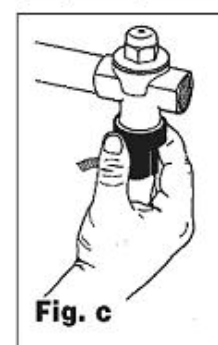
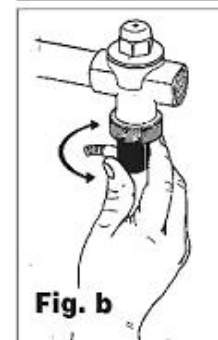
Materials: - body	Brass EN 12165 CW617N
- control spindle	Brass EN 12164 CW614N
- obturator seal	EPDM
- seals	EPDM
- spring	Stainless steel
- protection cover	POM
Max. working pressure	10 bar
Set temperature	95°C
Temperature range	5÷110°C
Discharge flowrate at 110°C and Δp 1 bar	3000 l/h
Ambient temperature range	0÷80°C
Action type (EN 14597)	2 KP
Max temperature of the sensor	130°C
Medium	water
PED category	IV
Connections	3/4" F x 3/4" F
Probe connection	1/2" M
Capillary length	1300 mm

4.8.3. Installation

Before installing the thermal safety discharge valve, ensure that the system has no impurities that may be deposited on the outlet housing. An easy-to-open filter should be installed on the arrival of cold water and its cleaning should be regularly checked. Upon reaching the temperature of 95°C, the valve starts to discharge the quantity of water necessary to maintain the temperature of the boiler within the safety limits.

Check that the valve's discharge capacity is compatible with the limit values indicated by the manufacturer of the boiler and the system. For safety reasons, any cut-off valves placed upstream of the valve must be open. **You should install a pressure reducer at the inlet of water from the water mains.** The reducer must be calibrated at 2 bars at least and assembled on the proposed pipe of each interception unit at a distance not exceeding 0.5 m. After having assembled the valve on the pipe, respecting the flow sense indicated on the valve body (fig.e), house the part connected to the sensor in its housing (see position 8 of fig. d). Therefore screw the knurled ring avoiding to tighten it (Fig. a). Direct the output of the sheath that connects the probe by making the black cap rotate (Fig. b). Completely tighten the knurled ring (Fig. c).

The diameter of the discharge pipe must correspond to the diameter of the valve outlet; the maximum length must not exceed 2 m, no more than two curves are acceptable. If these maximum values are exceeded (2 curves, 2 m of piping) the diameter immediately superior must be chosen for the discharge pipe. However, consider that more than three curves and 4 m of piping are not acceptable. The discharge pipe must not have upward sections. The discharge pipe of the safety valve must be created in a way not to stop the regular function of the valves and not to cause damage to people or objects. In compliance with the current standards, the discharge of the safety valve must be visible and channelled into suitable collection pipes.



Installing a funnel with anti-reflow air intakes on the discharge pipe of the valve. The diameter of the connection pipe between the funnel and the discharge network must be at least double the diameter of the valve.

1. Aqueduct intake F 1/2"
2. Thermal safety discharge valve attachment F1/2"
3. Thermal safety discharge valve F 3/4"
4. Attachment for discharge duct F 3/4"
5. Boiler water outlet F 3/4"
6. Control unit well probe F 1/2"
7. Delivery to the system F 3/4"
8. Thermal safety discharge valve probe M 1/2"
9. Combustion adjuster bulb

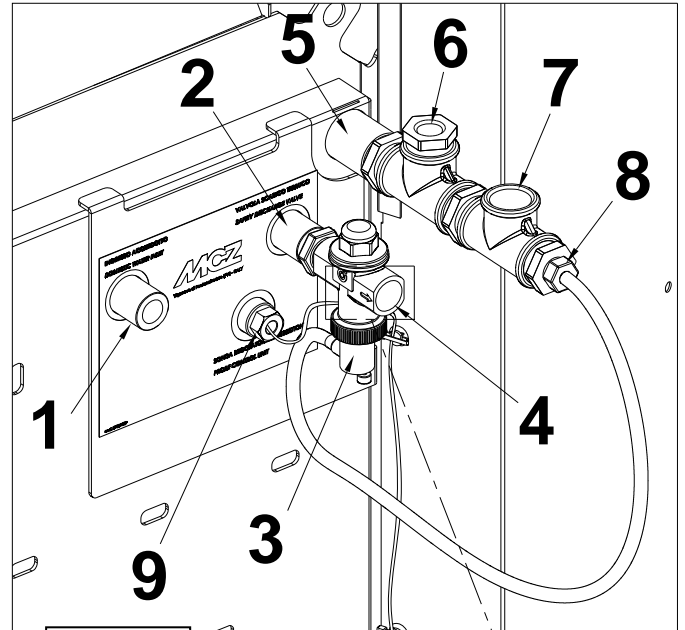


Fig.d



ATTENTION: assemble the thermal safety discharge valve respecting the direction of the arrow, as in the figure to the side.

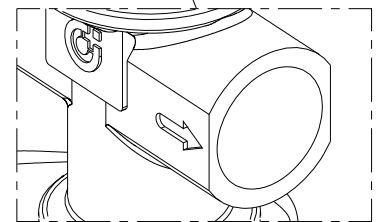


Fig.e

4.8.4. Maintenance

In the lower part of the valve a red button is located that lets you perform the purging operations and check the function. It is necessary for a technician check the function of the valve at least once a year.

4.8.5. Safety



MCZ SHALL NOT BE HELD LIABLE FOR ANY DAMAGE TO PERSONS OR OBJECTS DUE TO INCORRECT CONNECTIONS, DUE TO THE INSTALLATION OF A VALVE NOT CORRESPONDING TO THE MODEL ADVISED OR IMPROPER USE OF THE DEVICE.

The installation of the thermal safety discharge valve must be carried out by qualified technical personnel according to the instructions reported in this manual and in accordance with current standards.

If the valves are not installed, calibrated and maintained correctly according to the instructions contained in this manual, they may not function correctly and may place the user in danger. Ensure that all the connection fittings are hydraulically sealed. In creating the hydraulic connections, pay attention not to mechanically over stress the thread of the valve body. In time it is possible that breakages may occur with

hydraulic leaks damaging people and/or objects. A water temperature over 50°C may cause serious burns. During installation, calibration and maintenance of the thermal safety valves, adopt the necessary measures so that this temperature does not cause hazards to people.

4.9. INSTALLATION KIT

The Kits in question were designed to ease the tasks of the installers in assembling the fireplace stoves. They actually include all the components necessary for a correct installation of the product.



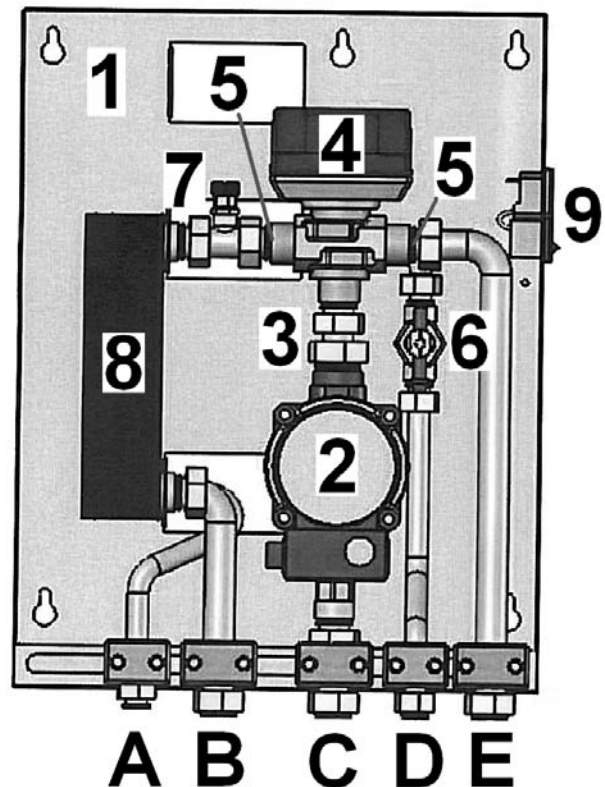
The devices included in the kits must be suitably protected from the thermal radiation of the unit, using insulating mats.

The Kits are installed in a vertical position as in the images reported below in a way that the air vents can work correctly.

4.9.1. Kit 1 OPEN TANK

(Code MCZ 4015008022C)

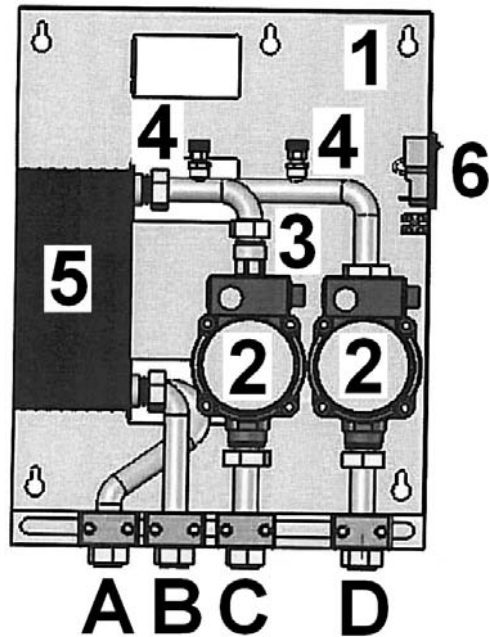
- 1) Sheet metal support
- 2) Circulator
- 3) Non-return valve 1.5"
- 4) 3-way valve
- 5) Non-return valve 3/4"
- 6) Flow switch
- 7) Vent valve
- 8) Domestic hot water exchanger
- 9) Electrical branching box
- A) Aqueduct delivery 1/2"
- B) Fireplace stove return 3/4"
- C) Fireplace stove hot water exchanger outlet 1/2"
- D) Fireplace stove delivery 3/4"
- E) System delivery 3/4"



4.9.2. Kit 2 OPEN TANK

(code MCZ 4015008023)

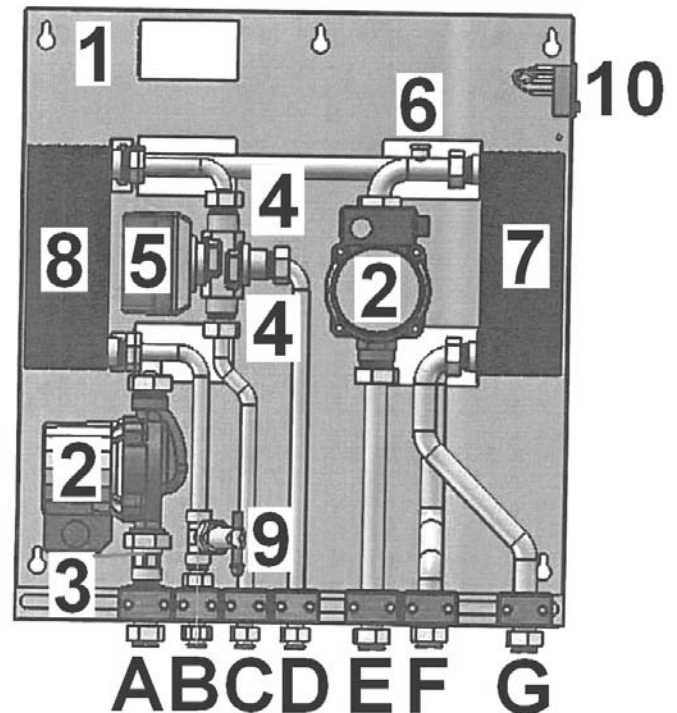
- 1) Sheet metal support
- 2) Circulator
- 3) Non-return valve 1.5"
- 4) Vent valve
- 5) Separation exchanger
- 6) Electrical branching box
- A) System return 3/4"
- B) System delivery 3/4"
- C) Fireplace stove return 3/4"
- D) Fireplace stove delivery 3/4"



4.9.3. Kit 3 OPEN TANK

(cod. MCZ 4015008024)

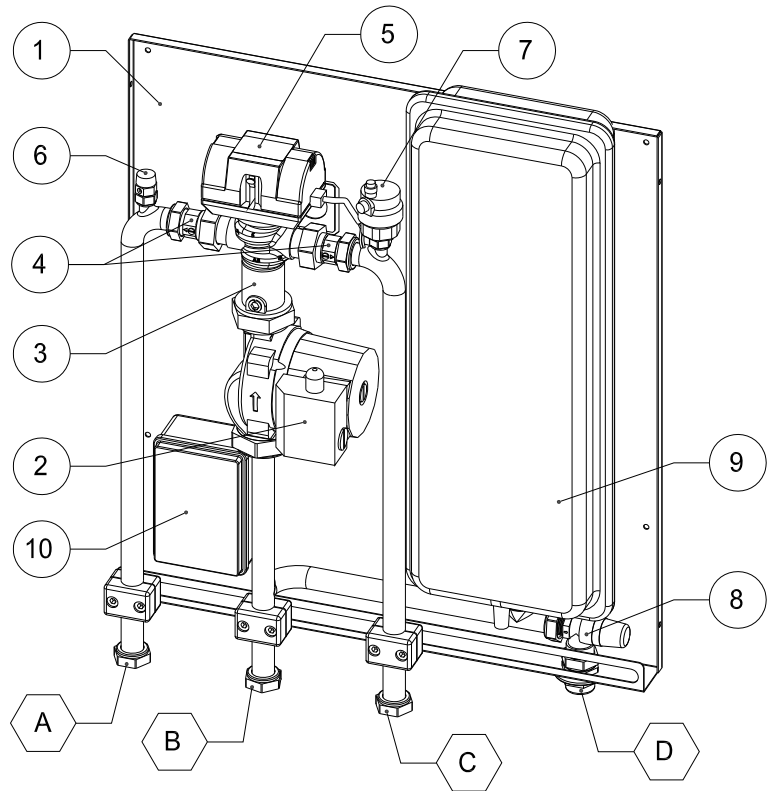
- 1) Sheet metal support
- 2) Circulator
- 3) Non-return valve 1.5"
- 4) Non-return valve 3/4"
- 5) 3-way valve
- 6) Vent valve
- 7) Separation exchanger
- 8) Domestic hot water exchanger
- 9) Flow switch
- 10) Electrical branching box
- A) System return 3/4"
- B) System delivery 3/4"
- C) Fireplace stove return 3/4"
- D) Fireplace stove delivery 3/4"
- E) Fireplace stove hot water exchanger outlet 1/2"
- F) Boiler cold water exchanger delivery 1/2"
- G) Aqueduct delivery 1/2"



4.9.4. Kit 1 CLOSED TANK

(cod. MCZ 4015008025)

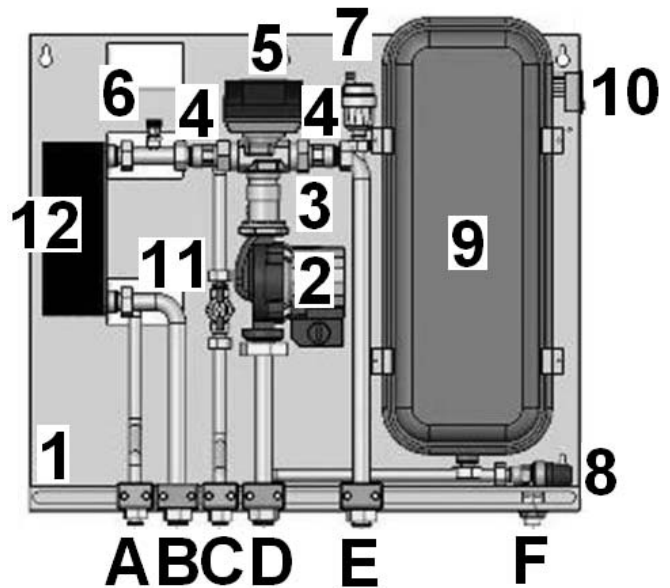
- 1) Sheet metal support
- 2) Circulator
- 3) Non-return valve 1.5"
- 4) Non-return valve 3/4"
- 5) 3-way valve
- 6) Vent valve
- 7) Automatic vent
- 8) Safety valve
- 9) Expansion tank 6L
- 10) Electrical branching box
- A) Fireplace stove return 3/4"
- B) Fireplace stove delivery 3/4"
- C) System delivery 3/4"
- D) Expansion tank 3/4"



4.9.5. Kit 2 CLOSED TANK

(cod. MCZ 4015008026)

- 1) Sheet metal support
- 2) Circulator
- 3) Non-return valve 1.5"
- 4) Non-return valve 3/4"
- 5) 3-way valve
- 6) Vent valve
- 7) Automatic vent
- 8) Safety valve
- 9) Expansion tank 6L
- 10) Electrical branching box
- 11) Flow switch
- 12) Domestic hot water exchanger
- A) Aqueduct delivery 1/2"
- B) Fireplace stove return 3/4"
- C) Fireplace stove hot water exchanger outlet 1/2"
- D) Fireplace stove delivery 3/4"
- E) System delivery 3/4"
- F) Expansion tank 3/4"



4.10. UNIT CLADDING



Only after finishing all the installation operations of the fireplace stove, connecting the smoke duct, electric and hydraulic connections and carrying out the first lighting, is it possible to begin the cladding of the unit

4.10.1. INSULATION OF FIREPLACE STOVE

The fireplace stove must also always be separated from nearby walls and ceilings.

If necessary, use **insulating materials** to insulate the walls that are in contact with the unit if they may be damaged or catch fire (walls made of wood, plasterboard, etc.).

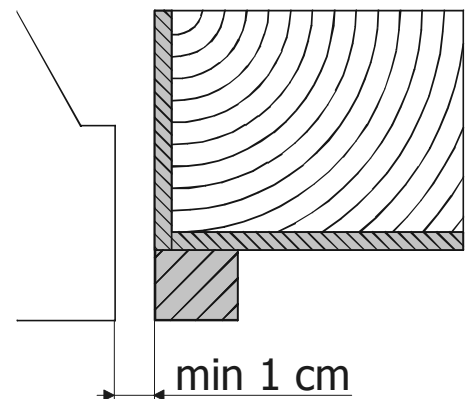
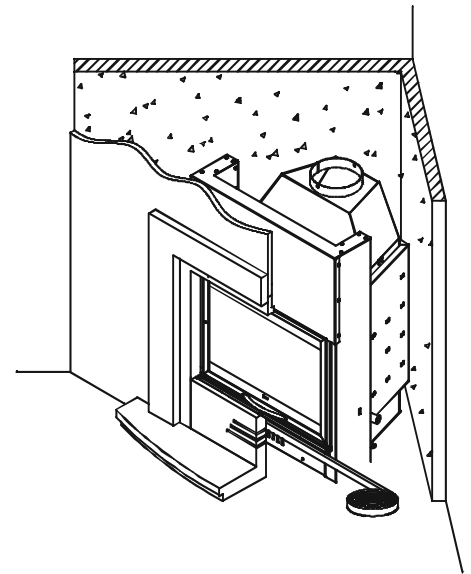
4.10.2. INSULATING A WOODEN BEAM

The wood beam must be protected with adequate insulation from heated parts to prevent the risk of fire or damage of the cladding.

4.10.3. Decorative hood

Before building the decorative hood we strongly recommend a general test of the fireplace stove in order to correct any operating problems or possible leaks of smoke into the room.

We recommend making the hood liner in fire-resistant plasterboard of a 15/20 mm. thickness, with a self-supporting frame in galvanised profile so as not to put weight on the components of the cladding (such as wooden beams and marble architraves) that do not have a load-bearing structure and to make it easy to work in the event of future anomalies and/or maintenance.



5. OPERATION

5.1. PRE-LIGHTING WARNINGS



Do not touch the fireplace stove when it is lit for the first time. During this phase, the paint finishes drying and hardens. If you touch the paint, you may expose the steel surface.

It is good practice to provide plenty of ventilation in the room during the initial lighting, as the stove will give off a small amount of smoke and smell of paint.

If necessary, touch up the paint with the aerosol spray in the original colour (see "Fireplace stove accessories and inserts")

Do not stay near the fireplace stove, and as previously mentioned, ventilate the room. The smoke and the smell of paint will vanish after about one hour of operation. There are no health risks involved.

The fireplace stove will be subject to expansion and contraction during the stages of lighting and cooling down, and may therefore make slight creaking noises.

This phenomenon is absolutely normal, the structure being made of sheet steel, and must not be considered a fault.



It is very important not to bring the stove up to full heat immediately. Bring it up to temperature gradually.

This avoids damages to welds and the steel structure.

Do not demand full heating performance straight away!

5.2. OPERATING TEST

After having created all the electrical connections foreseen, we advise testing the HYDROTHERM fireplace stove together with the installer.



- Slowly fill the fireplace stove and the system only using the open expansion tank (if included) through the natural fall of water;
- With the installation with the tank closed, fill the system directly from the mains, setting a pressure, when cold, of 1-1.5 bars and discharging any air bubbles in the boiler and on the system.
- Never light the fire if the system is not full of water; the structure may be damaged.
- While filling, open all the vents of the radiators and those of the system; vent the air in the system that may obstruct the circulation of water.
- On the control panel or control unit set the start temperature of the pump (see the instructions of the control panel).
- Place wood in small pieces that is well dried (humidity 15/20%). Light the fire without excessively overheating the structure during the first lighting. Any odours from manufacturing residue and/or evaporation will form the first time lighting occurs, and will disappear after a lighting at full power has occurred a few times.

Make sure you have read and completely understood the contents of this instruction booklet.

Remove any components which might burn from the fireplace stove and door (various instructions and adhesive labels).

Remove the stickers from the ceramic glass or the high temperature could melt them and irreparably damage the glass. In this case, the MCZ warranty does not cover the glass.

The HYDROTHERM fireplace stove can be placed in a corner or along a wall. You can customize with MCZ claddings or install them during construction with materials that are resistant to high temperatures.



THE CLADDING MAY ONLY BE INSTALLED AFTER HYDRAULICALLY AND ELECTRICALLY CONNECTING THE FIREPLACE STOVE AND HAVING TESTED ITS FUNCTION AND HYDRAULIC SEAL

The fireplace stove and the parts of the cladding must be attached to one another **without coming into contact with the steel structure** to prevent transmission of the heat to the marble and/or stone, and to allow normal thermal dilation. Use care with wood finishes such as crossbeams or shelves.

It is advisable to create the hood of the cladding with plasterboard panels. **It is worthwhile to provide for an airtight inspection grille to access the probe in case of malfunction.**

5.3. CHOICE OF FUEL

FUEL: Wood

To obtain the maximum performance from your HYDROSYSTEM fireplace stove, it is of primary importance to use **wood with suitable characteristics**.

It is advisable to use wood for heating such as oak, beech, locust tree, or oak with good calorific energy, or logs of pressed wood that do not have resin. These have a high calorific power and must be used with caution to avoid overheating which could damage the stove.

It is advisable to use fuels such as poplar, pine, lime tree, or chestnut which have low calorific power, since they are soft wood and also they do not burn for a long time.

Avoid using fuels such as pine, fir, and olive as they contain a high degree of resin and their combustion may substantially soil the fire mouth and the ceramic glass; also, they do not have an exceptional yield.

For all types of wood listed, the humidity they contain is essential because it determines the calorific energy.

Wood drying time (i.e. beech)	% humidity	Heat power Kcal/h
Freshly cut	50	/
3 months	40	2410
6 months	35	2700
9 months	30	2900
12 months	25	3150
15 months	20	3400
18 months	15	3710
21 months	10	3980

Figure 11 – Calorific energy (e.g. beech) in relation to humidity contained.



Do not use treated fuels (such as painted or varnished wood, or particle board) or unsuitable materials (such as plastics and derivatives), which could release toxic or polluting substances. Do not burn rubbish.

The gases produced by combustion due the use of unsuitable fuels cause damage to the fireplace stove and the chimney, they cause pollution and can compromise your health.



A high percentage of humidity produces condensation in the smoke duct causing an alteration in the draught and generating smoke and a significant deposit of soot on the glass of the door and in the flue pipe with a possible risk of a chimney fire later on.

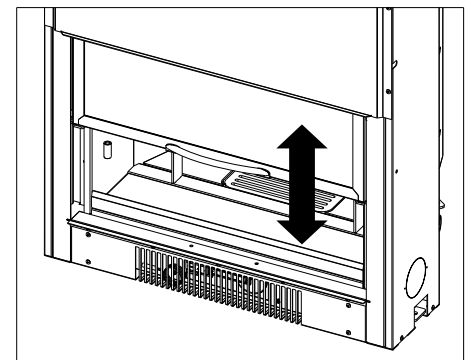
At least once a month check that there are no creosote deposits inside of the fire box and between the heater pipe; if the surface is a shiny black and thick, IT SHOULD BE CLEANED with the scraper provided or a similar tool.

5.4. LOADING THE FUEL

For the loading of fuel, just open the door turning the handle upwards as shown to the side.

During use, the metal parts and the glass reach high temperatures, so it is necessary to use the special thermal glove supplied.

During use it is also necessary to keep the door completely lowered since intermediate positions cause abnormal combustion (forge effect), with a consequent rapid consumption of wood and a drastically reduced yield to the boiler.



For cooking food on the grille, we advise first forming a bed of coals without flames and then opening the door only to turn the food on the grille.

5.5. CONTROL OF COMBUSTION

PRIMARY AIR

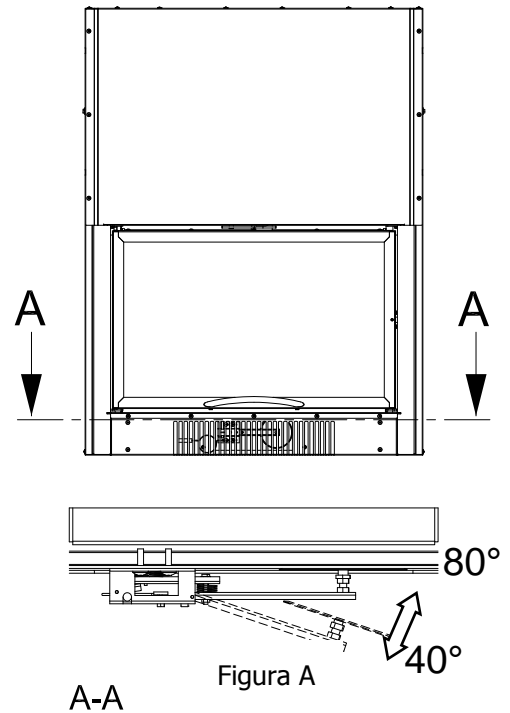
The fireplace stove is provided, at the front, with a safety mechanical valve that adjusts the entrance of primary air depending on the temperature of the water in the hottest point of the boiler. The valve stays open until 40 °C; once this threshold is exceeded it gradually begins to close as the temperature increases, until completely obstructing the passage of air at approximately 80 °C. This is necessary to avoid that the water in the boiler overheats and reduce unnecessary consumption of fuel. (Fig.A)

SECONDARY AIR

The emission of secondary air is predetermined; it is necessary to partially clean the glass of the firebox door and allows the completion of the combustion process by lowering the percentage of CO in the smoke and improving the yield of the product. (Fig. B and B1)



The use of damp or treated wood emits a higher quantity of smoke than normal that can dirty glass faster. Also the low performance of the flue pipe can jeopardise glass cleanliness since smoke remains in the combustion chamber longer than normal.



5.6. FIRST LIGHTING

It is advisable to approach the first lighting with caution, using good-quality, well-seasoned wood.

The primary air inlet must be fully open. Do not use alcohol, petrol, or other volatile flammable substances. On first lighting, fumes and unpleasant smells may be given off, caused by the drying of the product; this is not hazardous, and it is sufficient to ventilate the room. Once combustion has started, pieces of wood of normal size may be added.

The flame must have as far as possible a smooth and laminar flow. **On the various occasions when the stove needs reloading, the door should be opened slowly, to avoid blowbacks of smoke into the room.**

Proceed as follows:

- Place a small amount of balled paper in the stove.
- Cover the paper with a small quantity of twigs and a few pieces of wood.
- Light the paper, and if necessary leave the door up.
- When the twigs are burning, the door can be closed.

As the fire burns, add wood. Never overload the fireplace stove with wood (see technical specifications in the table).

As soon as the flames have died down and a bed of embers has formed, load the stove normally. Small loads of wood are preferable to large ones for combustion.

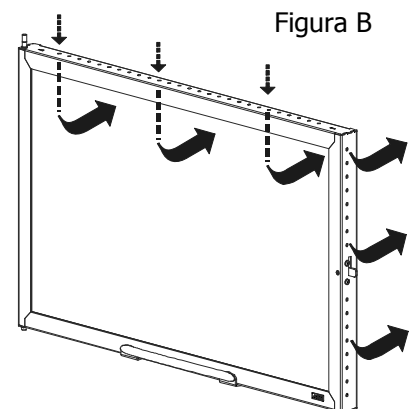
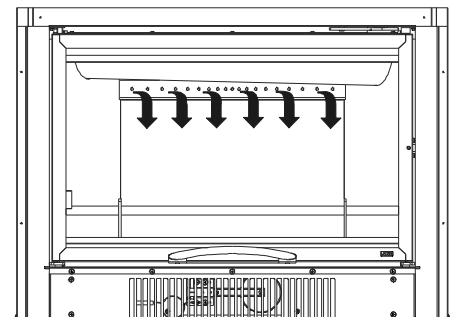


Figura B1



Attention

- Do not use volatile, flammable substances (petrol, alcohol etc.) for lighting the fire.
- Do not use fuels which could release toxic substances or pollutants.
- Do not put the fire out by throwing water on it.
- Check the external and internal air intakes, and the flue pipe, at least once a year, arranging for them to be cleaned.
- During use, the metal parts and the glass reach high temperatures. For all jobs of loading the stove, adjustment or cleaning the ash drawer, use the insulating glove provided.
- Never leave children unattended near the fireplace stove when it is in use.
- The risk of burns from contact with hot surfaces is very high.

5.7. EMERGENCY SITUATIONS

If for any reason the stove fire needs to be suddenly and quickly put out or a fire in the flue pipe needs to be put out, proceed as follows:

- The equipment door must be kept closed.
- Disconnect the power supply and do not use water (shock hazard).
- Urgently request the intervention of the competent authorities.

6. MAINTENANCE AND CLEANING



ATTENTION!

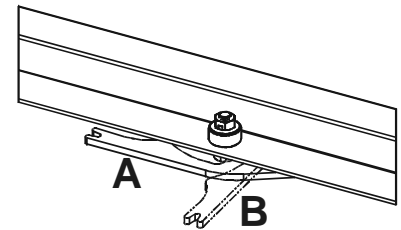
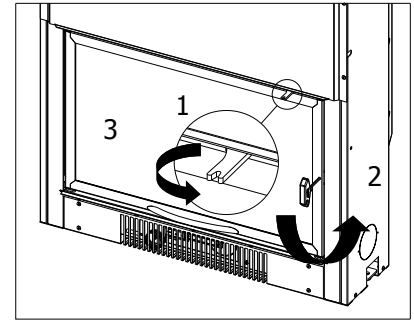
All cleaning operations of all parts should be conducted with the fireplace stove cold.

6.1. CLEANING TO BE PERFORMED BY THE USER

6.1.1. Cleaning the glass

Specific products can be used to clean the glass (see our pricelist), a cloth dampened with water and ammonia or a bit of white ash and a newspaper.

Completely lower the door and using the suitable hook provided or your hands, open the handle (1) taking it from position **A** to **B**, thus locking the door frame. Insert the hexagonal key provided in the lock and turn it anticlockwise (2) to open the door (3). To close, perform the steps listed above in reverse order.



Detail of handle for opening flap door

A – CLOSED POSITION

B – OPEN POSITION



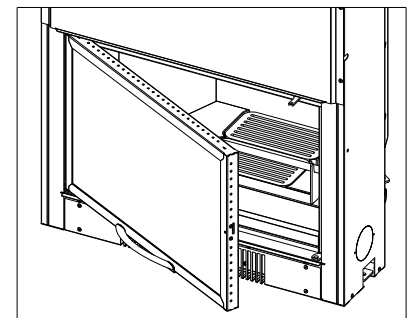
ATTENZIONE!

Do not use abrasive products and do not spray the cleaning product on the painted parts or on the gaskets of the door (ceramic fibre cord)

6.1.2. Cleaning the exchanger

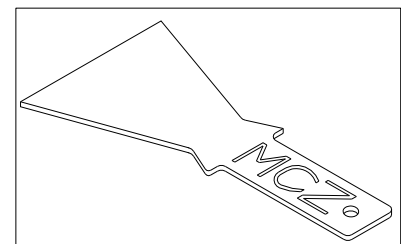
A scraper is provided to remove the creosote that may form in the exchanger; when the fireplace stove is cold the creosote is black, shiny, flaky and easy to remove. The advice is to remove the creosote at least every 20 days of operation to always have a constant yield over time; the exchanger pipe will only require a general brushing.

This operation is very important and easy to do in order to obtain the declared efficiency over time. With the exchanger blocked with creosote, 20% of the efficiency may be lost.



6.1.3. Cleaning out the ashes

This operation should be performed with the fireplace stove off. Adequate ash drawer cleaning is also recommended for correct combustion.



Scraper for the cleaning of the exchanger



ATTENTION!

If the ash drawer is not periodically emptied, deformations on the grilles of the firebox bed may occur.

Ashes which are still hot must neither be dumped outside in an uncontrolled manner nor put in the dustbin. Leave them to cool down in the open air in a metal container or far from combustible materials.

6.1.4. Cleaning flue pipe

Mechanical cleaning of the flue pipe is recommended at least once a year. Excessive deposits of unburnt solid material can cause problems with the evacuation of smoke, and gives rise to a risk of chimney fires

6.1.5. Lubrication and routine maintenance of the extensible guides

All of the doors of the fireplace stoves are mounted on extensible ballbearing guides that ensure a robust, sturdy system that provides silent movement.

Prolonged use and the heat of the fireplace stove gradually depletes the lubricant in the guides. This will cause them to become less efficient and noisier.

If necessary, periodically grease both runners as follows:

- Pull open the frame liner and extract the door so you can see the tracks of the guide.
- Using the provided grease gun, apply two drops of grease, about 5 mm in diameter, at the highest visible point of the runners. **Do not exceed the recommended amount!**
- Perform this operation on both guides. Keep in mind that the total amount of grease to be used is about 0.5ml (see graduated scale on grease gun).

After lubrication:

- Put the glue gun back and conserve it
- Lower and raise the door completely at least 6 or 7 times so that the grease is spread onto all of the other components of the guides to complete lubrication. You should notice a substantial improvement in ease of movement and noise reduction.



It is advisable to carry out this operation at the end of the season of use, or whenever the runners become too noisy.

Do not use other types of grease. If the grease gun runs out, request an MCZ original replacement.

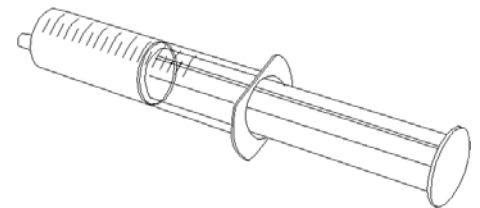
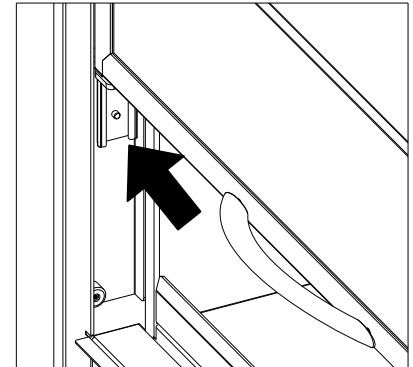


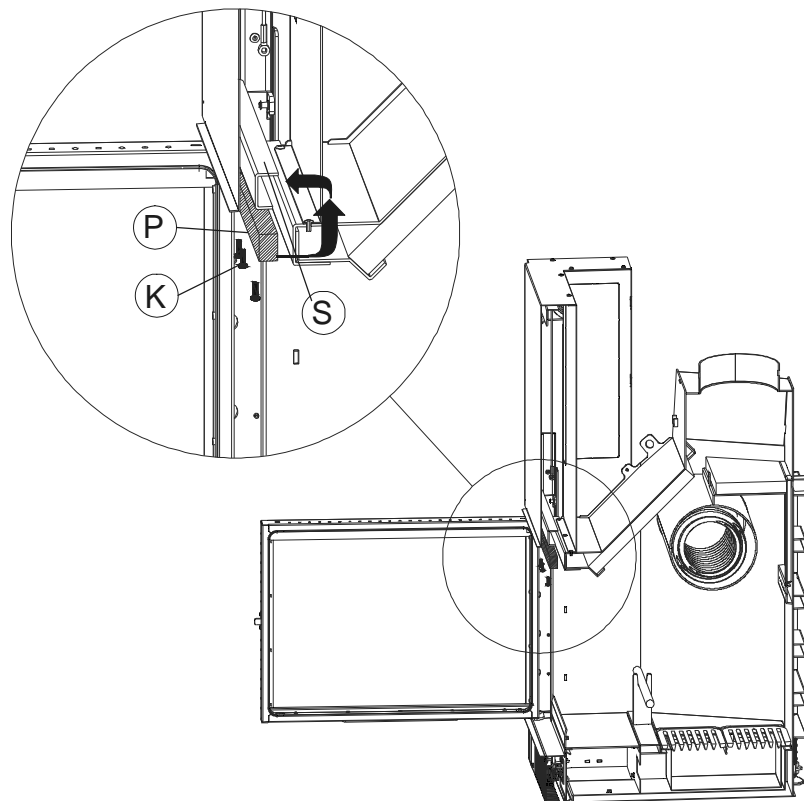
Figure 15 – Points to be greased with provided grease gun

7. DOOR ADDITIONAL WEIGHT KIT

7.1. Supplementary weight kits for door closure (only available for closed tank version)

A supplementary weight kit is available as an accessory to be fixed above the door; with this system the door lowers automatically when released.

To fix the weight (**P**), open the door, insert the piece (as in figure) and fit it on the C-shaped profile (**S**), then tighten the 4 screws (**K**).





MCZ GROUP S.p.A.

Via La Croce 8

33074 Vigonovo di Fontanafredda (PN) – ITALY

Telephone: +39 0434/599599 PBX

Fax: +39 0434/599598

Internet: www.mcz.it

e-mail: mcz@mcz.it