

Installation, Use and Maintenance Manual for model

SFC 28

Condensing water heater

CE 0476

SFC 28 - RAD - ING - Manuale - 2101.1_MIAB3113_R7_v.28_kW

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INTRODUCTION

WARNING

Before starting any operation it is mandatory to read this instruction manual, in relation to the activities to be carried out as described in each relevant section. Proper operation and optimal performance of the water heater are ensured by strict compliance with all the instructions given in this manual.

The installation, use and maintenance manual is an integral and essential part of the product and must be delivered to the user.

MANUAL USERS

The manual users are all those who install, use and maintain the water heater.

The water heater must be used and accessed only by qualified operators that fully read and understood the use and maintenance manual, paying particular attention to the warnings.

READING AND SYMBOLS OF THE MANUAL

To ease the understanding of this manual, recurrent symbols where used, in particular:

- › On the outer margin of the page is placed a thumb index indicating the type of user to which the instructions in that section address.
- › The titles are differentiated by thickness and size in accordance with their hierarchy.
- › The images contain important parts described in the text, marked with numbers or letters.
- › (See chap “chapter name”): this entry indicates another section in the Manual that you should refer to.

- › Device: this term is used referring to the water heater.



DANGER

It identifies an information related to a general danger that if not complied with, may cause serious personal damage or even death.



ATTENTION

It identifies an information that if not complied with may cause small or medium level lesions to the person or serious deterioration to the water heater.



WARNING

It identifies a precaution information that must be observed in order to avoid damaging the machine or parts of it.

MANUAL STORAGE

The manual must be carefully stored and replaced in case of deterioration and/or low legibility.

If you misplace the use and maintenance manual, you can request it from the Technical Support Centre giving the serial number and model of the water heater indicated on the plate placed on the right side of its casing.

MANUFACTURER WARRANTY AND RESPONSIBILITY

The technical and functional features of the device are ensured by its use in compliance:

1. with the use and maintenance instructions contained in the manuals accompanying the product, the content of which the customer certifies that he is aware;
2. with the conditions and purposes to which assets of the same type are intended.

For more information on the warranty validity, its duration, the obligations and the exemptions, please consult the First start-up certificate attached to this manual.

The manufacturer reserves:

- › the right to modify the tools and relative technical documentation without any obligation to third parties; neither will the company be held responsible for any inaccuracies in this handbook deriving from printing or translation errors;
- › the material and intellectual ownership of this manual and forbids its distribution and duplication, even partial, without prior written authorization.

PRODUCT CONFORMITY

The materials used such as copper, brass, stainless steel create a homogeneous, compact and functional assembly, easy to install and

manage. In its simplicity, the water heater is equipped with all accessories necessary to render it a veritable independent heating unit. All water heaters are tested and delivered with a quality certificate signed by the tester.

1. INSTALLER SECTION

The installation operations described in this section should be performed only by qualified personnel, having the appropriate technical training in the field for the installation and maintenance of components of civil and industrial domestic hot water production and heating plants.

1.1. INSTALLATION

1.1.1. GENERAL INSTALLATION WARNINGS



ATTENTION

This machine may be used only for the purpose for which it has been designed: heat water to a temperature below boiling point at atmospheric pressure. Any other use is considered wrong and dangerous. The manufacturer is excluded from any contractual or out of contract responsibility for damage caused to people, animals or property due to errors during installation.



ATTENTION

This water heater should be installed only by qualified personnel, having the appropriate technical training in the field for the installation and maintenance of components of civil and industrial domestic hot water production and heating plants.



ATTENTION

After having removed the packing, make sure the equipment is intact. In case of doubt, do not use the equipment and contact the supplier.

BEFORE INSTALLING THE WATER HEATER, THE INSTALLER MUST MAKE SURE THAT THE FOLLOWING CONDITIONS ARE MET:

- › The device is connected to a heating plant and a water supply network appropriate for its power and performance.
- › The location must be properly vented through an air vent.
- › The air vent must be placed at floor level to prevent it from being obstructed, protected by a grid that does not hamper the useful section of passage.

- › The device is suitable for use with the type of gas available by checking the water heater data plate (placed on the inner side of the front casing).
- › Make sure that the tubes and couplings are perfectly sealed, without any gas leaks.
- › Make sure that the grounding system works properly.
- › Make sure that the electrical systems is suitable for the maximum power absorbed by the equipment, value indicated on the data plate.

1.1.2. WATER HEATER LOCATION ENVIRONMENTAL REQUIREMENTS

The device's installation location should be vented due to the presence of threaded joints on the gas adduction line. The location should be therefore provided with vents as to ensure air exchange, with output grid in the natural accumulation area of eventual gas losses.



WARNING

DO NOT install the water heater in a technical compartment near a swimming pool or a laundry, to avoid that the combustion air is exposed to chlorine, ammonia or alkaline agents that may worsen the corrosion phenomenon of the heat exchanger. Failure to observe this caution will void the warranty of the heat exchanger.

**WARNING**

If the temperature in the water heater installation location goes below -10 °C please insert electrical resistances kit (see chapter 'ANTI-FREEZE PROTECTION').

**WARNING**

The manufacturer will not be held responsible for damages caused by incorrect installation not in conformity with the over mentioned instructions and not protected adequately from the freeze.

1.1.3. REFERENCE LEGISLATION

The installation must be realized according to the requirements of current legislation and in compliance with local technical regulations, according to the indications of the good technique.

1. INSTALLATION

1.1.4. UNPACKING



WARNING

Please unpack the water heater just before installing it. The Company is not responsible for the damages caused to the device due to incorrect storage.

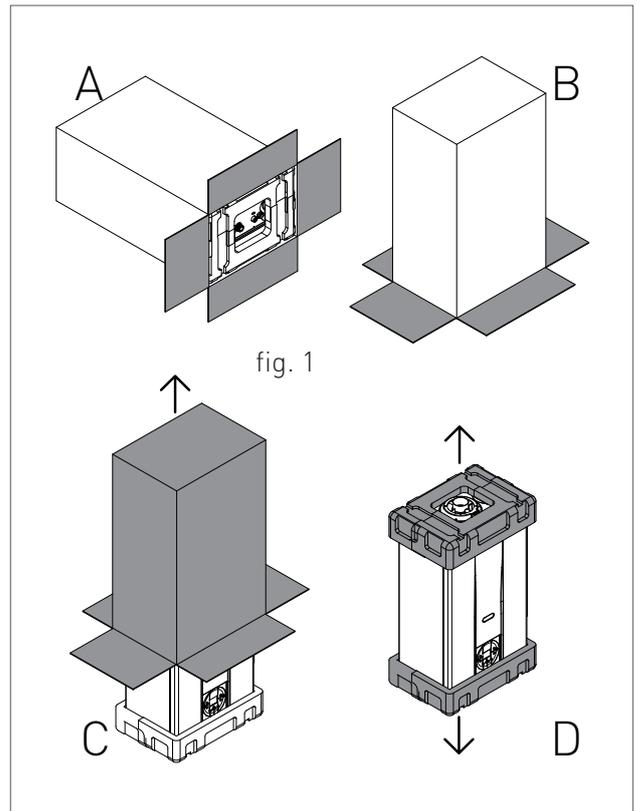


WARNING

The packing elements (cardboard box, wooden crate, nails, fasteners, plastic bags, expanded polystyrene, etc.) must be kept out of the reach of children as they may be dangerous. Therefore they should be dismantled suitably differentiating them in accordance with the standards in force.

To unpack the water heater, proceed as follows:

- > Place the packed water heater on the floor (fig. 1-A) and remove the fasteners opening the four flaps of the box outwards.
- > Turn the water heater at 90° holding it with your hand (fig. 1-B).
- > Lift the box (fig. 1-C) and remove the guards (fig. 1-D).

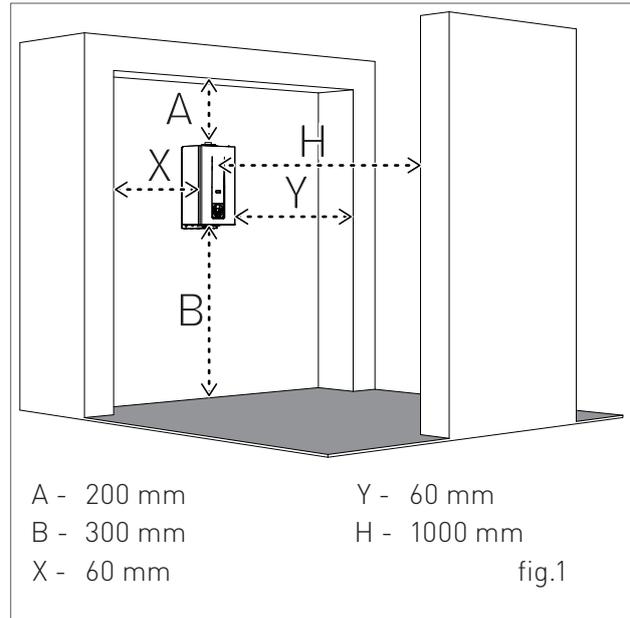


1.1.5. POSITIONING AND MINIMAL TECHNICAL SPACES

The water heater must be installed only on a vertical solid wall, able to sustain its weight.

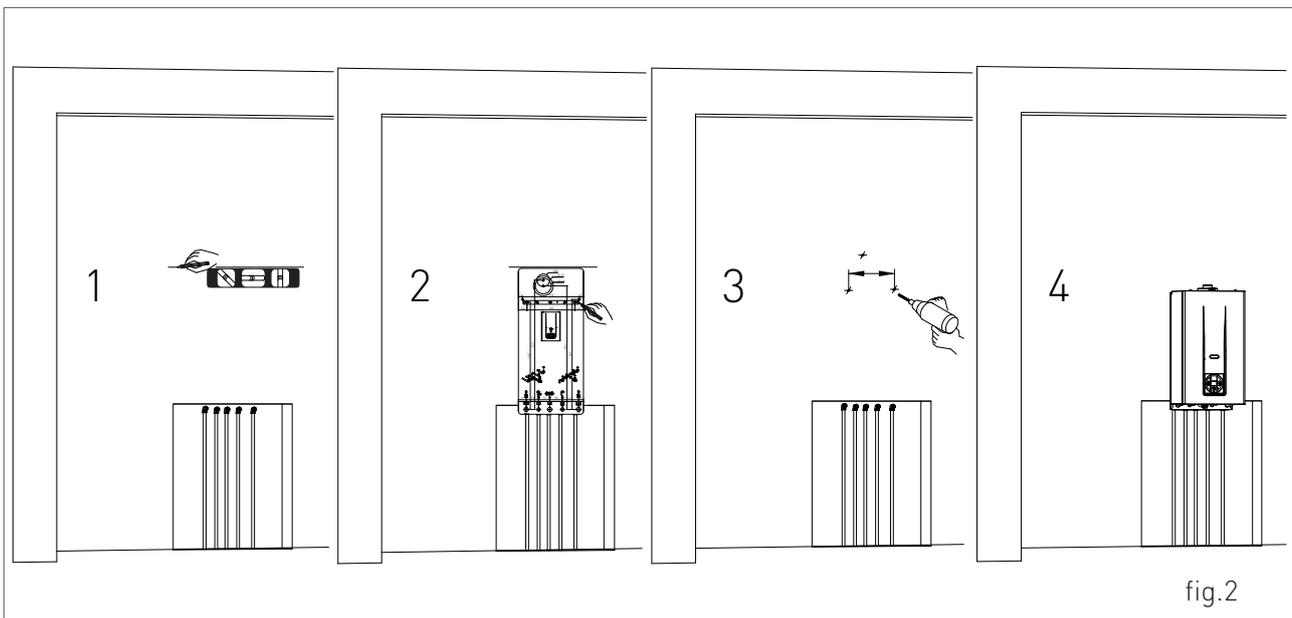
In order to allow the access inside the water heater for maintenance operations, you have to respect the minimum technical spaces indicated in figure 1.

To facilitate the installation, the water heater is provided with a jig that allows setting in advance the connections to the tubes offering you the possibility of connecting the water heater to completed masonry works.



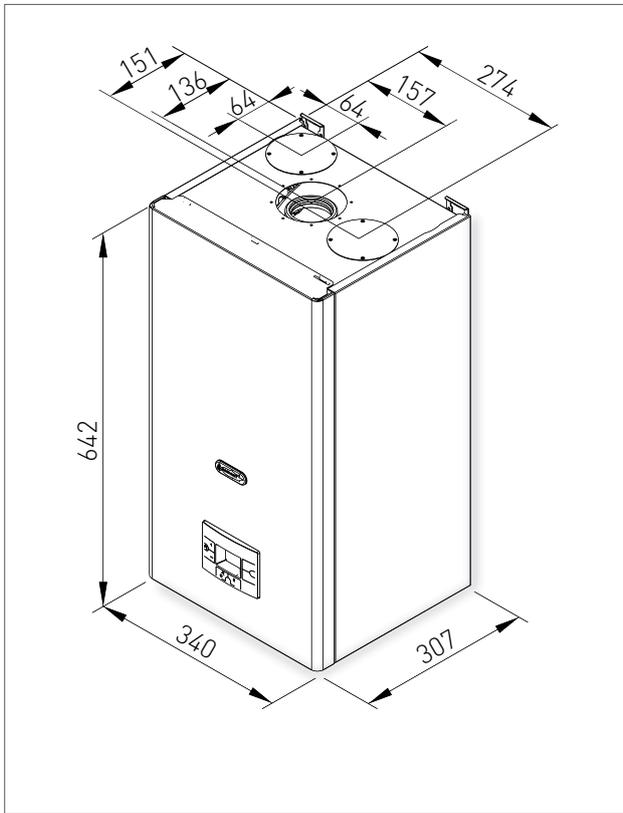
For machine positioning, proceed as follows (see fig. 2):

1. Trace a line using a spirit level (min. length 25 cm) on the installation wall.
2. place the top of the jig along the traced line respecting the distances of the water connections; then mark the two points to insert the two knobs or the fasteners, then trace the points for the fume exhaust fittings;
3. remove the jig and drill the wall;
4. hang the device using the knobs or the bracket and perform the connections.

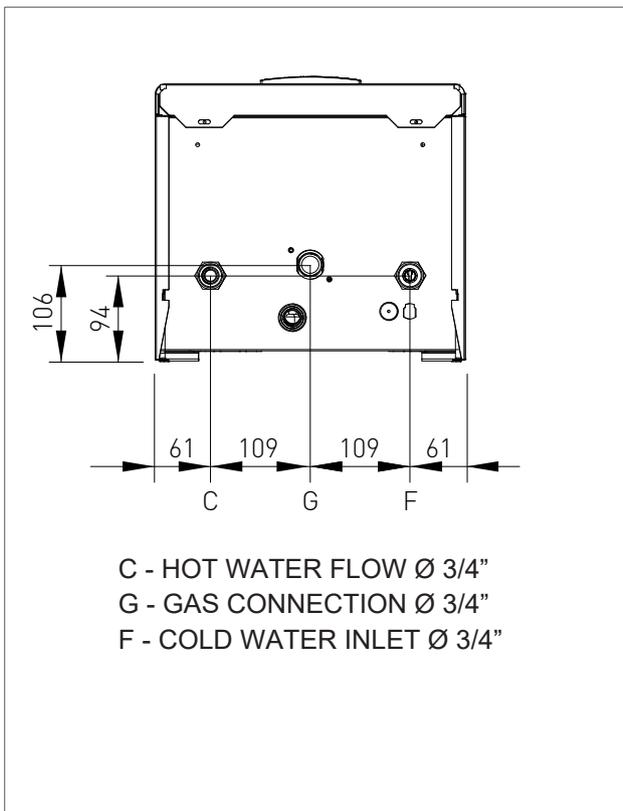


1. INSTALLATION

1.1.6. OVERALL DIMENSIONS



1.1.7. JIG



1.1.8. HYDRAULIC CONNECTION



DANGER

Make sure that the tubes of the water and heating plant are not used as grounding system for the electrical plant. There are not suitable for such use.



WARNING

To prevent voiding the warranty and to ensure the proper operation of the water heater, please wash the plant (if possible when hot) with suitable pickling or descaling solutions in order to remove the impurities coming from tubes and radiators.



WARNING

If the water heater is installed in a hydrostatic position lower than those of the user devices (radiators, fan coils, etc.), mount the shut-off valves on the domestic water heating circuit to ease the performance of the maintenance operations if it is necessary only to empty the water heater.



WARNING

When connecting the equipment to water supply, avoid excessive bending and recovery operations from any off axis positioning that may damage the tubes causing leaks, malfunction or early wear.



WARNING

In order to avoid any vibrations and noises, do not use tubes with small diameters or elbows with small radius and significant cut-off of the passage sections.



WARNING

Connect the water heater safety drains to a discharge funnel. The manufacturer is not responsible for any floods due to safety valve opening in case of plant overpressure.

the characteristics of the water used and install suitable treating devices.

The heat exchanger coil cleaning frequency depends on the hardness of the supply water and on the presence of solid residues or impurities inside the water that are often present in case of recently installed plants. Based on the characteristics of the infeed water, you should install suitable water treating devices, for residues presence please install a line filter.

The pressure of the cold infeed water should be between 0.5 and 6 bar. In case of greater pressure values, please install a pressure reducer upstream from the water heater.

In order to prevent limestone build-up and damages to the domestic water heat exchanger, the hardness of the domestic supply water should not exceed 15 °f. However, please check

1. INSTALLATION

1.1.9. FILLING THE CONDENSATE COLLECTION SIPHON

Before starting the water heater you have to fill the condensate collection siphon in order to avoid flue reflux through the siphon.

Fill the condensate collection siphon as follows (see fig. 1):

- > With a glass pour the water in the heat exchanger's flue exhaust duct outlet (see fig. 1), up to fill the condensate trap to the highest point "T" (fig. 1);
- > Connect the dedicated flexible condensate draining tube to a waste disposal system. The condensate can be drained directly in the sewerage system by inserting an easily serviceable siphon.

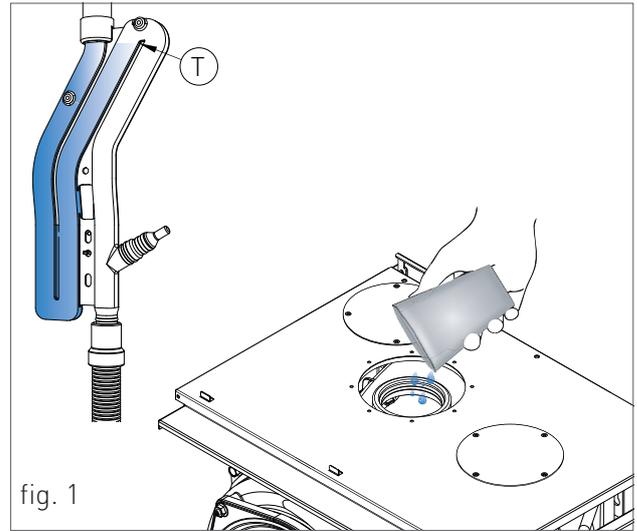


fig. 1

1.1.10. ANTI-FREEZE PROTECTION

Thanks to the optional electrical heating elements (code 50-00106), it is possible to protect the water heater up to an outside temperature of -10°C .

The electrical resistances kit is a frost protection system that activates when the water temperature goes below the value set at parameter P11 (see chapters 'ACCESSING AND PROGRAMMING THE PARAMETERS' and 'MIAB3113 PARAMETERS TABLE'). The electrical resistances heat the water heater pipes until a temperature 5°C higher than the value set at parameter P11 is reached.

**ATTENTION**

The system operates even if the water heater is in OFF mode, as long as it is electrically powered.

Whenever there is a risk of freezing and no optional kit of electrical heating elements is fitted on the water heater, the water circuit will have to be drained (see chapter 'DRAINING THE DOMESTIC HOT WATER SYSTEM').

1. INSTALLATION

1.1.11. GAS CONNECTION



DANGER

In order to connect the gas connector of the boiler to the supply pipe use a stop seal of an appropriate size and material. The use of hemp, teflon tape or similar materials is strictly forbidden.

BEFORE PERFORMING THE GAS CONNECTION, MAKE SURE THAT:

- › the gas adduction line complies with the standards and regulations in force;
- › the tubing's section suits the requested capacity and its length;
- › the tubing is equipped with all safety and control devices required by the standards in force;
- › the internal and external seals of the gas infeed plant are checked;
- › the device is suitable for use with the type of gas available by checking the boiler data plate (placed on the inner side of the front casing. If they do not match you must take the necessary measures to adapt the boiler to another type of gas (see chapter GAS TRANSFORMATION);
- › the gas supply pressure falls within the values indicated on the data plate.

1.1.12. ELECTRICAL CONNECTION



DANGER

The equipment is electrically safe only if it is properly connected to an efficient grounding system, performed in compliance with the safety standards in force. You should check this essential safety requirement. If in doubt, request an accurate check of the electrical system performed by qualified staff, as the manufacturer is not responsible for any damages caused by lack of grounding system.

- › Make sure that the electrical systems is suitable for the maximum power absorbed by the equipment, value indicated on the data plate.
- › make sure that the cables section is appropriate for the maximum power absorbed by the equipment and that it is however not lower than 1 mm².
- › The equipment works with alternating current of 230 V and 50 Hz.



WARNING

Make sure that the phase and neutral cables connection is performed in compliance with the wiring diagram (see chapter WIRING DIAGRAM).



WARNING

It is strictly forbidden the use of adaptors, multiple plugs and/or extensions for the general power supply of the equipment from the electrical network.

1. INSTALLATION

1.1.13. OPTIONAL ELECTRICAL CONNECTIONS

To wire the optionals below:

- **(CS) DISABLING THE D.H.W. MODE (BY CONTACT)**
- **(CR) REMOTE CONTROL OPEN THERM CODE 40-00017**
- **(CKR) FROST PROTECTION THROUGH ELECTRICAL RESISTANCES KIT CODE 50-00106**

use the terminal placed inside the control panel as follows:



DANGER

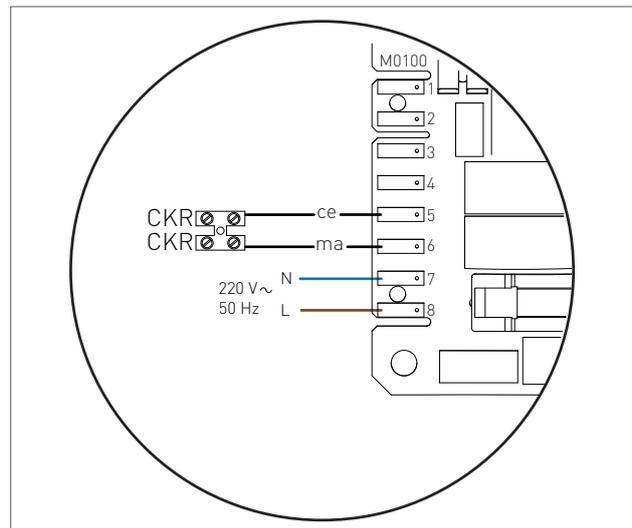
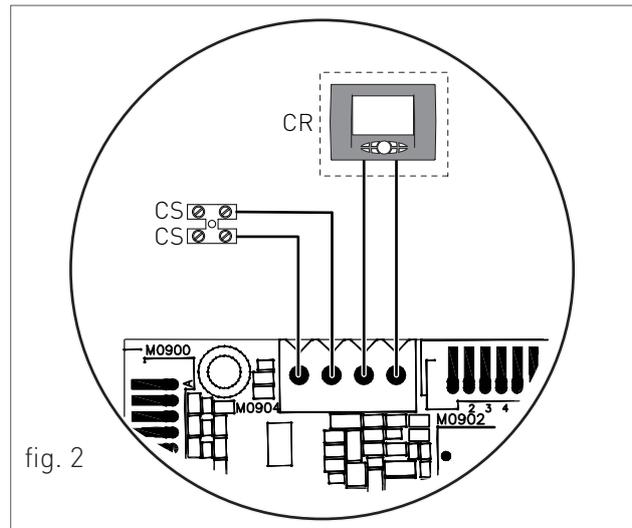
Cut off the voltage from the main switch.

- › remove the boiler's front casing (refer to chapter ACCESSING THE BOILER).
- › remove the crankcase of the control panel (see chapter ACCESSING THE ELECTRONIC BOARD).
- To disable the D.H.W. mode by contact, connect the two non-polarized conductors (for example a temperature thermostat or a solar control unit) to the 'CS' contacts of the terminal block (see fig. 1). It is possible to enable/disable the burner ignition request in D.H.W. mode in the following ways: (Example 1) - With 'CS' D.H.W. contact open, upon D.H.W. request, the flow-meter activates and the water heater starts. (Example 2) - With 'CS' D.H.W. contact closed, upon D.H.W. request, the flow-meter activates but the water heater doesn't start.
- For remote control, connect the two non-polarized conductors to the 'CR' contacts of the terminal block (see fig. 1).

- For frost protection through electrical resistances kit, connect the two conductors to the 'CKR' contacts of the terminal block (see fig. 2).

fig. 1

After performing these operations, remount the crankcase of the control panel and then re-fit the front casing.



1. INSTALLATION

1.1.14. FUME EXHAUST FITTINGS



WARNING

In order to ensure proper operation and efficiency of the device you have to connect the water heater fume exhaust fitting to the fume exhaust duct using appropriate polypropylene flue fittings for condensing water heaters. It is recommended to install a discharge system



WARNING

You cannot use traditional flue fittings for the discharge ducts of the condensing water heaters, nor vice versa.



WARNING

For fumes exhaust and condensate collection, please follow the technical standards in force.

For all discharge ducts, with regard to the fumes path, you should provide an uphill slope (outwards) so as to favour the reflux of the condensate towards the combustion chamber, suitably realized to collect and drain acid condensate.

- › For all air suction ducts, with regard to the air path, you should provide an uphill slope (towards the water heater) so as to avoid the protrusion inside the duct of rain water, dust or foreign objects.
- › In case of horizontal co-axial system installation, correctly place the horizontal co-axial terminal suitably realized to respect the slopes inside the fumes duct and to protect the air suction duct from adverse weather conditions.
- › In order to discharge the fumes through a fumes exhaust duct carefully follow the technical standards in force.
- › Make sure that the discharge tube does not protrude inside the fumes exhaust duct, stop before it reaches the inner surface of the latter.

- › The discharge duct must be perpendicular with the opposite internal wall of the chimney or of the fumes exhaust duct (fig. 1).

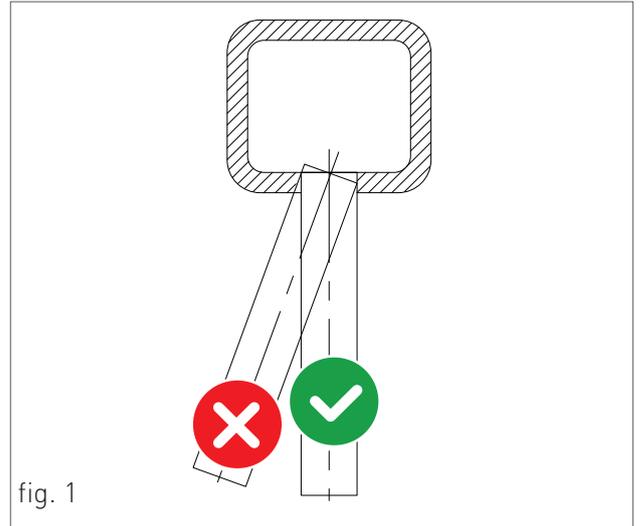


fig. 1

1.1.15. TYPES OF FUME EXHAUST SYSTEMS

**KIT K - HORIZONTAL CO-AXIAL SYSTEM Ø60/100
INTERNAL POLYPROPYLENE DUCT ADJUSTABLE
AT 360°.**

It allows fumes discharge and air intake from external wall.

Suitable only for condensing boilers.

It allows fuel gas discharge and air intake for combustion through co-axial ducts, the external one for air intake, the plastic internal one for fumes discharge.

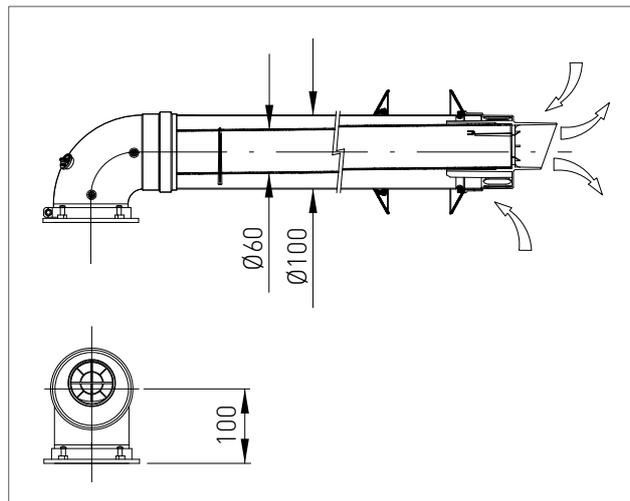
PLEASE SEE THE MAXIMUM DISCHARGE LENGTH IN THE TABLE IN CHAPTER "TECHNICAL DATA".

The maximum discharge length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.

Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

co-axial curve Ø60/100 at 90° = 1 m

co-axial curve Ø60/100 at 45° = 0.6 m



1. INSTALLATION

KIT H – HORIZONTAL TWIN PIPE FLUE KIT Ø80/80, IN POLYPROPYLENE, ADJUSTABLE AT 360°.

The twin pipe allows flue discharge through the flue exhaust duct and air intake from outside.

Suitable only for condensing boilers.

It allows discharging fuel gas and air suctioning for combustion through two separated ducts.

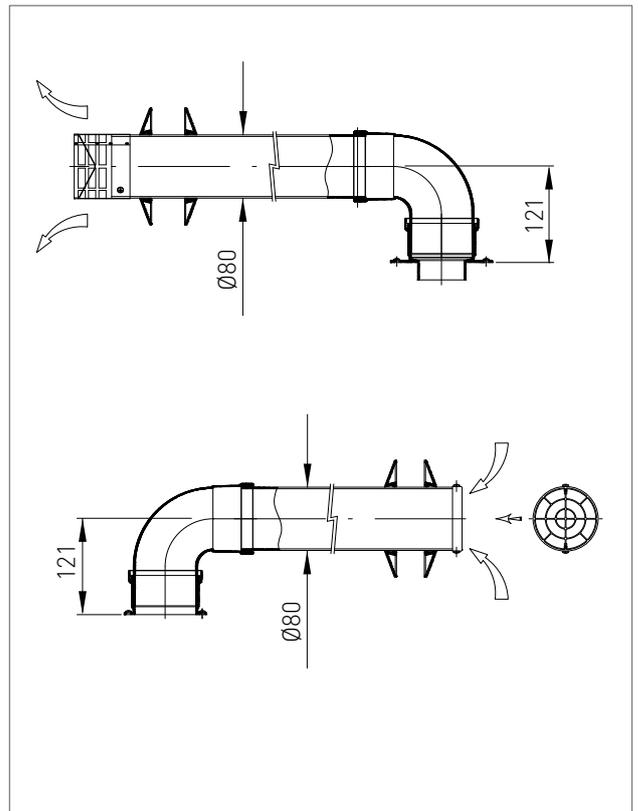
PLEASE SEE THE MAXIMUM DISCHARGE AND INTAKE LENGTH IN THE TABLE IN CHAPTER "TECHNICAL DATA".

The maximum discharge and intake length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.

Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

curve Ø80 at 90°= 1.5 m

curve Ø80 at 45°= 0.8 m



KIT V - VERTICAL CO-AXIAL SYSTEM Ø60/100 INTERNAL POLYPROPYLENE DUCT.

It allows fumes discharge and air intake directly from roof.

Suitable only for condensing boilers.

It allows fuel gas discharge and air intake for combustion through co-axial ducts, the external one for air intake, the plastic internal one for fumes discharge.

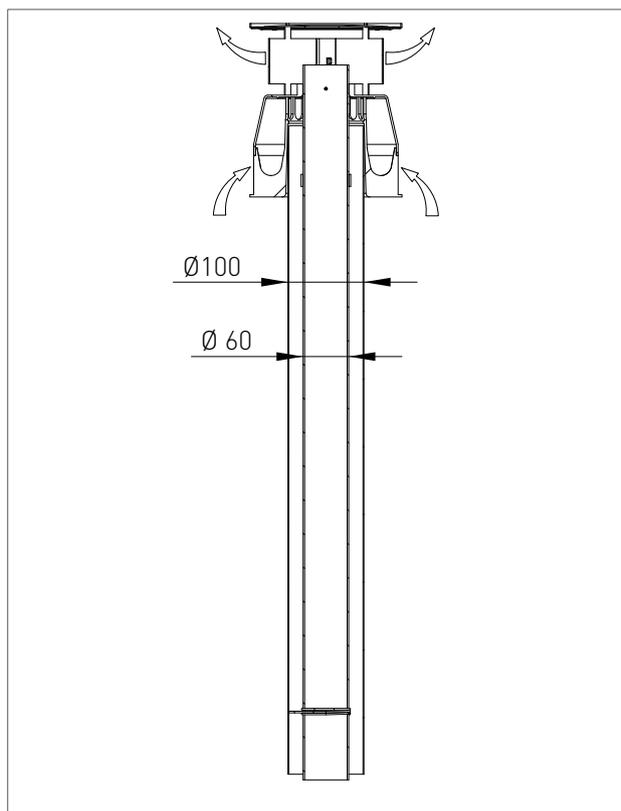
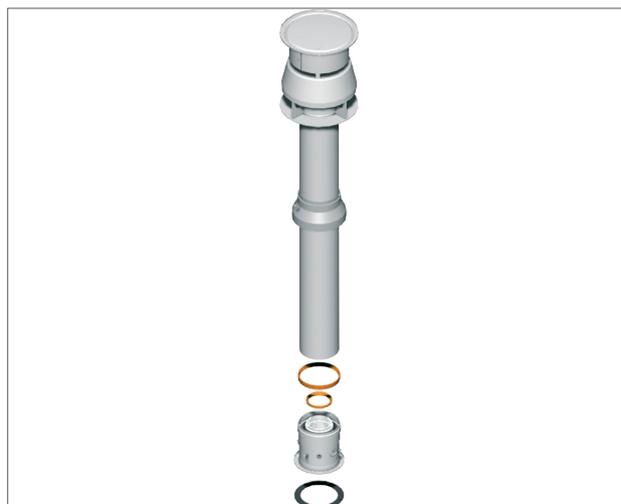
PLEASE SEE THE MAXIMUM DISCHARGE LENGTH IN THE TABLE IN CHAPTER "TECHNICAL DATA".

The maximum discharge length (or linear reference length) can be calculated summing the length of the linear tube and that equivalent to each additional curve with respect to the first.

Subsequent addition of a curve is similar to adding a linear length of tube according to the indications below:

curve Ø60/100 at 90° = 1 m

curve Ø60/100 at 45° = 0.6 m



2. SUPPORT CENTER SECTION

2.1. FIRST START-UP

2.1.1. PRELIMINARY OPERATIONS FOR FIRST START-UP

The first start-up operations consist in checking the correct installation, adjustment and operation of the device. Proceed as follows:

- › check the inner system sealing in accordance with the indications provided by standard and regulations in forced;
- › check if the gas used is suitable for the water heater;
- › check if the gas capacity and relative pressures comply with those on the plate;
- › check the intervention of the safety device in case of lack of gas;
- › make sure that the device supply voltage corresponds with that on the plate (230 V – 50 Hz) and that the wiring is correct;
- › make sure that the grounding system works properly;
- › make sure that the combustion air adduction and fumes and condensate discharge take place properly in compliance with the Local and National Laws and Standards in force;
- › make sure that the fumes discharge tube and its connection to the fume exhaust duct comply with the requirements of the Local and National Laws and Standards;
- › make sure that the heating system gate valves are open;
- › make sure that there is no intake of gaseous products within the system;
- › make sure that there are no flammable liquids or materials near the device;
- › open the water heater gas tap and make sure that there are no gas leaks upstream from the device (the burner gas connection must be checked while the machine is running);
- › in case of new installation of the gas supply network, the air inside the tubes may block the device at its first start-up. You might have to repeat the start-up procedure to purge all the air inside the tube.

2.1.2. WATER HEATER COMMISSIONING

Proceed with water heater commissioning as follows:

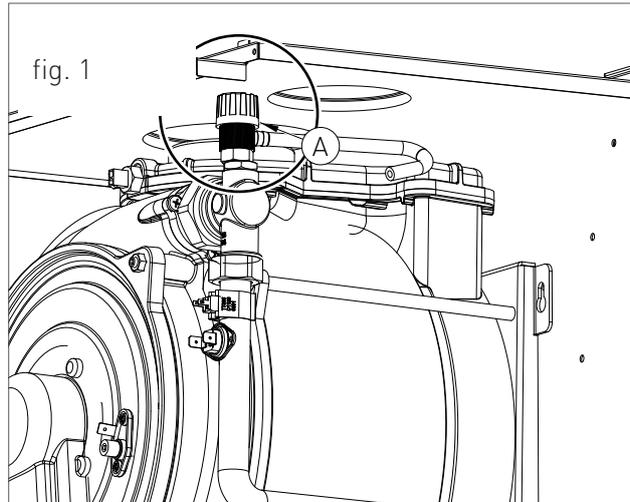
- › power the water heater;
- › open the gas tap;
- › ignite the unit by pressing the button ;
- › open the D.H.W. taps at the maximum flow rate;
- › the unit is ignited.



WARNING

Please make sure all the air is flushed-off by means of the drain valve located within the unit (A- figure 1).

- › If the flame is missing the board will repeat the start-up operations after post-ventilation (20 seconds).
- › You might have to repeat the start-up operation several times to release all air inside the gas tube. Before repeating the operation, wait at least 5 seconds from the last start-up attempt and unlock the water heater from "E01" error code by pressing the Reset  key.



2.1.3. CO₂ VALUE CHECK AND CALIBRATION



WARNING

The CO₂ value should be checked with the casing assembled, while the gas valve should be adjusted with the casing open.

To check and calibrate the CO₂ value to minimum and maximum heating power make sure that the appliance is not in OFF mode and proceed as follows:

FOR MINIMUM HEATING POWER

- › Access parameter 'P02' following the procedure described in chapter "ACCESSING AND PROGRAMMING THE PARAMETERS" and stay in edit mode until the calibration is completed (the maximum time before forced exiting the edit mode is 7 minutes).
- › Open several D.H.W. taps at the highest flow rate.
- › Insert the fumes analyser probe in the suitable 'PF' fumes inlet (fig. 1), then make sure that the CO₂ value complies with the requirements indicated in chapter "Technical data", otherwise unscrew the protection screw 'A' (fig. 2) and adjust using a 4 Allen wrench the screw '2' (fig. 2) of the Off-Set adjuster. To increase the CO₂ value, turn the screw clockwise and vice-versa if you want to decrease it.
- › Once completed the adjustment, tighten the protection screw 'A' (fig. 2) on the Off-Set adjuster.
- › Exit parameter 'P02' following the procedure described in chapter "ACCESSING AND PROGRAMMING THE PARAMETERS".

FOR MAXIMUM HEATING POWER

- › Open several D.H.W. taps at the highest flow rate.

- › Access parameter 'P03' following the procedure described in chapter "ACCESSING AND PROGRAMMING THE PARAMETERS" and stay in edit mode until the calibration is completed (the maximum time before forced exiting the edit mode is 7 minutes).
- › Make sure that the CO₂ value complies with the indications in "Technical data", otherwise adjust using screw '1' (fig. 2) of the gas flow adjuster. To increase the CO₂ value, turn the screw anti-clockwise and vice-versa if you want to decrease it.
- › After each adjustment variation on screw '1' (fig. 2) of the gas flow adjuster you have to wait for the boiler to stabilize itself to the set value (about 30 seconds).
- › Enter again the parameter 'P02' and make sure that the CO₂ value did not change to minimum, if changed repeat the calibration described in the previous paragraph.

fig. 1

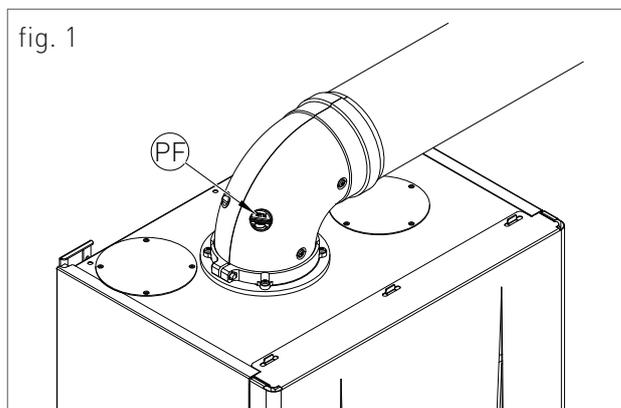
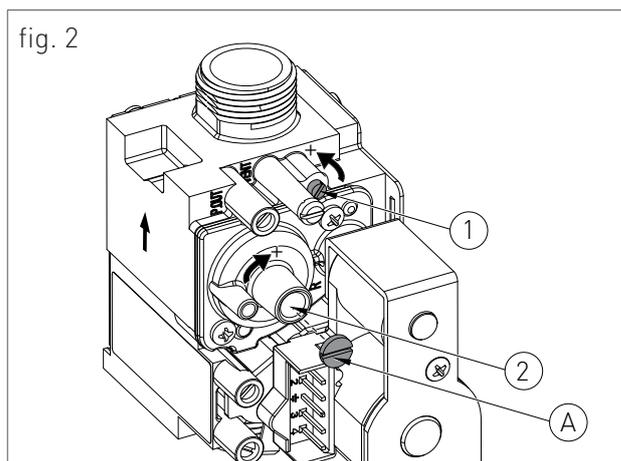


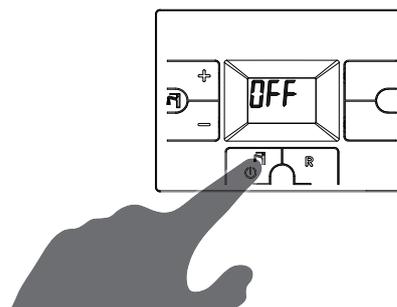
fig. 2



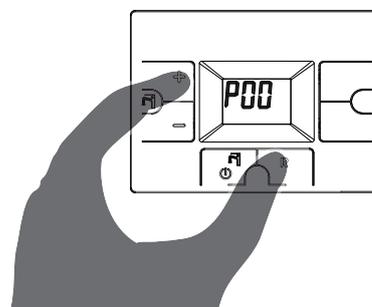
2.1.4. ACCESSING AND PROGRAMMING THE PARAMETERS

To access the parameters menu and adjust their values, follow the procedure below:

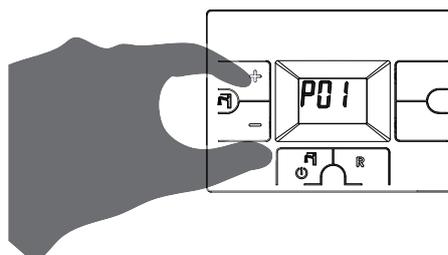
1. Press the "  " button to select the OFF mode.



2. Press and hold both the 'R' and '+' of the domestic circuit  buttons and wait for 'P00' to appear on the display, then release the buttons.

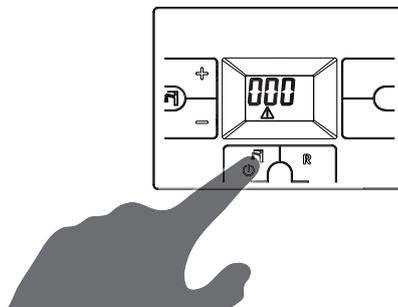


Press the keys '+' and '-' of the domestic circuit  to select the parameter to be edited.

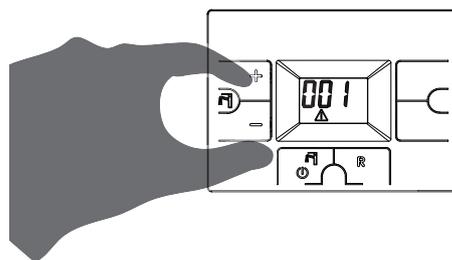


2. FIRST START-UP

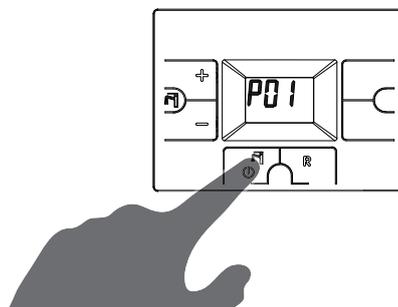
4. Keep the '⏻' button pressed until the parameter value is displayed.



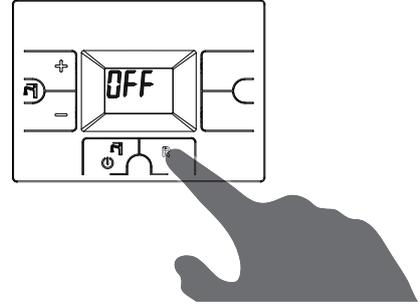
5. Use the '+' and '-' buttons of the domestic circuit (house icon) to change the parameter value.



6. Keep the '⏻' button pressed until the parameter is displayed in order to confirm the modified value.



7. To quit the parameters menu, press the **(R)** button until 'OFF' is displayed.



2. FIRST START-UP

2.1.5. MIAB3113 PARAMETERS TABLE

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P00	SELECTION OF THE FIRE RATING	0 - 3	0 = 24 KW 1 = 28 KW 2 = 34 KW
P01	GAS TYPE SELECTION ATTENTION: READ THE INSTRUCTION IN CHAPTER 'GAS TRANSFORMATION' BEFORE CHANGING THIS PARAMETER.	0 - 1	0 = NATURAL GAS 1 = LPG
P02	FAN MINIMUM SPEED ADJUSTMENT THROUGH THIS PARAMETER YOU CAN SET THE FAN MINIMUM SPEED CORRESPONDING TO THE MINIMUM POWER OF THE BURNER. THE VALUE IS PRE-SET BASED ON THE SET POWER (SEE PARAMETER P00) AND ON THE GAS TYPE (SEE PARAMETER P01).	43 - 133	VALUE EXPRESSED IN HERTZ (1HZ = 30 RPM)
P03	FAN MAXIMUM SPEED ADJUSTMENT THROUGH THIS PARAMETER YOU CAN SET THE MAXIMUM FAN SPEED CORRESPONDING TO THE MAXIMUM POWER OF THE BURNER. THE VALUE IS PRE-SET BASED ON THE SET POWER (SEE PARAMETER P00) AND ON THE GAS TYPE (SEE PARAMETER P01).	40 - 290	VALUE EXPRESSED IN HERTZ (1HZ = 30 RPM)
P04	STARTING STEP ADJUSTMENT THROUGH THIS PARAMETER YOU CAN SET THE FAN SPEED DURING THE START-UP. THE VALUE IS PRE-SET BASED ON THE SET POWER (SEE PARAMETER P00) AND ON THE GAS TYPE (SEE PARAMETER P01).	40 - 255	VALUE EXPRESSED IN HERTZ (1HZ = 30 RPM)
P05	D.H.W RUN-DOWN THROUGH THIS PARAMETER YOU CAN SET THE TIME NECESSARY FOR THE WATER HEATER TO REACH THE MINIMUM SET POWER, AFTER THE BURNER START-UP.	02 - 15	VALUE EXPRESSED IN SECONDS (PRE-SET AT 3 SECONDS)

2. FIRST START-UP

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P06	MAXIMUM DOMESTIC SETPOINT THROUGH THIS PARAMETER YOU CAN SET THE USER-ADJUSTABLE MAXIMUM DOMESTIC TEMPERATURE.	50 - 67	VALUE EXPRESSED IN °C (PRE-SET AT 60°C)
P07	MINIMUM DOMESTIC SETPOINT THROUGH THIS PARAMETER YOU CAN SET THE USER-ADJUSTABLE MINIMUM DOMESTIC TEMPERATURE.	35 - 45	VALUE EXPRESSED IN °C (PRE-SET AT 40°C)
P08	MINIMUM D.H.W FLOW RATE SETTING THROUGH THIS PARAMETER YOU CAN SET THE MINIMUM D.H.W. FLOW RATE NECESSARY TO ACTIVATE THE WATER HEATER. THE VALUE IS PRE-SET BASED ON THE CHOSEN POWER (SEE PARAMETER P00).	20 - 68	VALUE EXPRESSED IN HERTZ 20 Hz = 1.5 l/min 28 Hz = 2 l/min 37 Hz = 2.5 l/min 45 Hz = 3 l/min 52 Hz = 3.5 l/min 59 Hz = 4 l/min 64 Hz = 4.5 l/min 68 Hz = 5 l/min
P09	ADDITIONAL POST-VENTILATION TIMING THROUGH THIS PARAMETER YOU CAN SET A PERIOD OF OPERATION, ADDITIONAL TO THE 20 STANDARD SECONDS OF THE FAN, AFTER THE BURNER SHUTDOWN.	20 - 120	VALUE EXPRESSED IN MULTIPLES OF 5 SECONDS (PRE-SET AT 48 X 5 = 240 SECONDS)
P10	ANTI-WATER HAMMER SELECTION ONCE THIS FUNCTION IS ENABLED, THE D.H.W CONTACT WILL BE DELAYED FOR A TIME EQUAL TO THE SET VALUE.	0 - 20	0 = DISABLED 1-20 = VALUE EXPRESSED IN SECONDS
P11	FROST PROTECTION TEMPERATURE SETTING (D.H.W. MODE) THROUGH THIS PARAMETER, IT IS POSSIBLE TO SET THE D.H.W. WATER TEMPERATURE VALUE FOR THE ACTIVATION OF THE FROST PROTECTION SYSTEM (SEE CHAPTER 'ANTI-FREEZE PROTECTION').	5 - 12	THE VALUE IS EXPRESSED IN °C (SET BY DEFAULT AT 5 °C)

2.2. MAINTENANCE

2.2.6. GENERAL MAINTENANCE
WARNINGS**DANGER**

Before each components cleaning or replacement operation, ALWAYS cut off the POWER, WATER and GAS supply of the water heater.

**WARNING**

To ensure greater life span and proper operation of the device, during the maintenance operations use only original spare parts.

**ATTENTION**

To ensure the efficiency and safety of the device, the maintenance operations must be realized on an annual basis. The operations described below, are essential to the validity of the standard flexiheat warranty and must be performed by professionally qualified personnel in accordance with current legislation and authorized by Flexiheat.

Please perform the following operations once a year:

- › check the sealing of the water components, and replace if necessary the gaskets;
- › check that the wiring is performed in compliance with the requirements in the water heater instruction manual;
- › check the wiring inside the control panel;
- › remove and clean the burner from oxidation;
- › check the integrity and the position of the sealed chamber sealing gasket;
- › check the primary exchanger, if necessary, clean it;
- › check the operation of the gas light up and safety systems. If necessary, remove and clean the flame detection and light up electrodes from incrustations paying attention to respect the distances with respect to the burner;
- › check the sealing of the gas components, and replace if necessary the gaskets;
- › visually check the flame and the condition of the combustion chamber;
- › if necessary make sure that the combustion is suitably adjusted and if required proceed as indicated in section "CO2 VALUE CHECK AND CALIBRATION";
- › periodically check the integrity of the fume exhaustion system for safety and proper operation;
- › make sure that the permanent ventilation outlets are present, correctly sized and functioning, based on the installed devices. Respect the requirements provided by Local and National legislation;
- › check the proper operation of the condensate draining system, including the devices outside the water heater such as condensate collection devices installed along the path of the fume exhaust duct or neutralization devices for acid condensate; check that the liquid flow is not obstructed and that there are no combustion gas refluxes inside the internal system;
- › check the flow and temperature of domestic hot water.

2.2.7. TECHNICAL DATA

Model		SFC 28
CE certification	no.	0476CQ0134
Gas category	0	II2H3B/P
Flue system type	type	B23-B23p-B33-B53-C13-C33-C43-C53-C63-C73-C83-C93
Heat Input max (D.H.W.)	kW	28
Heat Input min (D.H.W.)	kW	3,7
Maximum combustion efficiency	%	97,7
Minimum combustion efficiency	%	98,2
Flue efficiency losses with burner on (Heat Input max.)	%	2,3
Flue efficiency losses with burner on (Heat Input min.)	%	1,8
Fumes temperature - Heat Input max.	°C	55
Fumes temperature - Heat Input min.	°C	32
CO ₂ - Heat Input max. - G20	%	9,3 - 9,1
CO ₂ - Heat Input min. - G20	%	9 - 8,8
CO ₂ - Heat Input max. - G30	%	11,5 - 11,3
CO ₂ - Heat Input min. - G30	%	10,75 - 10,65
CO ₂ - Heat Input max. - G31	%	10,4 - 10,2
CO ₂ - Heat Input min. - G31	%	9,95 - 9,85
CO - Heat Input max.	ppm	72
CO - Heat Input min.	ppm	1
Fumes mass - Heat Input max.	g/s	11,02
Fumes mass - Heat Input min.	g/s	1,78
Weighted NO _x (0% O ₂) ppm	ppm	21
Weighted NO _x (0% O ₂) on GCV mg/kWh	mg/kWh	36
Domestic Hot Water (D.H.W.) circuit		
Temperature setting - D.H.W.	°C	35-60
Max. operating pressure - D.H.W.	bar	8
Min. operating pressure - D.H.W.	bar	0,5
D.H.W. flow rate - continuous flow - Δt 25°C	litres/min	16,86
D.H.W. flow rate - continuous flow - Δt 30°C	litres/min	14,05
D.H.W. flow rate - continuous flow - Δt 35°C	litres/min	12,04
Dimensions		
Width	mm	340
Depth	mm	307
Height	mm	642
Gross weight	Kg	35
Hydraulic Connections		
Cold water inlet	Ø	3/4"
D.H.W. outlet	Ø	3/4"
Gas	Ø	3/4"
D.H.W. Recirculation loop connection	Ø	3/4"
Flue systems		
Fan - Max. available pressure	Pa	76

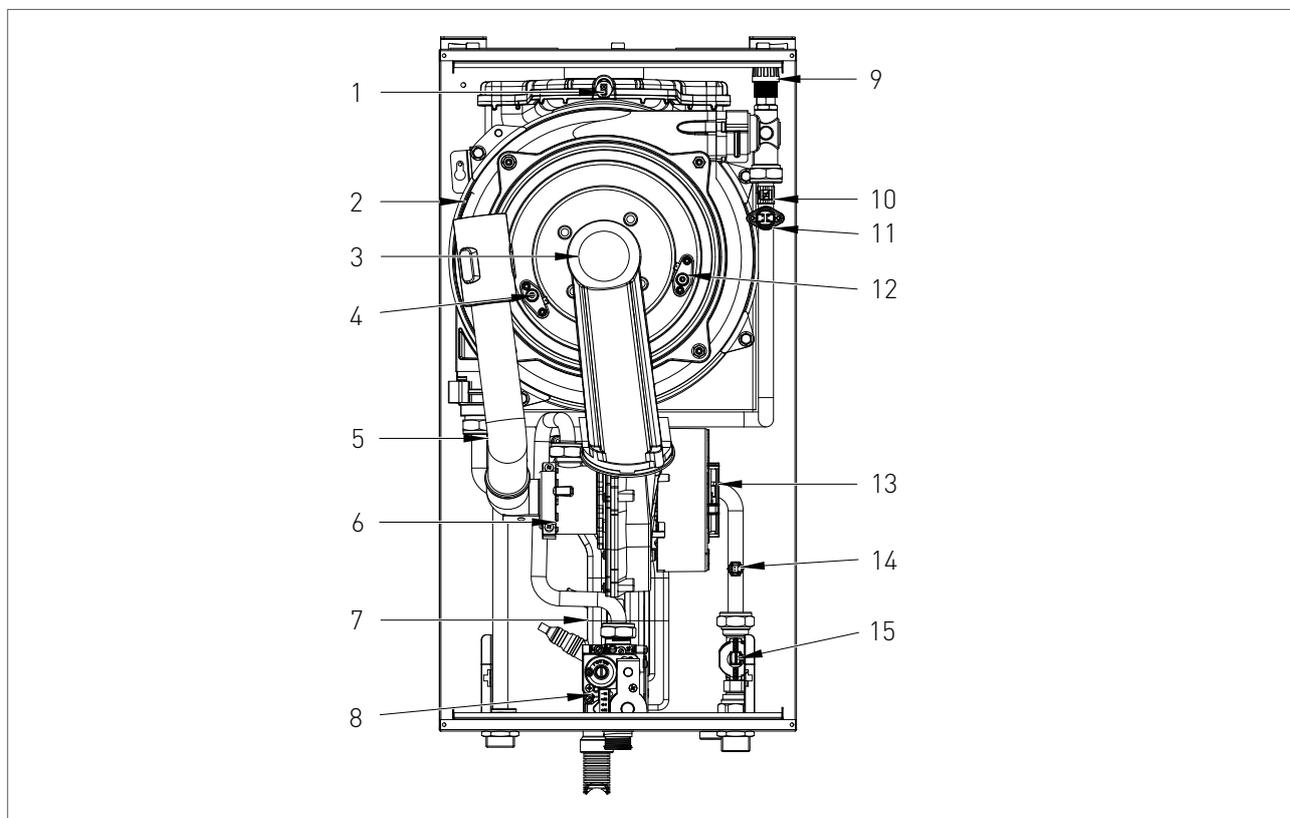
2. MAINTENANCE

Fan - Min. available pressure	Pa	4
Max. Flue length Ø60/100 - Horiz. Conc.	m	6
Flue bend 45° MF Ø60/100 - Pressure loss	m	0,6
Flue bend 90° MF Ø60/100 - Pressure loss	m	1
Flue extension MF Ø60/100 L=1000 - Pressure loss	m	1
Max. Flue length Ø80/125 - Horiz. Conc.	m	8
Flue bend 45° MF Ø80/125 - Pressure loss	m	0,5
Flue bend 90° MF Ø80/125 - Pressure loss	m	0,8
Flue extension MF Ø80/125 L=1000 - Pressure loss	m	1
Max. Flue length Ø50/50 - Horiz. Twin	m	12
Max. Flue length Ø60/60 - Horiz. Twin	m	20
Flue adapter Ø80/60 MF - Pressure loss	m	0,4
Flue bend 45° MF Ø60 - Pressure loss	m	0,8
Flue bend 90° MF Ø60 - Pressure loss	m	1,5
Flue extension MF Ø60 L=1000 - Pressure loss	m	1
T-connection MF Ø60 - Pressure loss	m	3,5
Max Flue length Ø80/80 - Horiz. Twin	m	60
Max. Flue length Ø50 - Horiz. Pipe	m	10
Max. Flue length Ø60 - Horiz. Pipe	m	18
Max. Flue length Ø80 - Horiz. Pipe	m	35
Flue bend 45° MF Ø80 - Pressure loss	m	0,8
Flue bend 90° MF Ø80 - Pressure loss	m	1,5
Flue extension MF Ø80 L=1000 - Pressure loss	m	1
T-connection MF Ø80 - Pressure loss	m	3,5
Max. Flue length Ø60/100 - Vert. Conc.	m	6
Max. Flue length Ø80/125 - Vert. Conc.	m	8
Max. Flue length Ø50/50 - Vert. Twin	m	12
Max. Flue length Ø60/60 - Vert. Twin	m	20
Max. Flue length Ø80/80 - Vert. Twin	m	60
Max. Flue length Ø50 - Vert. Pipe	m	10
Max. Flue length Ø60 - Vert. Pipe	m	18
Max. Flue length Ø80 - Vert. Pipe	m	35
Electrical specifications		
Voltage-frequency	V/Hz	220-230/50
Nominal power consumption	A	0,75
Electric power with boiler OFF	W	3.5
Max Power consumption	W	38
Protection rating	IP	X5D
Gas supply		
Supply pressure - G20	mbar	20
Supply pressure min. - G20	mbar	17
Supply pressure max. - G20	mbar	25
Fan speed Max. D.H.W. output - G20	Hz	192
Fan speed Min. D.H.W. output - G20	Hz	50
Gas consumption - G20	m ³ /h	2,96
Supply pressure - G30	mbar	28-30
Supply pressure min. - G30	mbar	20

2. MAINTENANCE

Supply pressure max. - G30	mbar	35
Fan speed Max. D.H.W. output - G30	Hz	180
Fan speed Min. D.H.W. output - G30	Hz	50
Gas consumption - G30	kg/h	2,21
Supply pressure - G31	mbar	37
Supply pressure min. - G31	mbar	25
Supply pressure max. - G31	mbar	45
Fan speed Max. D.H.W. output - G31	Hz	190
Fan speed Min. D.H.W. output - G31	Hz	50
Gas consumption - G31	kg/h	2,17

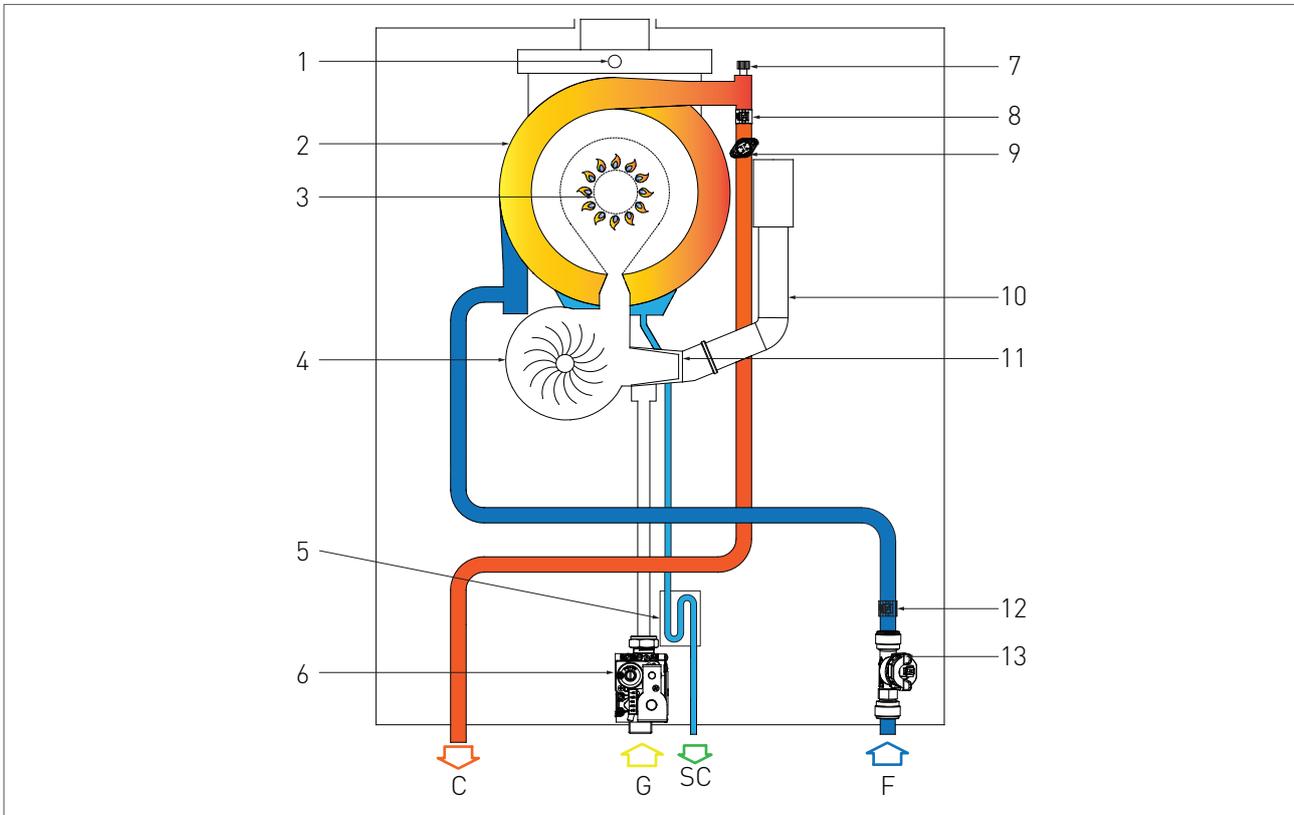
2.2.8. TECHNICAL ASSEMBLY



KEY

1. FUMES SAFETY THERMOFUSE
2. HEAT EXCHANGER
3. BURNER UNIT
4. DETECTION ELECTRODE
5. AIR SUCTION TUBE
6. PROPORTIONAL VENTURI
7. CONDENSATE COLLECTION SIPHON
8. GAS VALVE
9. MANUAL AIR RELIEF VALVE
10. DOMESTIC HOT WATER OUTLET PROBE
11. SAFETY THERMOSTAT
12. LIGHT UP ELECTRODE
13. ELECTRIC FAN
14. COLD WATER INLET PROBE
15. FLUXMETER

2.2.9. HYDRAULIC BOARD



KEY

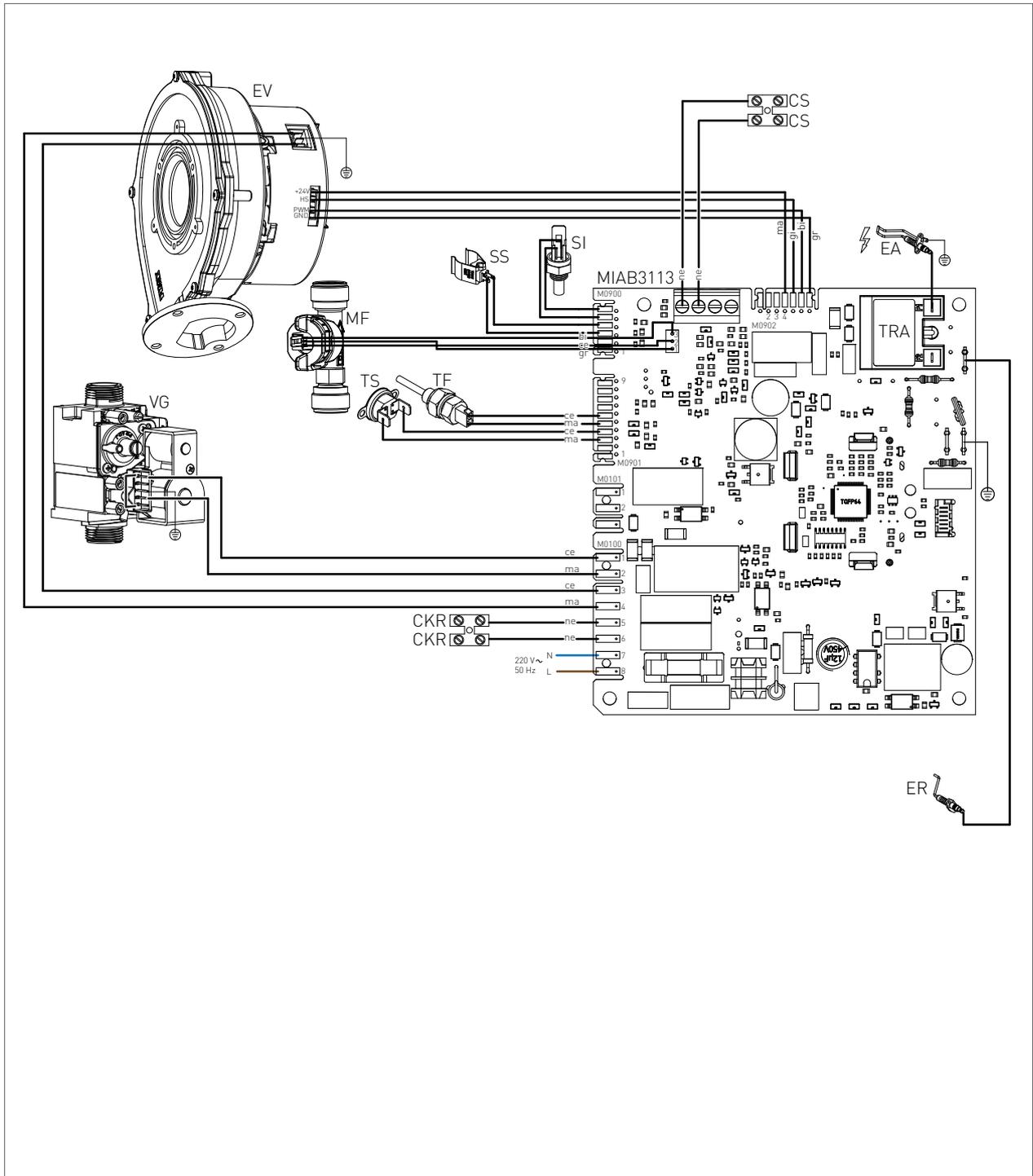
- C. DOMESTIC HOT WATER OUTLET
- G. GAS INLET
- SC. CONDENSATE DRAIN
- F. COLD WATER INLET

- 1. FUMES SAFETY THERMOFUSE
- 2. HEAT EXCHANGER
- 3. BURNER UNIT
- 4. ELECTRIC FAN
- 5. CONDENSATE COLLECTION SIPHON
- 6. SAFETY VALVE 8 bar
- 7. MANUAL AIR RELIEF VALVE
- 8. DOMESTIC HOT WATER OUTLET PROBE
- 9. SAFETY THERMOSTAT
- 10. AIR SUCTION TUBE
- 11. PROPORTIONAL VENTURI
- 12. COLD WATER INLET PROBE
- 13. FLUXMETER
- 14. GAS VALVE

2. MAINTENANCE

2.2.10. WIRING DIAGRAM

SUPPORT CENTRE



ER: DETECTION ELECTRODE	MF: FLUXMETER	NE: BLACK	CKR: CONTACT FOR ANTIFREEZE
EA: START-UP ELECTRODE	SI: DOMESTIC CIRCUIT PROBE INLET	CE: BLUE	VIA - OPTIONAL ELECTRIC
EV: ELECTRIC FAN	SS: DOMESTIC CIRCUIT PROBE	MA: BROWN	RESISTANCE KIT (COD.: 50-00106)
VG: GAS VALVE	CS: D.H.W. PRODUCTION CONTACT	AR: ORANGE	
TRA: START-UP TRANSFORMER		GI: YELLOW	
TF: FUMES THERMOFUSE (102°C)	L: LINE	BI: WHITE	
TS: SAFETY THERMOSTAT	N: NEUTRAL	GR: GREY	

2.2.11. ACCESSING THE WATER HEATER

For the majority of the control and maintenance operations you have to remove one or more panels of the casing.

The side panels can be removed only after removing the front panel.

To intervene on the front of the water heater proceed as follows:

- › remove the fastening screws (1 - fig.1) placed on the lower edge of the front panel;
- › grab the front panel from the bottom and remove it pulling it to yourself and then upwards (see fig. 1).

To intervene on the side panels of the water heater proceed as follows:

- › remove the fastening screws (2 - fig.1) placed on the front edge of the side panel;
- › grab the bottom of the panel and remove it by moving it sideways and then pulling it upwards (see fig. 1).

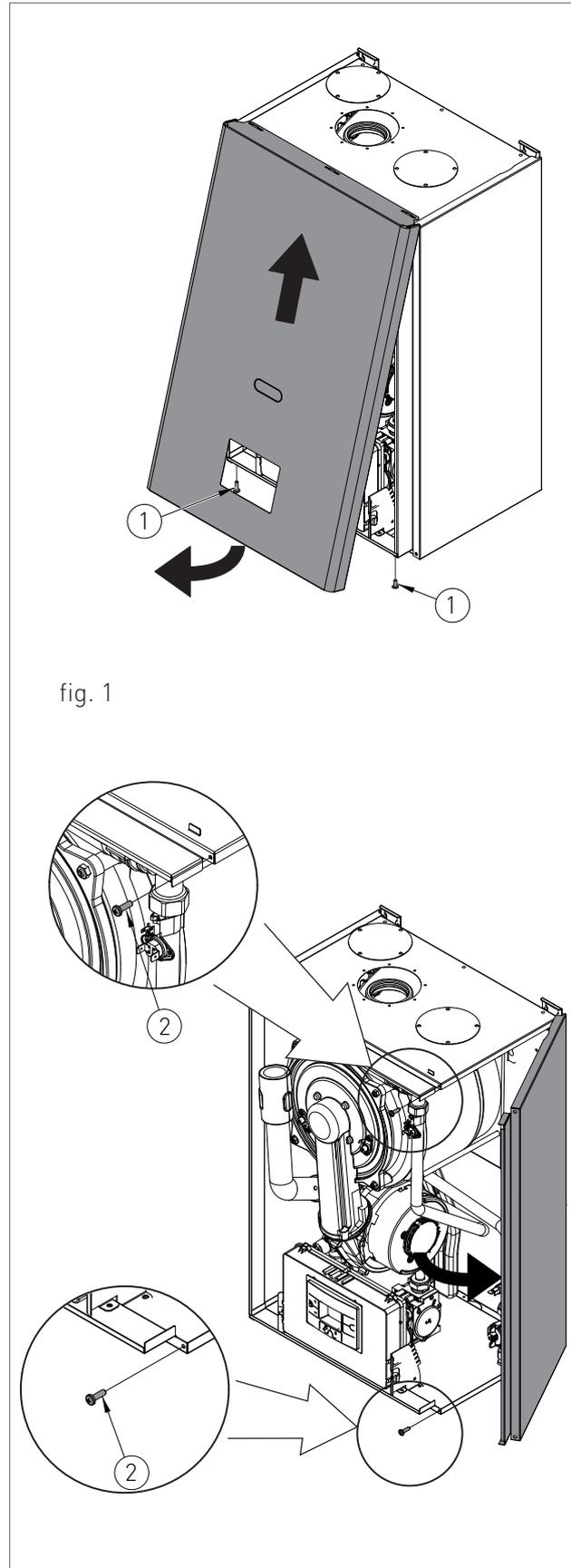


fig. 1

2.2.12. ACCESSING THE ELECTRONIC BOARD

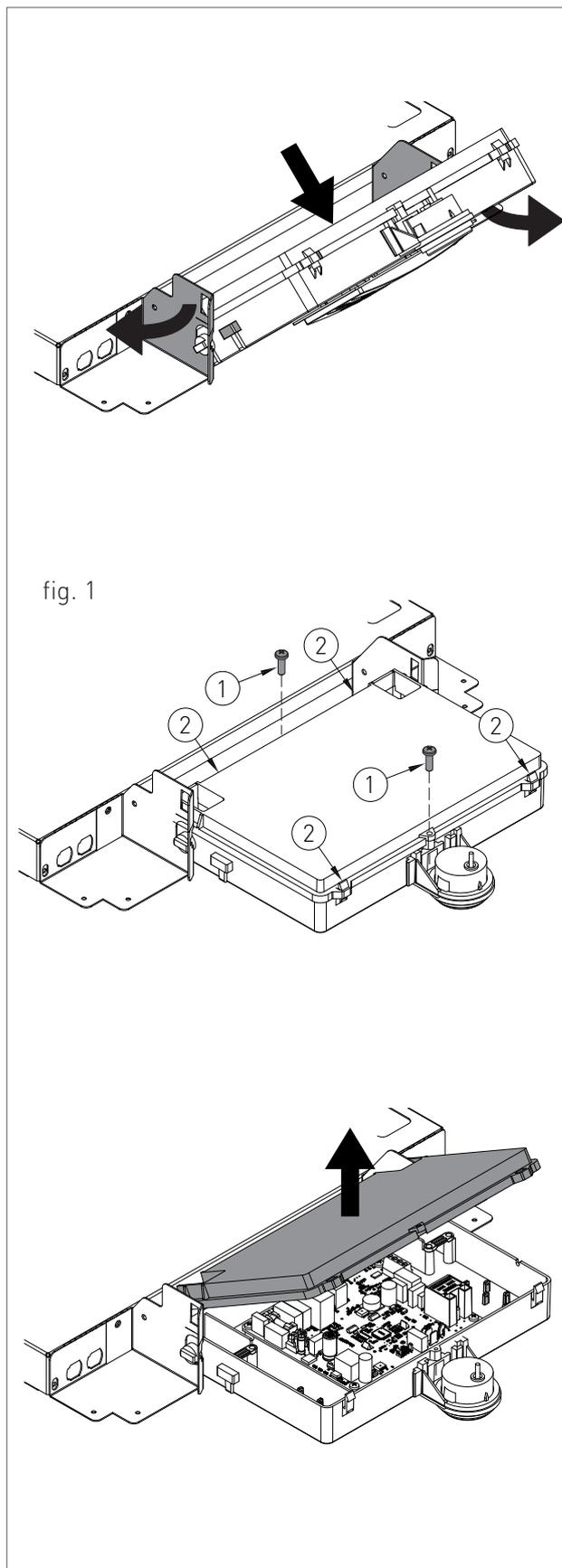
In order to intervene on the wirings of the control panel, please proceed as follows:



DANGER

Cut off the voltage from the main switch.

- > Grab at the same time the support brackets of the control panel (fig. 1) loosening them and turn the panel downwards;
- > unscrew the two fastening screws 1 - fig. 1;
- > disengage the four hooks '2' - fig. 1;
- > remove the crankcase pulling it upwards.



2.2.13. EMPTYING THE DOMESTIC SYSTEM

If there is freezing risk, you have to empty the domestic system as follows:

- › close the main supply tap of the water supply network;
- › open all cold and hot water taps;
- › after completing all operations, close the discharge tap and all previously opened water taps.

2. MAINTENANCE

2.2.14. FAULT SIGNALLING CODES

CODE	FAULT	POSSIBLE CAUSE	SOLUTION	RESET	
E01	FLAME BLOCK	NO FLAME LIGHT UP		MANUAL RESET (PRESS THE RESET Ⓡ KEY).	
		GAS MISSING;	CHECK THE ADDUCTION NETWORK;		
		MASS OR BROKEN START-UP ELECTRODE;	REPLACE IT;		
		GAS VALVE BROKEN;	REPLACE IT;		
		SLOW LIGHT UP TOO LOW ADJUSTMENT;	ADJUST MINIMUM OR SLOW LIGHT UP;		
		VALVE INFEED PRESSURE TOO HIGH (ONLY FOR GPL WATER HEATERS).	CHECK THE MAXIMUM ADJUSTMENT PRESSURE		
		WITH FLAME LIGHT UP			
		DETECTION ELECTRODE BROKEN;	REPLACE IT;		
		DETECTION ELECTRODE CABLE DISCONNECTED.	CHECK THE WIRING.		
ELECTRICAL CURRENT PHASE-PHASE	IF THE TENSION MEASURES BETWEEN NEUTRAL AND GROUND IS ALMOST EQUAL TO THE ONE MEASURED BETWEEN PHASE AND GROUND, YOU HAVE TO INSTALL A PHASE-PHASE TRANSFORMER KIT (COD. 88021LA)				
E02	SAFETY THERMOSTAT	THERMOSTAT CABLE DISCONNECTED;	CHECK THE WIRING:	MANUAL RESET (PRESS THE RESET Ⓡ KEY).	
		BROKEN THERMOSTAT.	REPLACE IT.		
E03	FUMES SAFETY THERMOFUSE (102°C)	THERMOFUSE BROKEN;	REPLACE IT;	MANUAL RESET (PRESS THE RESET Ⓡ KEY).	
		THERMOFUSE CABLE DISCONNECTED.	CHECK THE WIRING.		

2. MAINTENANCE

CODE	FAULT	POSSIBLE CAUSE	SOLUTION	RESET
E05	INLET PROBE (COLD WATER)	BROKEN OR INCORRECTLY CALIBRATED PROBE (RESISTANCE VALUE 10 KOHM AT 25 °C NTC);	REPLACE IT;	AUTOMATIC.
		DISCONNECTED OR WET PROBE CONNECTOR.	CHECK THE WIRING.	
E06	DOMESTIC CIRCUIT PROBE	BROKEN OR INCORRECTLY CALIBRATED PROBE (RESISTANCE VALUE 10 KOHM AT 25 °C NTC);	REPLACE IT;	AUTOMATIC.
		DISCONNECTED OR WET PROBE CONNECTOR.	CHECK THE WIRING.	
E16	ELECTRIC FAN	ELECTRIC FAN BOARD BROKEN;	REPLACE IT;	AUTOMATIC.
		ELECTRIC FAN BROKEN;	REPLACE IT;	
		FAULTY POWER SUPPLY CABLE.	REPLACE IT.	
E22	PARAMETERS PROGRAMMING REQUEST	MICRO=PROCESSOR MEMORY LOSS.	PARAMETERS REPROGRAMMING.	MANUAL RESET (CUT OFF THE TENSION).
E31	REMOTE CONTROLLER INCOMPATIBLE	INDICATES THAT THE REMOTE CONTROLLER CONNECTED TO THE WATER HEATER IS NOT COMPATIBLE WITH THE CIRCUIT BOARD	REPLACE IT WITH A COMPATIBLE MODEL.	AUTOMATIC.
E98	SUPPLY VOLTAGE	SUPPLY VOLTAGE OFF THE OPERATION RANGE (≤160 VOLTS).	CHECK THE POWER SUPPLY NETWORK (THE ERROR DEACTIVATES AUTOMATICALLY AS SOON AS THE SUPPLY VOLTAGE FALLS BACK WITHIN THE REQUESTED LIMITS).	AUTOMATIC.
E99	GENERAL INTERNAL BOARD ERROR	INCORRECT SIGNAL RECOGNITION BY THE MODULATION BOARD MICRO-PROCESSOR.	IF THE MODULATION BOARD DOES NOT RESET THE ERROR AUTOMATICALLY, REPLACE IT.	AUTOMATIC.

2.2.15. ACTIVE FUNCTIONS SIGNALLING CODES

CODE	FUNCTION	DESCRIPTION
F09	<i>D.H.W CIRCUIT ANTI-FREEZE</i>	IF THE OPTIONAL ELECTRICAL RESISTANCES KIT (CODE 50-00106) IS INSTALLED IN THE WATER HEATER, THE FROST PROTECTION SYSTEM ACTIVATES WHEN THE WATER TEMPERATURE GOES BELOW THE VALUE SET AT PARAMETER P11 (SEE CHAPTERS "ACCESSING AND PROGRAMMING THE PARAMETERS" AND "MIAB3113 PARAMETERS TABLE"). THE ELECTRICAL RESISTANCES HEAT THE WATER HEATER PIPES UNTIL A TEMPERATURE 5°C HIGHER THAN THE VALUE SET AT PARAMETER P11 IS REACHED.

2.2.16. GAS TYPE TRANSFORMATION

**ATTENTION**

Make sure that the gas adduction tube is suitable for the new type of fuel with which the water heater is supplied.

- › loosen the two screws '1' (fig.1) from the fastening bush, and remove the air suction tube;
- › unscrew the tube coupling that connects the gas valve to venturi;
- › unscrew the three fastening screws '2' (fig.1) of the venturi 'V' (fig.1) using a 10 key, as shown in figure 2;
- › remove the two screws '3' (fig.3) and apply pressure on the rear side of venturi 'C' (fig.3);
- › replace the body venturi with the one suitable for the type of supply gas (cod. 30-00166 for methane / cod. 30-00169 for GPL) and make sure the tooth 'D' (fig.3) is adjusted downwards on the aluminium ring nut (see fig.3);
- › remount the components following the demounting operations in reverse making sure that gasket 'G' is re-assembled as shown in fig.1;
- › set the water heater to operate with the new type of gas, changing the value of the parameter P01 'GAS TYPE SELECTION' from the control panel (see chapters 'DIGITECH CS PARAMETERS TABLE' and 'ACCESSING AND PROGRAMMING THE PARAMETERS');
- › adjust the CO₂ combustion value as indicated in chapter 'CO₂ VALUE CHECK AND CALIBRATION'.

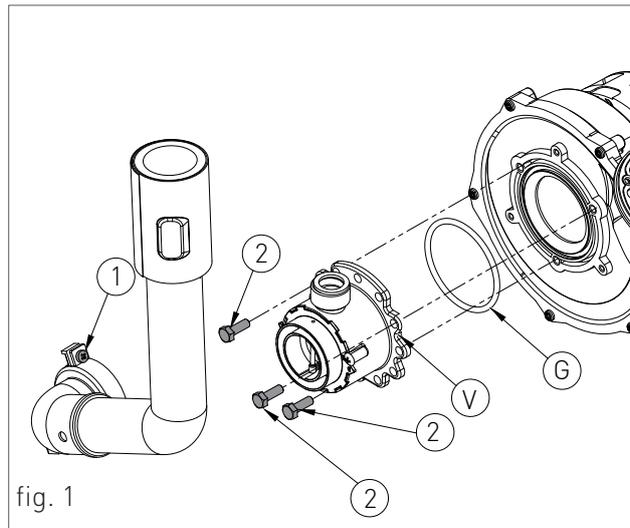


fig. 1

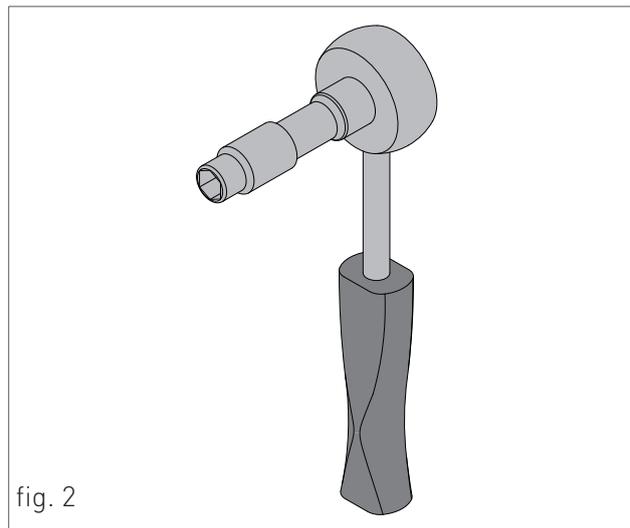


fig. 2

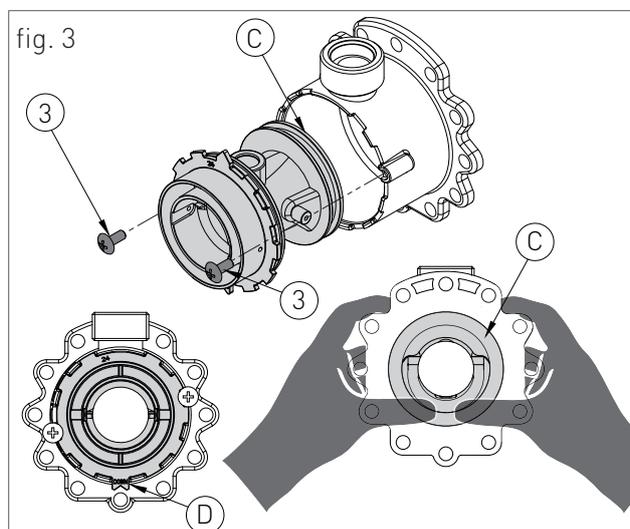


fig. 3

3. USER SECTION

The operations described in this section are addressed to all those who will use the machine. The machine must be used and accessed only by qualified operators that fully read and understood the User section, paying particular attention to the warnings.

3.1. USE

3.1.1. GENERAL USE WARNINGS

**WARNING**

Before starting the water heater the User must make sure that the First start-up certificate has the stamp of the technical Support Centre proving the testing and the first start-up of the water heater .

**WARNING**

In order to take advantage of the guarantee provided by the manufacturer, the customer should carefully and exclusively observe the instructions given in the USER section of the manual.

**ATTENTION**

This machine may be used only for the purpose for which it has been designed: heat water to a temperature below boiling point at atmospheric pressure. Any other use is considered wrong and dangerous. The manufacturer is excluded from any contractual or out of contract responsibility for damage caused to people, animals or property due to incorrect use.

**DANGER**

The water heater should not be used by persons (including children) with reduced physical, sensory or mental capacities or without suitable knowledge or experience unless they are instructed on the device use or monitored by a person responsible for their safety.

**DANGER**

DO NOT obstruct the air vents of the location in which the gas device is installed to prevent the formation of toxic explosive mixes.

**DANGER**

If you sense a gas odour in the location in which the water heater is installed, proceed as follows:

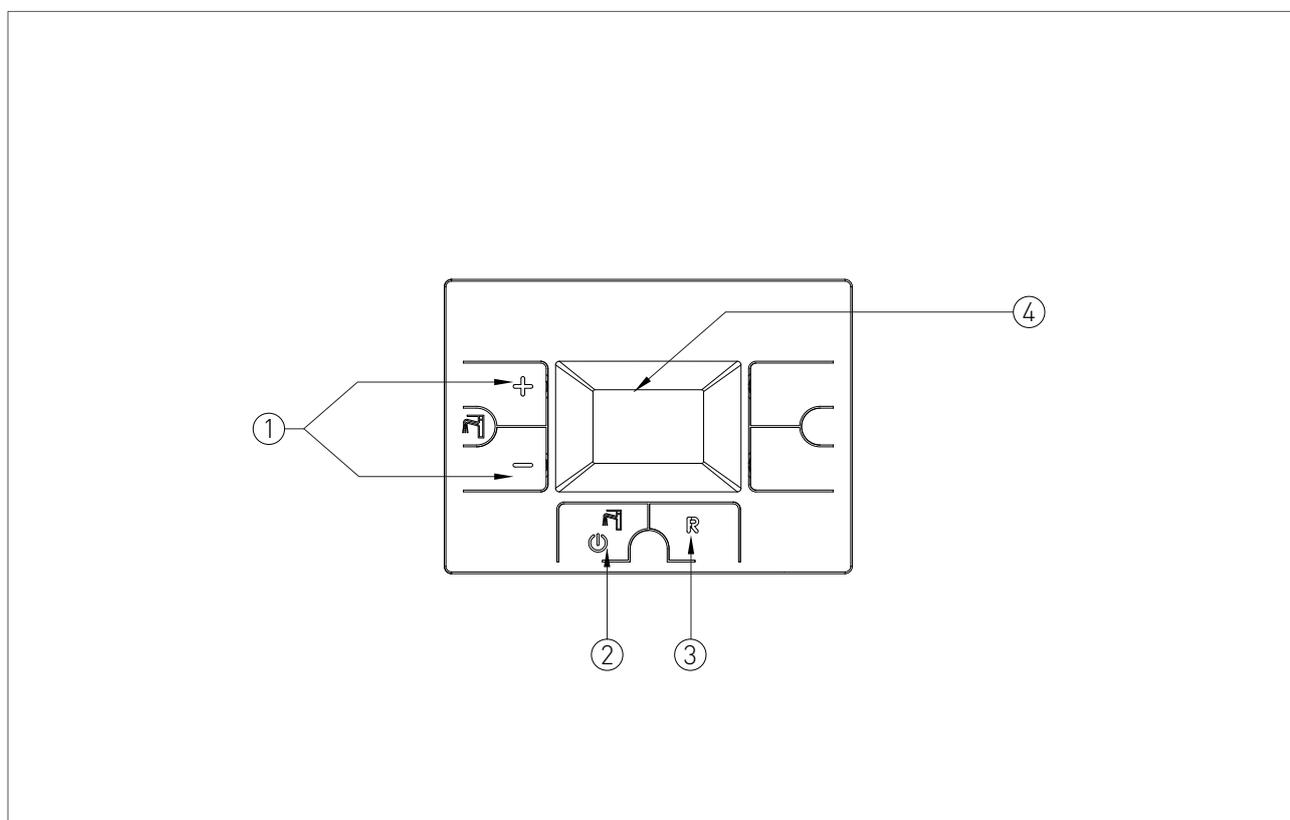
- › DO NOT use electrical switches, the telephone or any other device that might generate electrical discharges or sparks;
- › Immediately open all doors and windows to create an air exchange that can quickly clean the location;
- › Close the gas valves;
- › Request immediate intervention of qualified staff.

**DANGER**

The use of the electrical power water heater implies respecting some fundamental rules such as:

- › DO NOT touch the device with wet and/or humid parts and/or with bare feet;
- › DO NOT pull the electrical cables;
- › DO NOT leave the device exposed to atmospheric agents (rain, sun, etc.) unless specifically intended;
- › in case of cable damage, turn off the device and contact qualified professional staff to replace it.

3.1.2. CONTROL PANEL

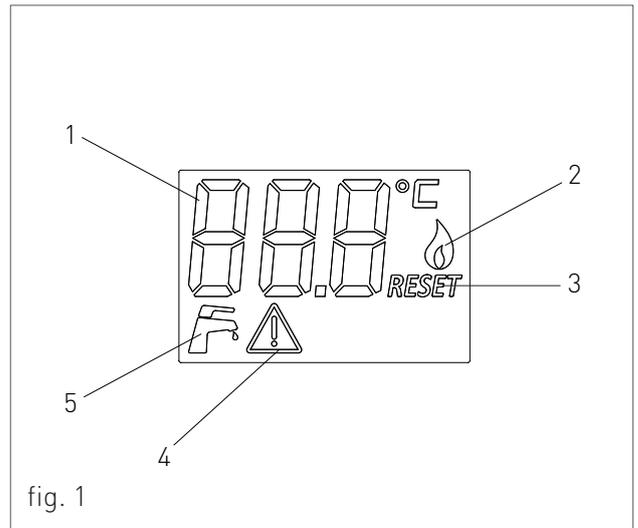
**KEY**

1. DOMESTIC HOT WATER TEMPERATURE ADJUSTMENT KEYS
2. OPERATING MODE SELECTION KEY: SUMMER / HEATING ONLY / WINTER / OFF
3. RESET KEY: ANOMALY RESET
4. DISPLAY

3.1.3. DISPLAY ICONS

KEY

1. INDICATION OF PARAMETER NUMBER OR DISPLAYED INFO CODE.
2. FLAME PRESENT SIGNALLING.
3. ERROR DISPLAY THAT CAN BE RESET.
4. PARAMETERS PROGRAMMING FUNCTION ACTIVE.
5. OPERATION IN DOMESTIC MODE ENABLED.



3.1.4. INFO MENU DISPLAY DATA

To view the boiler data from the info menu you just have to press at the same time the keys **R** and **←** of the DHW circuit **51** for 2 seconds. It will be displayed the info code alternated to the associated value. Use keys **+** and **←** of the domestic circuit **51** to scroll through the list of displayed data. To exit display mode press the **R** key.

LIST OF DISPLAYED DATA

INFO CODE	DESCRIPTION
0	COLD CIRCUIT INLET PROBE TEMPERATURE
1	FAN SPEED FREQUENCY (IN RPM/30)
2	HOT WATER CAPACITY (IN l/m)
3	FIRMWARE VERSION

3.1.5. START-UP

Before starting the water heater make sure that it is powered and that the gas tap below the water heater is open.

To start the water heater, press the function button  and select the D.H.W. ONLY operating mode. If the symbol  is displayed fixed, it means that the function was activated.

3.1.6. DOMESTIC HOT WATER TEMPERATURE ADJUSTMENT

You can adjust the temperature using keys  and  of the domestic circuit .

- press key  to decrease the temperature.
- press key  to increase the temperature.

The hot domestic water temperature adjustment field ranges from 35 °C to 60 °C.

3.1.7. OFF MODE

In this mode the water heater no longer meets the D.H.W. requests. The frost protection system remains still active.

To switch the boiler to OFF operating mode, press the function  button. The message OFF indicates that the function is activated.

If the water heater was previously running, it will be turned off and the post-ventilation function will be enabled.

If you have to deactivate the water heater for a long period of time, proceed as follows:

- > contact the Technical support centre that will empty the water system and will cut off the power, water and gas supply.

- > Or ask the installation of the optional electrical resistances kit (see chapter 'INFORMATIONAL NOTE ON ANTI-FREEZE FUNCTION').

3.1.8. INFORMATIONAL NOTE ON ANTI-FREEZE FUNCTION

The water heater can be protected against freezing thanks to the optional electrical resistances kit (code 50-00106).

When the optional electrical resistances kit is installed in the water heater, the D.H.W. frost protection function of the P.C.B. heats the concerned parts when their temperature goes below the minimum pre-set values.



WARNING

This function is available only if:

- > the optional electrical resistances kit is installed;
- > the water heater is powered.

3.1.9. FAULT SIGNALLING CODES

The water heater might signal some faults by displaying a code. Below you have a list of the codes and of the operations to be performed in order to unlock the water heater.

CODE	FAULT	INTERVENTION
E01	FLAME BLOCK	<p>MAKE SURE THAT THE WATER HEATER AND CONTACTOR GAS VALVES ARE OPEN.</p> <hr/> <p>PRESS THE RESET  BUTTON ON THE CONTROL PANEL TO RESET THE FAULT, AS SOON AS THE ERROR CODE DISAPPEARS FROM THE DISPLAY, THE WATER HEATER WILL START AUTOMATICALLY.</p> <hr/> <p>IF THE BLOCK PERSISTS CONTACT THE TECHNICAL SUPPORT CENTRE.</p>
E02	SAFETY THERMOSTAT	CONTACT THE TECHNICAL SUPPORT CENTRE.
E03	FUMES SAFETY THERMOFUSE (102 °C)	CONTACT THE TECHNICAL SUPPORT CENTRE.
E05	INLET PROBE (COLD WATER)	CONTACT THE TECHNICAL SUPPORT CENTRE.
E06	DOMESTIC CIRCUIT PROBE	CONTACT THE TECHNICAL SUPPORT CENTRE.
E16	ELECTRIC FAN	CONTACT THE TECHNICAL SUPPORT CENTRE.
E22	PARAMETERS PROGRAMMING REQUEST	<p>CUT OFF THE POWER SUPPLY FROM THE MAIN SWITCH AND THEN RESTORE IT, AS SOON AS THE ERROR CODE DISAPPEARS, THE WATER HEATER WILL RESTART AUTOMATICALLY.</p> <hr/> <p>IF THE BLOCK PERSISTS CONTACT THE TECHNICAL SUPPORT CENTRE.</p>
E31	REMOTE CONTROLLER INCOMPATIBLE	CONTACT THE TECHNICAL SUPPORT CENTRE.
E98	SUPPLY VOLTAGE	CONTACT THE TECHNICAL SUPPORT CENTRE.
E99	GENERAL INTERNAL BOARD ERROR	<p>CUT OFF THE POWER SUPPLY FROM THE MAIN SWITCH AND THEN RESTORE IT, AS SOON AS THE ERROR CODE DISAPPEARS, THE BOILER WILL RESTART AUTOMATICALLY.</p> <hr/> <p>IF THE BLOCK PERSISTS CONTACT THE TECHNICAL SUPPORT CENTRE.</p>

3.1.10. ACTIVE FUNCTIONS
SIGNALLING CODES

CODE	FUNCTION	INTERVENTION
F09	<i>D.H.W CIRCUIT ANTI-FREEZE FUNCTION ACTIVE</i>	WAIT UNTIL THE OPERATION IS COMPLETED

3.1.11. MAINTENANCE

To ensure proper water heater safety and efficiency, please have the device serviced every year.

An accurate maintenance should improve system management.

3.1.12. COVER CLEANING

Clean the cover of the device using a wet cloth and come neutral soap.



WARNING

DONOT use abrasive or powder detergents as they might damage the plastic cover and control elements.

3.1.13. DISPOSAL

The water heater and all its accessories must be differentiated, suitably disposed of in accordance with the standards in force.



The use of the symbol WEEE (Waste Electrical and Electronic Equipment) shows that this

product can not be dismantled as domestic waste. Proper dismantle of this product helps preventing potentially negative consequences on human health and environment.

