ACCORRONI
Climate Technology

Wall mounted gas condensing boiler
for heating and DHW production

# PLAY ENTRY 20

INSTALLATION MANUAL

PLAY ENTRY 20

Dear customer,
Thank you for choosing our boilers. We invite you to carefully read these instructions concerning the correct way to install, use and maintain these appliances.

**We inform you that:**

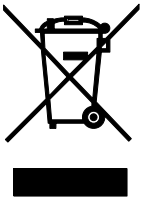
- **the boilers must be installed by an authorised company which must strictly follow the standards in force;**
- **the installing company is legally obliged to issue a declaration of compliance with all applicable laws and regulations regarding the installation performed;**
- **anyone entrusting the installation to an unauthorised company shall incur penalties of administrative nature;**
- **the boiler maintenance can only be performed by authorised personnel in possession of the requirements laid down by the legislation in force;**

**2. as prescribed by the Presidential Decree no. 74 of 16 April 2013:**

- **the plant booklet must be filled by the company assigned to perform installation of the boiler after having detected the combustion parameters.**

**Read carefully the warranty conditions and the benefits offered by the manufacturer and given in the certificate attached to the boiler.**
**Having the certificate of inspection prepared by an Authorized Service Centre allows you to enjoy the benefits offered by the manufacturer in accordance with the specifications in the document.**
**Having the certificate of inspection filled in by an Authorized Service Centre is FREE OF CHARGE.**

According to art. 26 of Legislative Decree no.49 of 14 March 2014, “Implementation of directive 2012/19/UE on waste electrical and electronic equipment (WEEE)” the crossed-out wheelie bin symbol on the equipment and on the packaging indicates that at the end of its service life, the gas boiler must be collected and disposed of separately (see paragraph END-OF-LIFE DISPOSAL).



## General Notes for the operators assigned for installation, maintenance and use

This user's manual, which represents an integral and essential part of the product, will be delivered by the installer to the user, who has to preserve it carefully for further consultation.
This user's manual must accompany the appliance if the latter gets sold or transferred.

**This appliance has been manufactured to be connected to a water heating system for the heating of the environments and for domestic hot water distribution system.**
**Any other use is considered improper and, therefore, dangerous for people, animals and/or things.**

The installation must be made in compliance with the regulations in force and according to the manufacturer's instructions given in this manual:
an incorrect installation can cause injury to persons, animals and/or damages to things; the manufacturer declines any liability in such case.

The damages caused by improper installation or use or due to failure to comply with the manufacturer's instructions exclude any liability of the latter, be it listed in the contract or not.
Prior to installing the appliance check to make sure its technical data match the requirements for its correct use in the system.

Ensure, as well, that the appliance is intact and has not suffered any damage during transport and handling: do not install damaged and/or faulty appliances.

Do not obstruct the air suction grids.

For all appliances equipped with options or kits (including electrical ones) use exclusively original accessories.

Do not disperse packagings in the environment after installation: all materials are recyclable and, as a consequence, they must be sent to separate wastes collection centres.

Do not leave the packaging at the children's reach; due to their nature they could be source of hazards.

In the event of fault and/or faulty operation of the appliance, shut it off and do not attempt to repair it or to intervene: contact specialised and authorized personnel only.
Any repair of the product must be performed using original spare parts**.**

Failure to comply with the indications given above can compromise the safety of the appliance and expose people, animals and/or things to danger.

**Provide for periodic maintenance of the appliance according to the schedule specified in the appropriate section of this manual.**
**Subjecting the appliance to proper maintenance allows it to work in the best conditions, to protect the environment and ensure full safety for people, animals and/or things.**
**Incorrect maintenance, both as regards how and when it is performed, can be a source of hazards for persons, animals and/or things.**

The manufacturer recommends its clients to have maintenance and repair interventions performed by Authorised Service Centres trained to perform the such operations.

In the event of long shut-down periods, disconnect the appliance from the mains and close the gas valve.
**Warning: In this case the antifreeze electronic function of the appliance does not work.**

If very low temperatures are foreseeable, add antifreeze fluid in the heating system; it is not recommended to empty the plant as it may damage the system. To this purpose use specific antifreeze products suitable for heating systems made from several metal types.

**As regards the appliances powered by gaseous fuel, if you can smell gas, proceed as follows:**
**- do not operate electric switches and do not start up electrical appliances;**
**- do not switch on flames and do not smoke;**
**- close the main gas supply valve;**
**- open doors and windows;**
**- contact a Service Centre, a qualified installer or the gas supplier service centre.**
**It is strictly forbidden to search for gas leaks using flames.**

**This appliance has been designed to be installed in the countries of destination specified on the packaging label and on the boiler rating plate; installation in countries other than those specified can expose persons, animals and/or things to hazards.**

**The manufacturer declines any liability, be it specified in the sales contract or not, related to failure to comply with the foregoing.**

## Quick reference guide

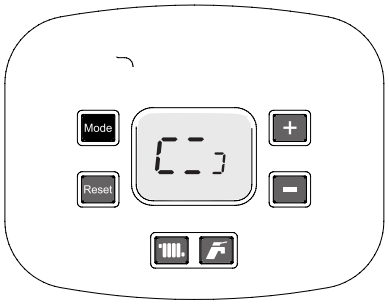
The following instructions allow quick start up and adjustment of the boiler, for immediate use.

**These instructions assume that the boiler has been installed by a company authorised for the purpose, that the first started up has been already performed and the boiler has been prearranged for a correct operation.**

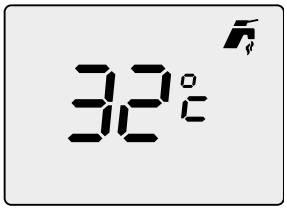
**If the boiler has been equipped with accessories, these instructions are not sufficient for its correct operation. In this case please refer to the boiler instructions and also to the instructions referring to the accessories installed.**

For full boiler operation description and safety instructions of its use, refer to the complete instructions given in this manual.

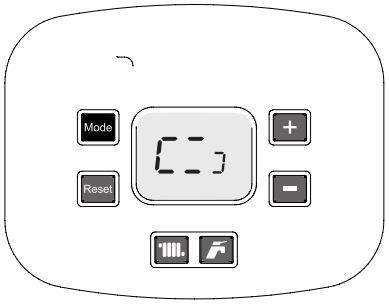
1. Open the gas supply interception valve upstream the boiler.
2. Position to ON the switch of the electrical system upstream the appliance: the boiler display (fig. 1) comes on.
3. To exclude the heating function, hold for the cycle time the key "Mode", until the display shows the image given in the figure.



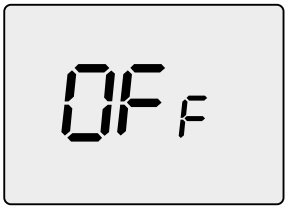

Releasing the button "Mode" enables only the domestic hot water distribution function (it is displayed the temperature of the delivery system).



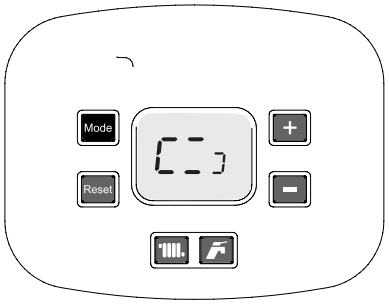

4. To enable the Standby function, hold for the cycle time the "Mode" key until the display shows the image given in the figure.



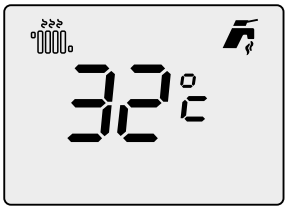

As soon as the key "Mode" is released, the boiler goes into stand-by.




5. To enable both the heating function and the domestic hot water distribution function, hold for the cycle time, the "Mode" key until the display shows the image given in the figure.




As soon as the key "Mode" is released, both the domestic hot water distribution function and the heating function are enabled (it is displayed the temperature of the delivery system).




6. To adjust the domestic hot water distribution temperature, press the "" key (**D** fig. 1) then adjust the temperature using the keys or (**E** or **F** in fig. 1).
7. To adjust the heating temperature, press the "" key (**C** in fig. 1) then adjust the temperature using the keys or (**E** or **F** in fig. 1).
8. Set the value to the desired temperature on the thermostat (if present) inside the house.

At this point, the boiler is ready for operation.

In case the boiler is blocked, unlock it by pressing the key "Reset" (**B** fig. 1).
If the boiler does not resume normal operation after three attempts, contact an Authorized Service Centre.

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## 1. Instructions for the user

### 1.1. Control panel

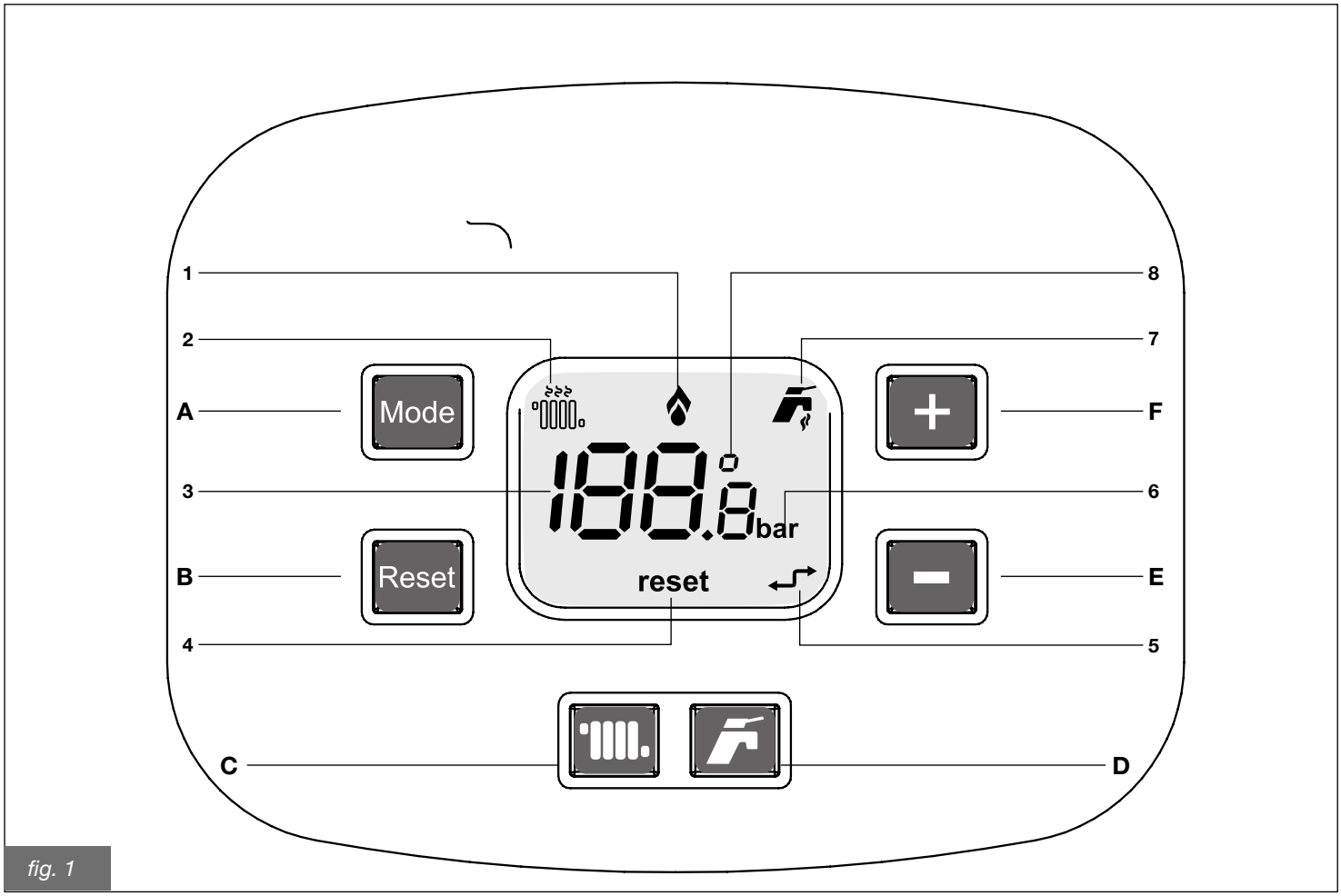



*fig. 1*

**A.** Select operation type (Winter / Summer / Off).

**B.** Reset alarms and return to the home page on the parameters selection screen.

**C.** Adjust heating hot water.

**D.** Adjust domestic hot water.

**E.** Decrease temperature values and parameters.

**F.** Increase temperature values and parameters.

To access the interface press a key. Upon activation, the interface enables access to all keys as well as the back lighting of the display. 30 seconds after having touched it, the interface disables all buttons and the display goes off.

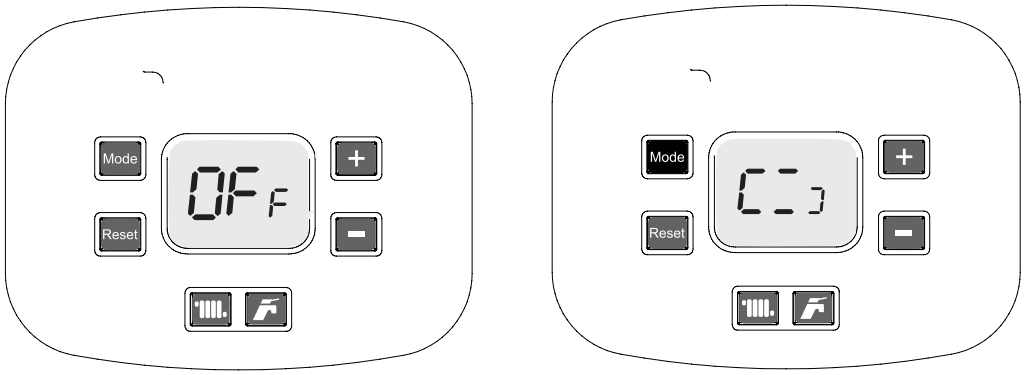
If the key is hold for over 30 seconds, it is displayed a fault message but the system operation is not stopped. The error is reset once the normal conditions are restored.

| | SYMBOL | FIXED | FLASHING |
|---|---|---|---|
| 1 |  | Indication the flame is on. | |
| 2 |  | It indicates heating.<br>If the symbol is ON, the function is enabled; if the symbol is OFF, the function disabled. | Displays the delivery heating temperature set or request in progress. |
| 3 |  | Displays the temperature values, the parameters values and the faults. | |
| 4 | reset | Indicates to manually RESET the error. | |
| 5 |  | Indicates the OT is ON. | |
| 6 | bar | Indicates the system pressure unit of measurement. | |
| 7 |  | Indicates the domestic hot water instantaneous value.<br>If the symbol is ON, the function is enabled; if the symbol is OFF, the function disabled. | Displays the domestic hot water temperature set or request in progress. |
| 8 |  | Indicates the Celsius degrees. | |

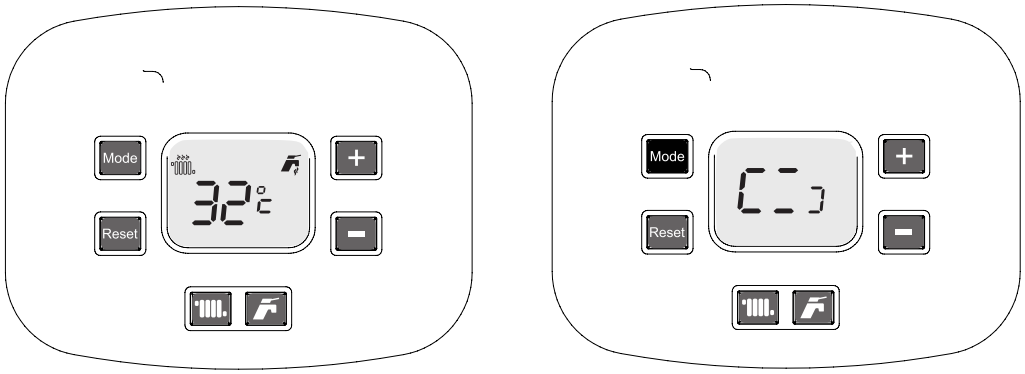
*Table 1: Symbols that can be displayed on the LCD display*

### 1.2. Select the operating mode

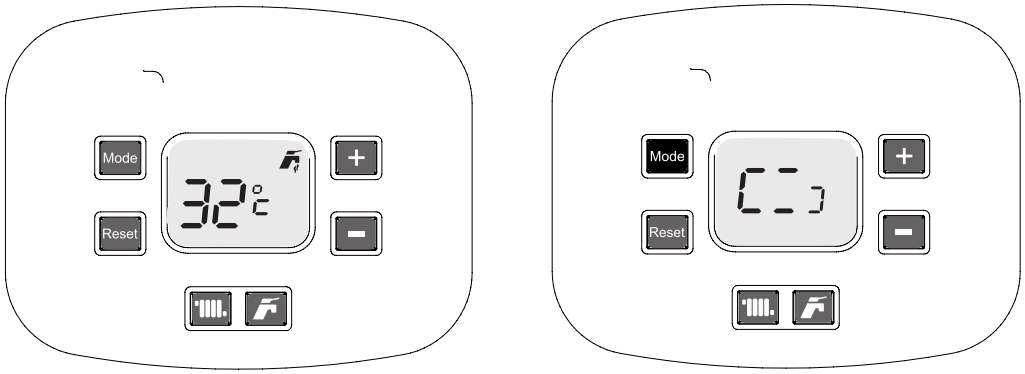
Hold the "Mode" key for a cycle time to enable in sequence the "WINTER" + , "SUMMER" and "OFF" modes.
All keys are enabled in this phase.
When the "WINTER" mode is enabled, both functions are active: domestic hot water delivery and heating water delivery.
When the "SUMMER" is enabled, the only function enabled is the domestic hot water delivery.
When the "OFF" mode is enabled, no function is active.




**1.** OFF
OPERATION MODE




**2.** WINTER
OPERATION
MODE



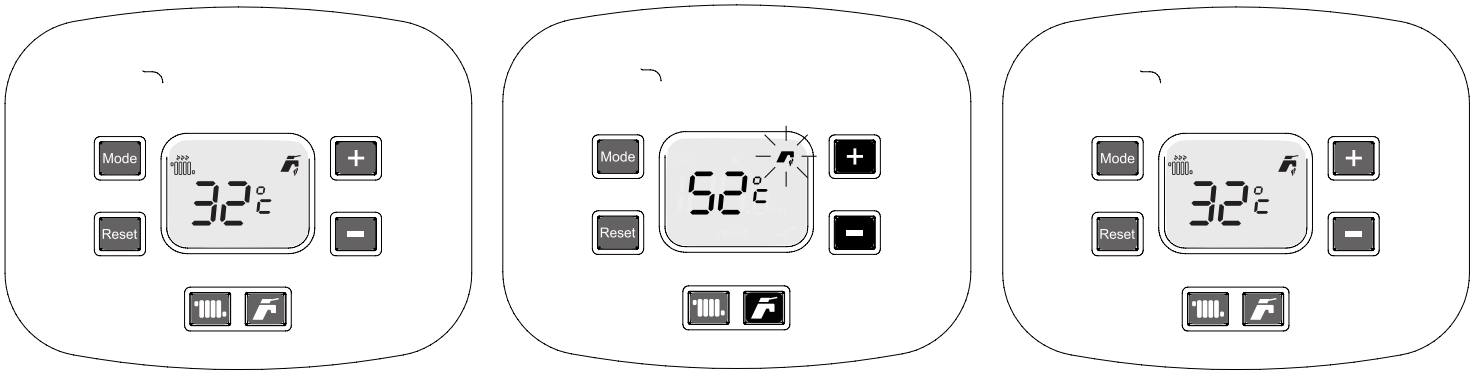

**3.** SUMMER
OPERATION MODE

### 1.3. Adjusting the heating and domestic hot water temperature

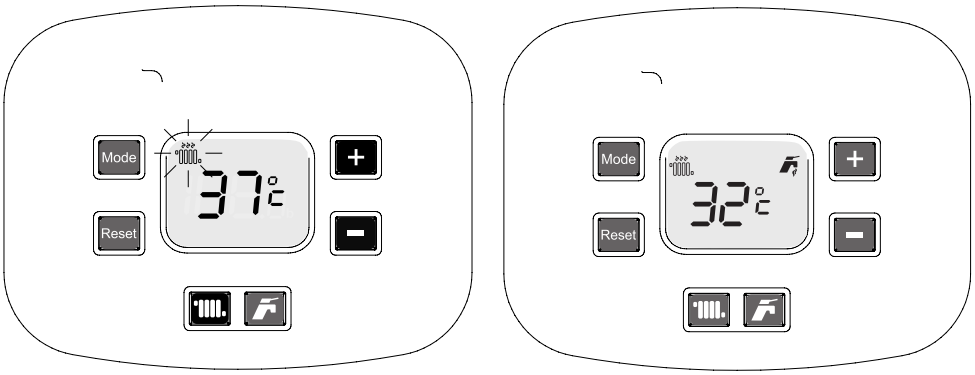
Press the key “domestic” (**D** fig. 1) to display the temperature of the domestic hot water.
Press the keys "−" (**E** fig. 1) or "+" (**F** fig. 1) to change the temperature of the domestic hot water.
While the value is being modified, the icon DOMESTIC (**7** fig. 1) flashes. Set the temperature value desired; the icon keeps flashing for about 5 seconds. After this time has lapsed, the value is saved and the display returns to its normal operation.

Press the key “domestic” (**C** fig. 1) to display the delivery heating water temperature.
Press the keys "−" (**E** fig. 1) or "+" (**F** fig. 1) to change the delivery heating water temperature.
While performing the selection, the HEATING icon (**2** fig. 1) flashes. Set the temperature value desired; the icon keeps flashing for about 5 seconds. After this time has lapsed, the value is saved and the display returns to its normal operation.

In this phase all keys are active.




**1.** ADJUSTMENT
TEMPERATURE
HOT WATER FOR DOMESTIC
USE CIRCUIT




**1.** ADJUSTMENT
TEMPERATURE
HEATING CIRCUIT

### 1.4. Information - Counters - Menu - Errors

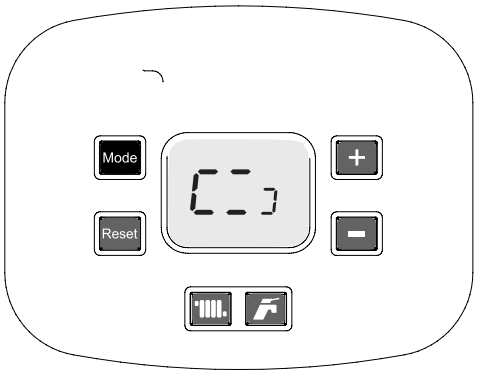
3 different menus are available:
- Information: version, temperature, pressure, power level, set-point set ...
- Errors: last 10 errors log
- Counters: number of operation hours of the burner, number of ignitions, number of faults.

Hold for a cycle time the keys "Reset + " (**B** + **D** fig. 1) to access the "**INFO**" menu. The display lights up and the screen will alternate the messages "In" (1 sec), "n00" (1 sec) and the value of the related parameter (5 sec).

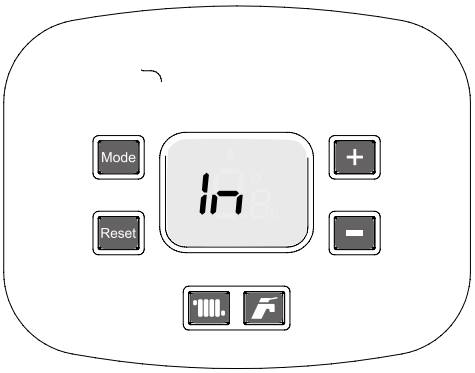
Press briefly "+" (**F** fig. 1) to scroll through the various indices.
When the last index available in the Information menu is reached, press the key to enable the counters menu and, subsequently, the errors menu.
Press briefly "−" (**and** fig. 1) to obtain the reversed behaviour.

Hold for a cycle time the keys "Reset + " (**B** + **D** fig. 1) to exit the menu.

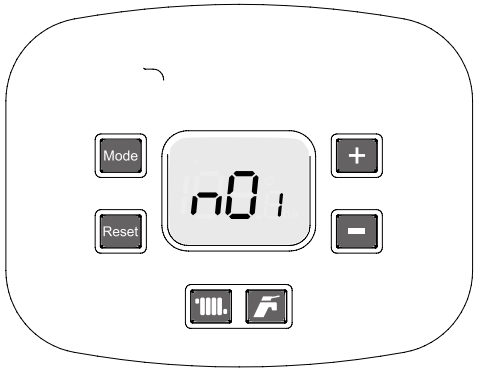
The meaning of all indexes available is given in the Tablela 2 .


**1.** ACCESS
INFO MENU




**2.** FIRST
INDEX


**3.** SECOND
INDEX

| No. | DESCRIPTION | RANGE | | STEP |
|---|---|---|---|---|
| | | **INFO** | | |
| **In0** | Display software version | | | |
| **In1** | Display external probe temperature | -30…35 | °C | 1 |
| **In2** | Display delivery probe temperature | -9…99 | °C | 1 |
| **In3** | Display fumes probe temperature | -9…99 | °C | 1 |
| **In4** | Display domestic hot water probe temperature | -9…99 | °C | 1 |
| **In5** | Display return probe temperature | -9…99 | °C | 1 |
| **In6** | Display actual SET heating temperature | Par 13 INST .. Par 14 INST | °C | 1 |
| **In7** | Display power level | 0 ..100 | % | 1 |
| **In8** | Display flow meter value | 0 .. 99 | Flowrate<10 : l/minX10 Flowrate>=10: l/min | 0.1 |
| **In9** | Display water pressure value | 0 .. 99 | bar | 0.1 |
| **In10** | Fan speed | 0..255 | Rpmx100 | 1 |
| | | **COUNTERS** | | |
| **Co0** | Display total operation hours | 0 .. 99 | h x 100 | 0.0 to 9.9 ➔ fast flashing 1 from 10 a 99 |
| **Co1** | Display burner operating hours | 0 ..99 | h x 100 | 0.0 to 9.9 ➔ fast flashing 1 from 10 a 99 |
| **Co2** | Display burner total ignitions | 0 ..99 | x 1000 | 0.0 to 9.9 ➔ fast flashing 1 from 10 a 99 |
| **Co3** | Display total faults | 0 ..99 | x 1 | 1 |
| **Co4** | Display number of TSP menu activations | 0 ..99 | x 1 | 1 |
| **Co5** | Display number of OEM menu activations | 0 ..99 | x 1 | 1 |
| **Co6** | ----- | -- | - | - |
| | | **ERRORS** | | |
| **AL0** | Display last error code | – | – | – |
| **AL1** | Display previous error code | – | – | – |
| **AL2** | Display previous error code | – | – | – |
| **AL3** | Display previous error code | – | – | – |
| **AL4** | Display previous error code | – | – | – |
| **AL5** | Display previous error code | – | – | – |
| **AL6** | Display previous error code | – | – | – |
| **AL7** | Display previous error code | – | – | – |
| **AL8** | Display previous error code | – | – | – |
| **AL9** | Display previous error code | – | – | – |

*Table 2: Indexes can be displayed in the Information - Counters - Errors menu*

## 1.5. BOILER STATUS - LCD DISPLAY

**Normal operation**

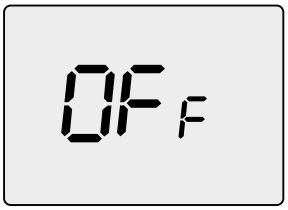
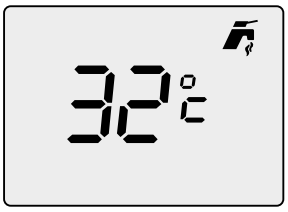
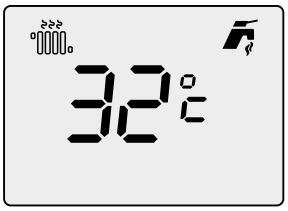
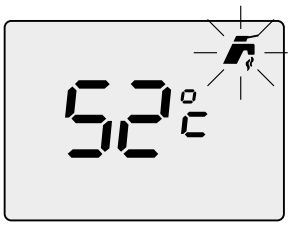
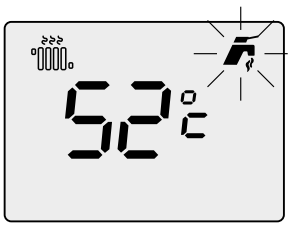
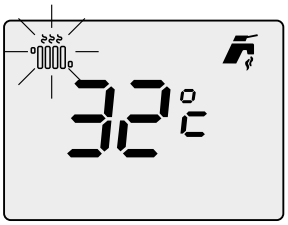
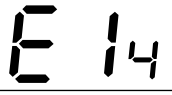
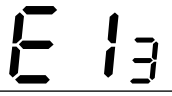
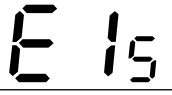
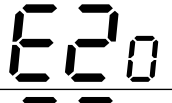
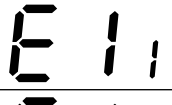
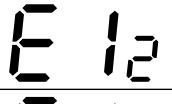
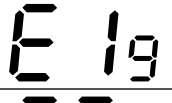
| | |
|---|---|
| **Boiler switch in OFF position** |  |
| **Boiler switch in SUMMER position**<br>No function enabled.<br>Displays the delivery temperature of the system. |  |
| **Boiler switch in WINTER position**<br>No function enabled.<br>Displays the delivery temperature of the system. |  |
| **Boiler switch in SUMMER position**<br>Domestic hot water function enabled<br>Displays the temperature of the domestic hot water in delivery; the symbol "" flashes. |  |
| **Boiler switch in WINTER position**<br>Domestic function enabled.<br>Displays the temperature of the domestic hot water in delivery; the symbol "" flashes. |  |
| **Boiler switch in WINTER position**<br>Heating function enabled.<br>Displays the temperature in delivery and the symbol """ flashes. |  |

*Table 3: BOILER STATUS - LCD display in normal operation*

**Fault**

| | |
|---|---|
| **Water pressure too low / Incorrect parameter setting** |  |
| **Excessive water pressure** |  |
| **Domestic hot water NTC probe faulty** |  |
| **Heating NTC probe faulty** |  |
| **Fumes NTC probe faulty** |  |
| **Block due to the tripping of the fumes probe** |  |
| **Fan control anomaly** |  |
| **Failure to start up** |  reset |
| **Safety thermostat has tripped** |  reset |
| **Parasitic flame** |  reset |
| **NO water circulates in the circuit** |  |
| **NTC return probe failure** |  |
| **Overtemperature of the system (TCH> TSP81)** |  |
| **Delta T CH/Ret > TSP82 (1)** |  |
| **Gas valve modulator disconnected** |  |
| **Boiler probe faulty (if connected)** |  |
| **Wrong ACS control or incorrect reading of the flow meter** |  |
| **Maximum number of RESETS has been reached** |  reset |
| **Low power supply** |  |
| **Fault in the power supply frequency.** |  |

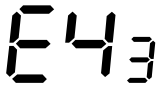
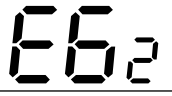
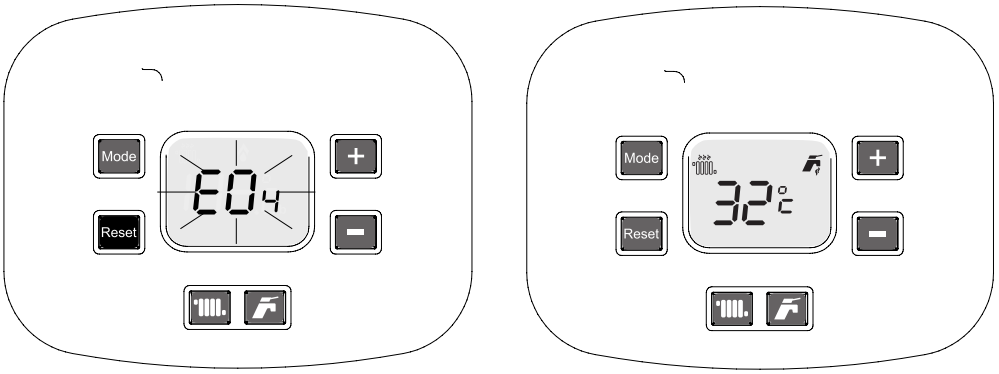
| | |
|---|---|
| **Flame loss for 6 consecutive times in heat request** |  **reset** |
| **Keys anomaly** |  |
| **OT communication failure** |  |
| **SGV opening time without flame error** |  **reset** |
| **Require GAS CALIBRATION** |  |
| **Fume exhaust anomaly** |  |
| **NTC heating probe failure (ΔT error)** |  **reset** |
| **SGV management circuit failure** |  **reset** |
| **SGV opening problem** |  **reset** |
| **Blocked for combustion fault upon start up (2)** |  **reset** |
| **Problem on the SGV circuit** |  **reset** |
| **Flame loss upon start up for over 6 consecutive times** |  **reset** |
| **Software error. Board not configured** |  **reset** |
| **Blocked for generic causes** |  **reset** |

*Table 4: BOILER STATUS - LCD display in case of malfunction*

(1) This control gets enabled 120 sec after pump activation and only during the CH request (without domestic hot water).
(2) Fault 81 may be caused by a blockage of the fume exhaust pipe. In this case contact your service centre before unlocking the boiler.

### 1.6. Faults which cannot be reset

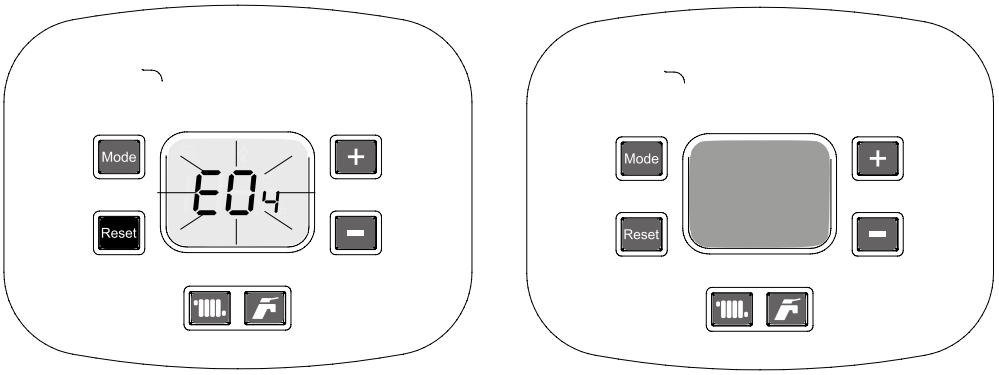
The display shows the fault by flashing the related error code (Tablela 4). Some faults can be reset using the key "Reset" (**B** fig. 1), others by self-recovering. See next paragraph ("Unlocking the boiler").
After the error cause is removed, on the interface also the faults goes off.




### 1.7. Unlocking the boiler

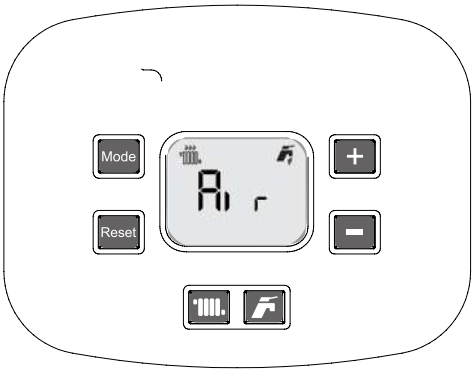
The display shows the fault by flashing the related error code (Table 4). Some faults can be reset using the key "Reset" (**B** fig. 1), others by self-recovering.

When the key "Reset" (**B** fig. 1) is pressed, the error is unlocked provided that the boiler conditions allows it. The faults displayed on the interface disappear and the display goes off.




### 1.8. Automatic draining of the air in the system

Press simultaneously the keys "Reset" and "−" for the cycle time to enable the air removal from the water in the circuit. Doing so enables periodically both the circulator and the diverter valve to facilitate removal of the air bubbles from the system.
To end this function press again the keys "Reset" and "−" for the cycle time or wait 12 minutes for the process to finish.




### 1.9. Children safety

It is possible to set the keys to lock automatically, so as to prevent they are accidentally pressed; to enable this function, set the TSP 24 to 1. 2 minutes after the last key has been tapped, the same will get blocked. To unlock it, press the key "Mode" for the cycle time.

## 1.10. Boiler operation

### 1.10.1. Switching on the boiler

**These instructions assume that the boiler has been installed by a company authorised for the purpose, that the first started up has been already performed and the boiler has been prearranged for a correct operation.**

- Open the gas supply interception valve;
- position to ON the switch on the electrical system upstream the boiler. The display comes on indicating the type of gas, the power set and the function active in that moment (see Table 3 and Table 4);
- select the boiler operation system by pressing the related key "Mode" (**A** fig. 1) OFF/SUMMER/WINTER (par. 1.2);
- set the temperature value of the heating water (see paragraph 1.10.2);
- set the temperature value of the domestic hot water (see paragraph 1.10.3);
- set on the house thermostat (if present) the necessary ambient temperature value.

**CAUTION**
**After a long inactivity period of the boiler, especially for boilers operating with propane, there could be difficulty upon ignition. Therefore, prior to switching on the boiler, start up a gas operated appliance (e.g. a stove).**
**Despite this, the boiler could get blocked once or twice. Restore then the operation of the same by pressing "Reset" (B fig. 1).**

### 1.10.2. HEATING function

To adjust the temperature of the heating water hold for the cycle time the key "" (**C** fig. 1) and then use on the keys "+" or "−" (**E** or **F** fig. 1).
The adjustment range of the heating temperature depends on the operating range selected:
- **standard range**: from 20°C to 80°C;
- **low range**: from 20°C to 47°C.

The operation range must be selected by the installer or by an Authorized Service Centre (see section 3.2.11).
While the temperature is being set, the heating symbol on the screen flashes (**2** fig. 1) and the value being set for the heating water temperature is displayed.
When the heating system requires heat, the symbol of heating on the display flashes (**2** fig. 1) and the instantaneous temperature of the heating water in delivery is displayed. The burner symbol ON (**1** fig. 1) comes out only when the burner is running.

The waiting time between one ignition and the next of the boiler, meant to avoid frequent switching on and off of the boiler during heating operation, ranges between 0 and 10 minutes (default 3), and can be edited in the parameter P05.

### 1.10.3. DOMESTIC Function

To adjust the temperature of the domestic hot water, hold for the cycle time the key "" (**D** fig. 1) then use the keys "+" or "−" (**E** or **F** fig. 1).

This function has always priority over the heating function.

The temperature adjustment of the domestic hot water ranges from 10°C to 60°C.

While the temperature is being set, the heating symbol on the screen flashes (**7** fig. 1) and the value being set for the domestic hot water temperature is displayed.
When the heating system requires heat, the symbol of heating on the display flashes (**7** fig. 1) and the instantaneous temperature of the heating water is displayed. The burner symbol ON (**1** fig. 1) comes out only when the burner is running.

### 1.10.4. ANTIFREEZE Function

The boiler is equipped with an anti-freeze protection system enabled with the operating modes: OFF/SUMMER/WINTER/.

**The antifreeze function protects the boiler only, not the entire heating system.**

The heating system can also be effectively protected from freezing by using specific antifreeze products suitable for systems made from several metals.
**Do not use antifreeze products for vehicles motors and check the effectiveness of the product in time.**

If the burner could not get switched on due to lack of gas, the antifreeze functions stay enabled by feeding the circulators.

### 1.10.4.1. Antifreeze function in delivery

The delivery line antifreeze function has two phases:

If the temperature sensor of the heating water detects a water temperature value < TSP 38 + 2°C, the boiler starts the circulators and stays switched on until the temperature of the heating water reaches a value > TSP 38 + 5°C.
In case the boiler blocks, the pump circulation is however ensured.

If the heating water temperature sensor detects a temperature value < TSP 38, the boiler starts with the burner at the lowest power value. Once a temperature value > 42°C is reached, the burner goes off while the circulator keeps operating for about 150 seconds.
In case the boiler blocks, the pump circulation is however ensured.

### 1.10.4.2. Antifreeze function for the domestic hot water plates

The antifreeze function protects as well the domestic hot water circuit.
When the temperature sensor of the domestic hot water detects a water temperature of 5°C, the boiler gets switched on and stays on the minimum thermal power value until the temperature of the domestic water reaches a temperature of 7°C (the diverter valve is set on domestic hot water position).
During the antifreeze phase in domestic hot water, the temperature is continuously detected by the sensor on the delivery line and, as soon as it reaches the value of 42°C, the burner gets switched off. The burner is switched back on if during antifreeze phase the delivery temperature drops below 5°C.
In case the boiler blocks, the pump circulation is however ensured.

### 1.10.5. Pump and diverter valve anti-block function

In case the boiler stays inactive and connected to the power mains, every 24 hours the circulation pump and diverter valve are activated for a short period of time (30 seconds) to prevent them from blocking.

### 1.10.6. Operation with external probe (option)

The boiler can be connected to a probe that measures the outside temperature (this option is not mandatory; supplied by the manufacturer). Note: the temperature outside the boiler adjusts automatically the temperature of the heating water, by increasing it if the external temperature drops and decreasing it when the external temperature rises, to improve comfort and save energy. The maximum temperatures of the standard and low range are, however, met.

This boiler operation type is defined as being "sliding temperature operation".
The heating water temperature varies according to a program written in the microprocessor of the boiler electronics.

**With external probe, the key "** **" (C fig. 1) loses its temperature setting function for the heating water** and, instead, allows changing the "dummy" temperature, i.e. the theoretical temperature desired in the environments to be heated.
On setting the temperature, the dummy ambient temperature value flashes on the display, while the value being set is displayed.
For the optimal adjustment of the curves it is recommended to set it to about 20°C. For further details on the sliding temperature operation refer to paragraph 3.2.14.

**Use exclusively original external probes provided by the manufacturer.**
**Using external probes other than original, not supplied by the manufacturer, having technical characteristics different from those required by the electronic management, can affect the operation of the external sensor and of the boiler.**

### 1.10.7. Operation with Remote Control (option)

The boiler can be paired to a remote control (option not mandatory, supplied by the manufacturer), that allows managing remotely many parameters of the boiler, for instance:
- select the boiler operation mode;
- select the ambient temperature;
- select the temperature of the heating system water;
- select the temperature of the domestic hot water;
- program the start-up time of the heating system and the activation timing of a possible external boiler (option);
- display boiler diagnostics;
- unblock the boiler;

and other parameters.
To connect the remote control refer to the paragraph 3.2.13 and to the user's manual annexed to the remote control.

**Use exclusively original remote controls supplied by the manufacturer.**
**Using remote controls other than original, not supplied by the manufacturer, can affect the operation of the remote control itself and of the boiler.**

### 1.11. Boiler blocking

In case of malfunctions, the boiler gets automatically blocked. To acknowledge the boiler operation mode refer to Table 3 and Table 4.
To acknowledge the possible causes of the malfunction check also paragraph “7. Troubleshooting” at the end of this manual.
Proceed then as described below, depending on the cause of the blocking.

#### 1.11.1. Burner blocked

If the burner gets blocked due to the lack of flame, the flashing code **E06** is displayed on the screen. In this case, proceed as follows:
- check, by switching on a stove, for instance, if the gas valve is open and if gas is supplied;
- after having checked to make sure gas is normally supplied, unlock the burner by pressing the key “Reset” (**B** fig. 1): if the appliance does not start and gets block after the third attempt, contact an Authorized Service Centre or personnel qualified for maintenance.

If the burner gets frequently blocked, meaning there is a recurring fault in its operation, contact an Authorized Service Centre or personnel qualified for maintenance.

#### 1.11.2. Blocking due to over-temperature

In case of over-temperature on the delivery line, the boiler gets blocked and the flashing code **E07** is displayed on the screen.
In this case please contact an Authorized Service Centre or personnel qualified for maintenance.

#### 1.11.3. Blocking due to missing draught (fumes blocking)

In case of malfunction of the air suction and/or fumes exhaust systems, the boiler gets blocked and the flashing code **E13** or **E96** is displayed on the screen (the fumes probe has tripped).
In this case please contact an Authorized Service Centre or personnel qualified for maintenance.

#### 1.11.4. Block due to low water pressure in the system

In case of flashing code error **E02** indicating the blocking due to low system pressure, fed the system by acting on the filling tap fig. 2 (for SV models the tap is located on the cold water inlet pipe).
The error **E02** is displayed when the system pressure drops below 0.5 bar and resets automatically when the pressure of the system has exceeded the threshold of 1.1 bar.
The pressure value in the cold boiler must be 1÷1.3 bar.
To restore the water pressure value follow the indications given below:
- pull down on the knob to lower it;
- rotate the filling valve knob (fig. 2) counter-clockwise to feed water into the boiler;
- keep the valve open until on the control panel is displayed a pressure value of 1÷1.3 bar;
- shut off the valve by rotating the knob clockwise;
- push upwards the knob to fit it back.

If the boiler gets blocked again, contact an Authorized Service Centre or personnel qualified for maintenance.

**After the operation has been completed, make sure to close the safety Plexiglass door. If the valve has not been tightly closed, the pressure could increase above 2.6 bar, and have displayed on the screen the error E03; in this case open the safety valve of the heating system and drain out some water.**

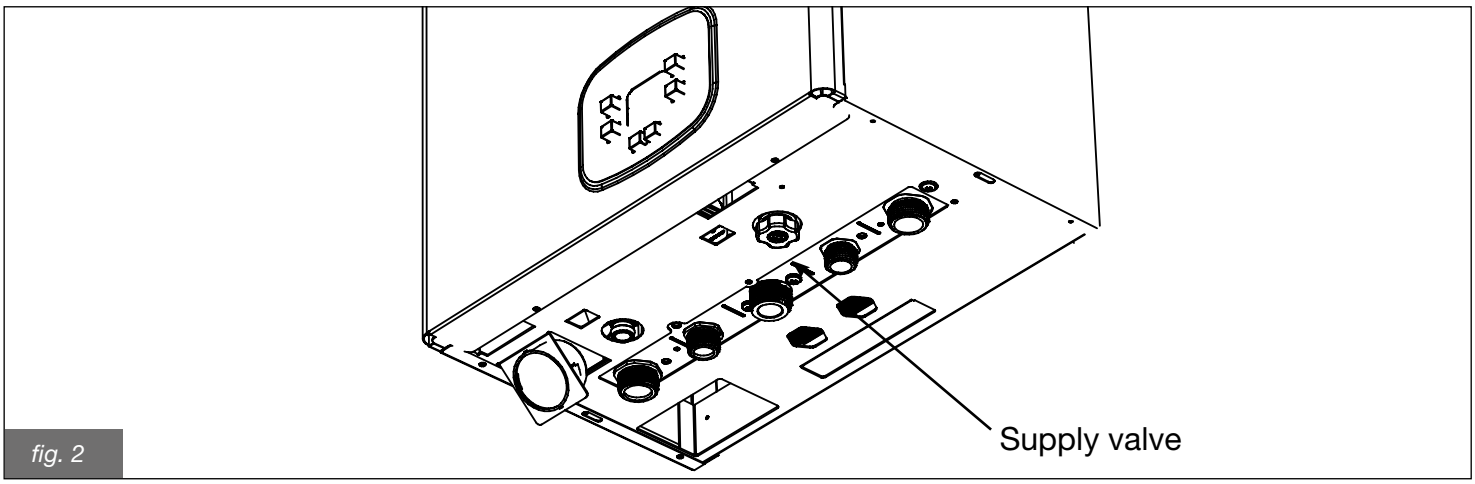



*fig. 2*

### 1.11.5. Alarm caused by the temperature probes failure

If the burner gets blocked due to the water temperature probe malfunction, the display shows the codes:

- **E05** for the heating probe.
  In this case the boiler does not work.
- **E04** for domestic hot water probe.
  In this case the domestic hot water function is performed with modulation on the heating sensor.
- **E16** for the return line probe.
  In this case the boiler continues to run.

**In all four cases contact an Authorized Service Centre or personnel qualified for maintenance.**

### 1.11.6. Blocking caused by the malfunction of the fan

The fan operation is constantly monitored; in case of burner malfunction, the fan is switched off and the flashing code **E15** is displayed on the screen.
This status stays the same until the fan returns to normal operating parameters.
**If the boiler does not resume operation and remains in this condition, contact an Authorized Service Centre or personnel qualified for maintenance**.

### 1.11.7. Alarm due to a faulty connection to the remote control (option)

The boiler acknowledges the presence of the remote control (option not required).
If the remote control is connected and subsequently the boiler does not receive information from it, the boiler attempts to re-establish communication for a period equal to 60 seconds; after this time has lapsed, on the remote control screen is displayed the code **E43**.
The boiler will keep running according to the settings made on the control panel, ignoring the settings made on the remote control.

**In this case please contact an Authorized Service Centre or personnel qualified for maintenance.**

## 1.12. Maintenance

**Provide for periodic maintenance of the boiler according to the schedule specified in the related section of this manual.**
**Proper maintenance of the boiler allows it to work under the best conditions, to protect the environment and to ensure the safety of persons, animals and objects.**
**The routine maintenance operations of the boiler must be carried out by qualified personnel.**

**For maintenance and repairs operations the manufacturer recommends its clients to contact its network of Authorised Service Centres, which are trained to perform the above interventions.**

## 1.13. Notes for the user

**The user has free access only to the boiler parts whose operation does not require the use of tools and/or equipment; it is, therefore, not permitted to remove the boiler panel to intervene on its inner parts.**
**Nobody, including the qualified staff, is authorized to make changes to the boiler.**

**The manufacturer declines any liability for damage to persons, animals and objects generated by having tampered with the boiler or by wrong interventions on the same.**
**If the boiler remains inactive and disconnected from the power supply for a long time, the pump could require being unblocked.**
**This operation, which involves disassembling of the panel and the access to the boiler inner parts, must be performed by qualified personnel.**
**The pump blocking can be avoided if the system is subjected treatment with specific protective products, suitable for systems made from several metals.**

## 2. Technical data and dimensions

### 2.1. Technical features

This boiler works with built-in full pre-mixing gas burner and can be supplied in the versions:
- **Play Entry**: sealed room condensing boiler and forced draft for the production of hot water for heating and instantaneous production of hot water for domestic use;

The boilers come in the following thermal capacity versions:
- Play Entry Entry 20 : with a thermal capacity of 20 kW (heating) and 24 kW (domestic)

All models are equipped with electronic ignition and ionization-based flame control.

The boilers meet all standards in force in the country of destination, which is indicated on the technical data plate.
The installation in a country other than the specified ones may lead to damage to people, animals and/or objects.

The main technical features of the boiler are the following:

**Construction Characteristics**

- The control panel with IPX4D protection degree of the electric system.
- Integrated safety and modulation electronic board security.
- Electronic ignition with embedded igniter and ionization-based flame detection.
- Full pre-mixing burner made from stainless steel.
- High-efficiency single temperature heat exchanger made from stainless steel and aluminium.
- Double-shutter gas valve electronically modulated with constant air/gas ratio.
- Modulated combustion fan with electronic control of the correct operation.
- Highly effective modulated heat circulator with built-in air drainage.
- Heating circuit pressure sensor.
- Temperature probe for the heating and domestic use water.
- Fumes probe at the outlet
- Integrated automatic by-pass.
- 9-litre expansion tank.
- Manual valves for system feeding and draining.
- Stainless steel plate heat exchanger for domestic hot water (only in the Play Entry version).
- Motor-controlled divert valve.
- Flow meter for domestic use hot water.

**User interface**

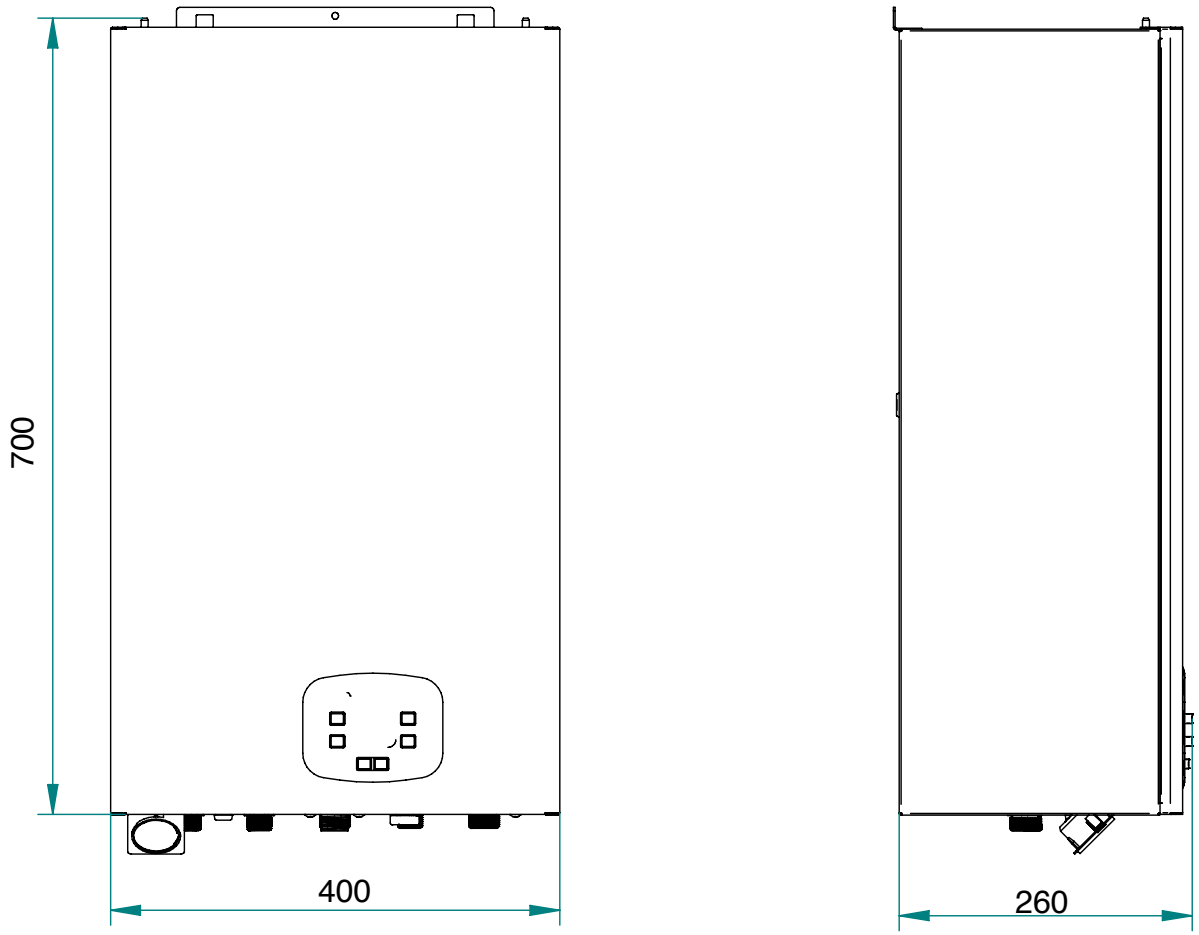
- Built-in LCD interface for the displaying and controlling of the boiler operation mode: OFF, UNLOCK, WINTER and SUMMER.
- Heating water temperature regulator: 20-80°C (standard range) or 20-47°C (low range).
- Adjustment of the hot water temperature for domestic use: 10-60°C.

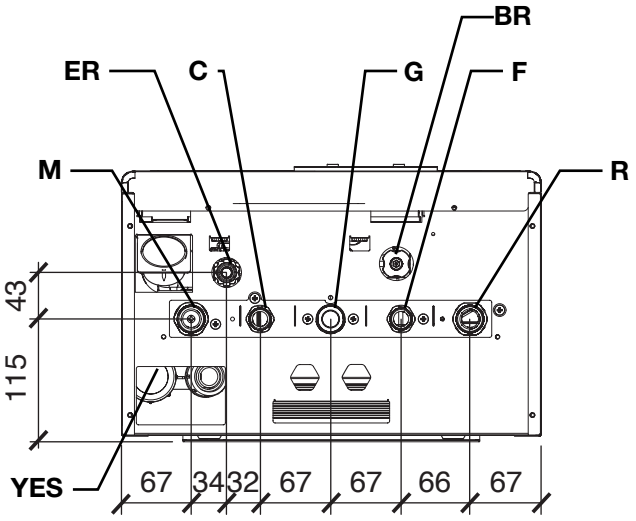
**Operation specifications**

- Electronic modulation of the flame in the heating function with ramp-up timing.
- Electronic modulation of the flame in the domestic use function.
- Domestic function priority.
- Antifreeze function on the delivery line: ON at P38 + 2°C; OFF at P38 + 5°C.
- Antifreeze function on the domestic hot water line: ON at 5°C; OFF at 7°C.
- Boiler antifreeze function (Play Entry SV + external boiler option with NTC probe): ON at 5°C; OFF at 7°C.
- Timed chimney sweep function: 30 minutes.
- Maximum thermal capacity adjusting parameter for the heating and domestic hot water functions.
- Ignition thermal capacity adjusting parameter.
- Heating pre-selection range: standard or low.
- Flame propagation during ignition function.
- Heating post-circulation function: 120 seconds (adjustable).
- Post-circulation function for the domestic hot water use circuit: 30 seconds.
- Post-circulation function for heating temperature > 90°C: stop when T < 88°C.
- Post-ventilation function after operation: 30 seconds.
- Post-ventilation function for heating temperature > 99°C: stop when T < 93°C.
- Circulator and diverter valve anti-blocking function: 30 seconds of operation after 24 hours of shut-down.
- Prearranged for the connection to a room thermostat.
- Ready for operation with external probe (option supplied by the manufacturer).
- Ready for operation with remote control OpenTherm (option supplied by the manufacturer).
- Ready for area-based operation.
- Anti-water hammer function: adjustable from 0 to 3 seconds using the parameter P26.

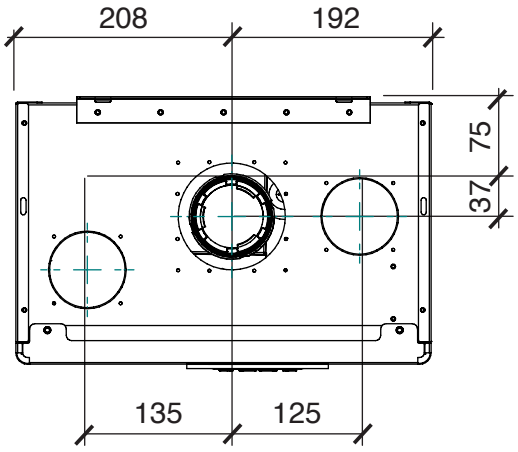
## 2.2. Dimensions

### Play Entry 20




Bottom view




Top view

| | |
|---|---|
| F | Cold water inlet |
| G | Gas inlet |
| SI | Siphon inspection plug |
| M | Heating system delivery line |
| C | Hot water for domestic use outlet |
| R | Heating system return line |
| RS | Safety valve filling and draining cock |
| RC | Supply valve |

*fig. 3*

## 2.3. Hydraulic diagram

**Play Entry 20**

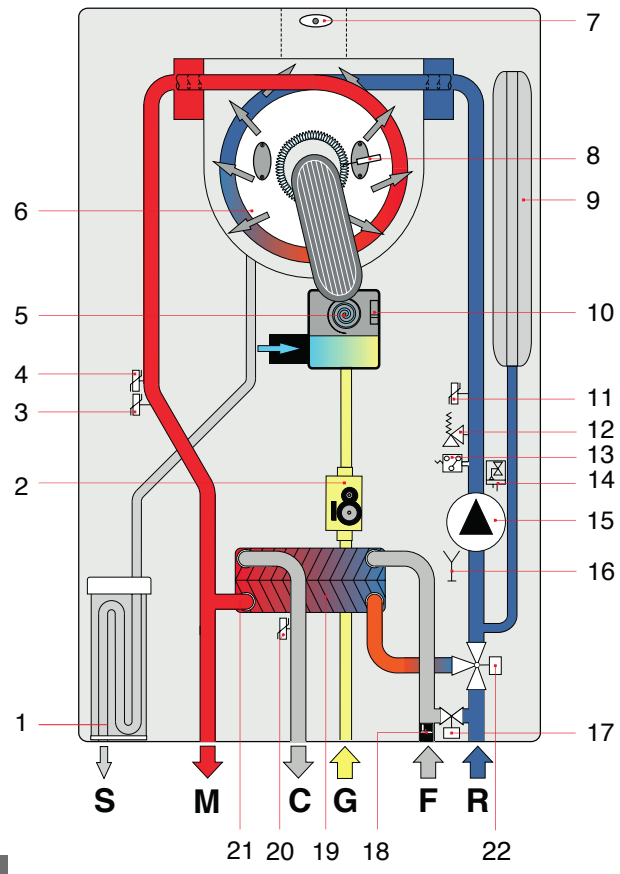



*fig. 4*

1. Condensate draining syphon
2. Modulating gas valve
3. Safety thermostat
4. Delivery line temperature sensor
5. Modulating fan
6. Condensing primary exchanger
7. Fumes temperature probe
8. Ignition and detection electrode
9. Expansion vessel
10. Fan control sensor
11. Return line temperature sensor
12. 3 bar safety valve
13. Pressure transducer
14. Air draining system
15. Circulator
16. Drain cock
17. Supply valve
18. Flow meter with cold water filter
19. Secondary plate exchanger
20. Temperature sensor for domestic use hot water
21. Integrated automatic by-pass on the plate heat exchanger
22. 3-way motorised valve

**S** Condensate drain
**G** Gas inlet
**M** Heating system delivery line
**C** Hot water for domestic use outlet
**F** Hot water inlet
**R** Heating system return line

## 2.4. Technical data on the operation

The pressures inside the burner shown in the following page must be checked after the boiler has run for 3 minutes.

**Play Entry 20**

| Function | Heating thermal capacity [kW] | | Heating thermal capacity (80-60°C) [kW] | | Heating thermal capacity (50-30°C) [kW] | | Supply pressure [mbar] | $O_2$ value of the fumes [%] | | $CO_2$ value of the fumes [%] | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | min | max | min | max | min | max | | From | To | From | To |
| G20 methane gas | 2.8 | 20 | 2.5 | 19.2 | 2.9 | 20.7 | 20 | 5,7 | 4,0 | 8,5 | 9,5 |
| GPL Gas | 2.8 | 20 | 2.5 | 19.2 | 2.9 | 20.7 | 30/37 | 5,9 | 4,5 | 10,0 | 10,9 |

*Table 5: Play Entry 20 Calibration data*

Production of hot water for domestic use with ΔT 45°C = 8 l/min
Production of hot water for domestic use with ΔT 40°C = 9 l/min
Production of hot water for domestic use with ΔT 35°C = 10 l/min
Production of hot water for domestic use with ΔT 30°C = 11 l/min
Production of hot water for domestic use with ΔT 25°C = 14 l/min

### 2.5. General features*

| Play Entry MODEL | | 20 |
|---|---|---|
| Appliance Category | - | II2H3P |
| Minimum pressure of the heating circuit | bar | 0.5 |
| Maximum pressure of the heating circuit | bar | 3 |
| Minimum pressure of the domestic hot water circuit | bar | 0.5 |
| Maximum pressure of the domestic hot water circuit | bar | 6 |
| Specific capacity for domestic use hot water (ΔT 30K) | l/min | 11 |
| Power Supply - Voltage/Frequency | V - Hz | 230 … 50 |
| Fuse on the power supply line | A | 3.15 |
| Maximum absorbed power | W | 87 |
| Protection degree | IP | X4D |
| Net weight | kg | 29.9 |
| | | |
| Methane gas consumption at maximum capacity in heat. (*) | $m^3/h$ | 2.08 |
| GPL consumption at maximum capacity in heat. (*) | $m^3/h$ | 0.64 |
| Number of G20 fan revolutions in heating max / min (X100) | rpm | 45.5 / 9 |
| Number of G20 fan revolutions fan in domestic hot water max (x100) | rpm | 51.5 |
| Number of LPG Fan revolutions in heating max / min (X100) | rpm | 41.5 / 9 |
| Number of LPG fan revolutions in domestic hot water max (x100) | rpm | 50 |
| Number of G20 fan revolutions fan upon ignition (x100) | rpm | 35 |
| Number of LPG fan revolutions fan upon ignition (x100) | rpm | 32 |
| | | |
| Max operation temperature in heating | °C | 85 |
| Max operation temperature in domestic | °C | 60 |
| Expansion tank maximum capacity | l | 7 |

*Table 7: Play Entry General data*

(* ) Value referred to 15°C - 1013 mbar.

| Play Entry 20 | | Pmax | Pmin | Loaded at 30% |
|---|---|---|---|---|
| Losses at the jacket while the burner is running | % | 0.4 | 8.2 | |
| Losses when the burner is off | % | 0.3 | 2.4 | |
| Losses at the chimney while burner is running | % | 3.7 | 1.8 | |
| Fumes mass flow rate | g/s | 9.9 | 1.3 | |
| T fumes | °C | 70 | 62 | |
| Net thermal yield at max capacity (60/80°C) | % | 95.8 | - | |
| Net thermal yield at max capacity (30/50°C) | % | 103.4 | - | |
| Net thermal yield at min. capacity (60/80°C) | % | - | 90.0 | |
| Net thermal yield at min. capacity (30/50°C) | % | - | 102.1 | |
| Net thermal yield at 30% load | % | | | 107.1 |
| Emission Class $NO_X$ | - | 6 | | |

*Table 6: Play Entry 20 Combustion data*

## 2.6. ERP data and Labelling

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Models: Play Entry 20 | | | | | | | |
| Condensing boiler: Yes | | | | | | | |
| Low temperature boiler (**): Yes | | | | | | | |
| $B_1$ type boiler: No | | | | | | | |
| Cogeneration appliance for ambient heating: No | | | | If Yes, equipped with an additional heater: - | | | |
| Mixed heating appliance: Yes | | | | | | | |
| **Element** | **Symbol** | **Value** | **Unit** | **Element** | **Symbol** | **Value** | **Unit** |
| **Nominal heating capacity** | $P_n$ | 20 | kW | **Seasonal energy efficiency for environment heating** | $\eta_s$ | 92 | % |
| For environment heating boilers and hybrid boilers: net thermal yield | | | | For environment heating boilers and hybrid boilers: net efficiency | | | |
| At the nominal thermal power and at high temperature operation (*) | $P_4$ | 19 | kW | At the nominal thermal power and at high temperature operation (*) | $\eta_4$ | 86.3 | % |
| At 30% of nominal thermal power and low temperature operation (**) | $P_1$ | 6.5 | kW | At 30% of nominal thermal power and low temperature operation (**) | $\eta_1$ | 96.4 | % |
| Auxiliary power consumption | | | | Other elements | | | |
| At full load | $el_{max}$ | 0.073 | kW | Thermal dispersion in stand-by | $P_{stby}$ | 0.069 | kW |
| At partial load | $el_{min}$ | 0.054 | kW | Power consumption of the ignition burner | $P_{ign}$ | 0 | kW |
| In stand-by mode | $P_{SB}$ | 0.004 | kW | Yearly power consumption | $Q_{HE}$ | 38.7 | GJ |
| | | | | Nitrogen oxides emission | $NO_x$ | 23 | mg/kWh |
| For hybrid heating appliances: | | | | | | | |
| **Declared load profile** | L | | | **Water heating energy efficiency** | $\eta_{wh}$ | 80.9 | % |
| Daily power consumption | $Q_{elec}$ | 0.18 | kWh | Daily fuel consumption | $Q_{fuel}$ | 14.6 | kWh |
| Yearly power consumption | AEC | 40.3 | kWh | Yearly fuel consumption | AFC | 11.0 | GJ |
| Contact information: Bongio s.r.l. - Via Piave 14, 12011 Borgo San Dalmazzo (CN) Italy | | | | | | | |

(*) Operation at high temperature: return temperature 60°C at the appliance inlet and 80°C net temperature at the appliance outlet.

(**) Low Temperature: return temperature (at the boiler inlet) for condensing boilers 30 °C, for low temperature appliances 37 °C, and for other appliances 50 °C.

| | |
|---|---|
| **Seasonal energy efficiency class for environment heating** | **A** |
| **Energy efficiency class for the heating of water** | **A** |

*Table 8: ERP and Labelling Data - Play Entry 20*

## 3. Instruction for the installer

### 3.1. Installation regulations

This boiler belongs to II2H3B/P category and must be installed according to the following laws and regulations, herein fully applied:
- Law No. 46 of 05/03/90
- Law no. 186 of 01/03/68
- Legislative Decree no. 192 of 19/08/2005
- Legislative Decree no. 311 of 29/12/2006
- Presidential Decree no. 551 of 21/12/1999
- Presidential Decree no. 412 of 26/08/1993
- Standard UNI 7129
- Standard UNI 7131
- Standard UNI 11071
- Standard CEI 64/8

**CAUTION**
**If more boilers are to be installed in the same premise or in the same room, for a total thermal capacity exceeding 35 kW, the plant must be designed and performed according to:**
- **Italian Ministerial Decree 12/04/96 as regards fire prevention;**
- **Italian Ministerial Decree 01/12/75 and R collection on safety.**

### 3.2. Installation

**Use exclusively original accessories and spare parts supplied by the manufacturer both for installation and maintenance, as well as for the possible replacement of components.**
**In case the accessories and spare parts used are other than original, the correct operation of the boiler cannot be guaranteed.**

#### 3.2.1. Packaging

The boiler is supplied packed in a sturdy cardboard box.
After having removed the boiler from the packaging, make sure it has suffered no damages.
The packaging materials are recyclable: sent them to the appropriate wastes collection centres.
Do not leave at children's reach the packaging which could, by their nature, be a source of danger.
The manufacturer declines any liability for damage to persons, animals and objects arising from failure to comply with the indications above.

The package contains:
- one wall- mounting bracket (already mounted on the boiler);
- one bag containing:
  a) this installation, use and maintenance manual of the boiler;
  b) the inspection certificate;
  c) the template for boiler fixing to the wall (fig. 5).

#### 3.2.2. How to chose the installation place of the boiler

In determining the place where the boiler is to be installed, take into account the following:
- the information contained in the paragraph "3.2.6. Air suction / fumes exhaust system" and its sub-paragraphs;
- check to make sure the wall structure is suitable, avoiding fixing the appliance on walls not having the suitable bearing capacity;
- avoid mounting the boiler above appliance likely to affect while used, in any manner, the proper operation of the boiler (ovens that generate fat vapours, washing machines, shower compartments or bath tubs, etc.).

#### 3.2.3. Positioning the boiler

Each appliance is equipped with a suitable template made from paper and added inside the packaging (fig. 5).
This template allows pre-arranging the pipes for the connection to the hot water for domestic use heating system, to the gas supply network and to the air suction / fumes exhaust pipes when preparing the hydraulic system and before boiler installation.
This template, consisting of a sturdy paper sheet, must be fixed to the wall chosen for the installation of the boiler using a spirit level and is provided with all indications necessary to prepare the boiler fastening holes by means of screws and "Fisher" anchors.
The lower part of the template allows marking the exact position of the fittings for the connection to the gas supply pipe, to the cold water pipe duct, to the hot water outlet, to the heating delivery and return line.
The upper part allows marking the position of the air suction / fumes exhaust pipes.

**Since the temperature of the walls on which the boiler is installed and the external temperature of the suction and exhaust coaxial pipes are lower than 60°C, it is not necessary complying with minimum distances from flammable walls.**
**For the boilers with separate suction and exhaust pipes, in case of flammable walls and crossings, interpose insulating material between the wall and the fumes exhaust pipe.**

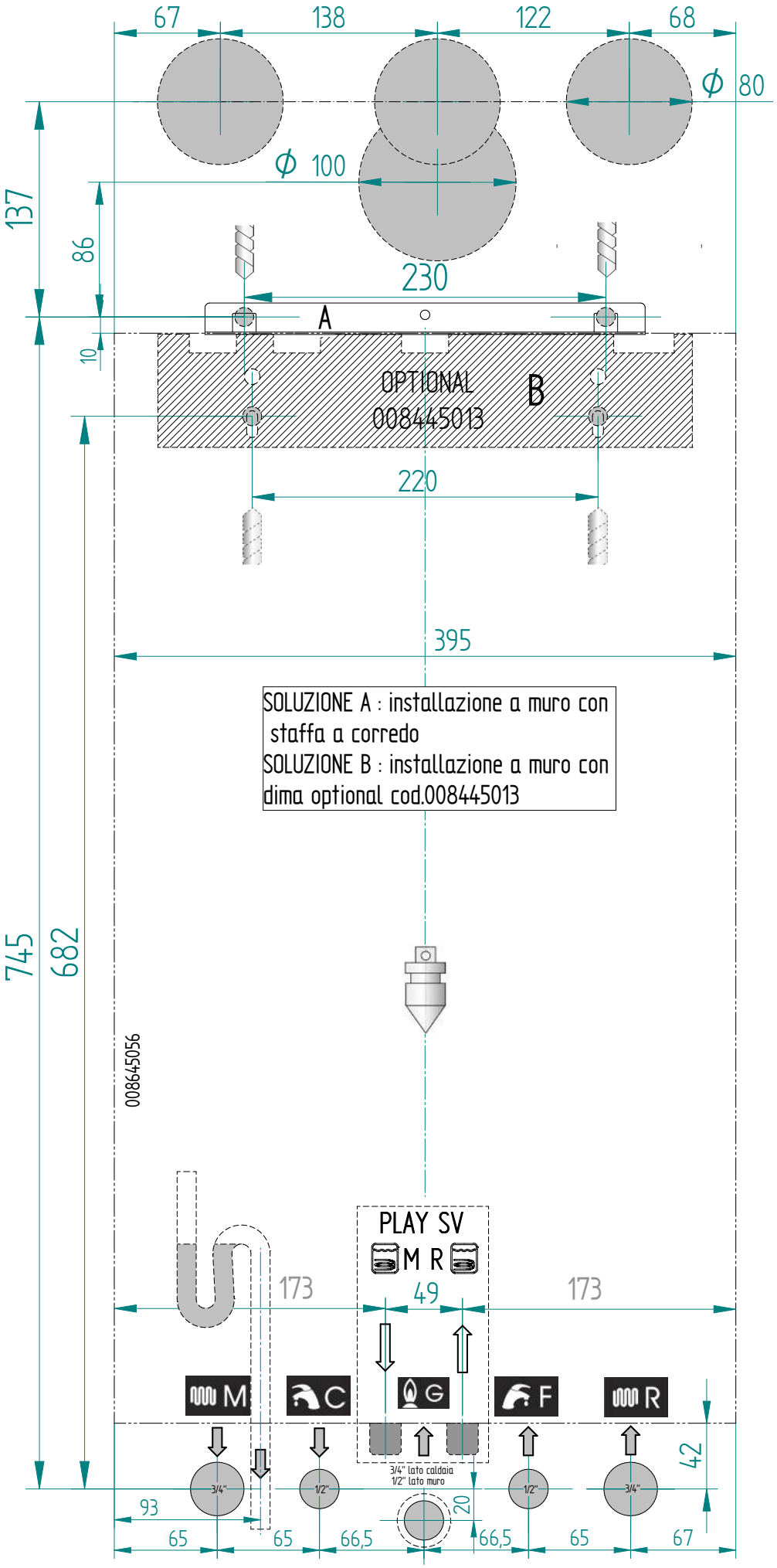

67
138
122
68
Φ 80
Φ 100
137
86
230
A
10
OPTIONAL
008445013
B
220
395
SOLUZIONE A : installazione a muro con staffa a corredo
SOLUZIONE B : installazione a muro con dima optional cod.008445013
745
682
008645056
PLAY SV
M R
173
49
173
M
C
G
F
R
3/4" lato caldaia
1/2" lato muro
42
93
20
65
65
66,5
66,5
65
67

fig. 5

### 3.2.4. Installing the boiler

**Prior to connecting the boiler to the hot water for domestic use and heating system pipes make sure to thoroughly clean the system.**
**- Before commissioning a NEW system, clean it to remove any machining and welding metal residues, oil and fat that could damage the boiler if they reach it.**
**- Before commissioning a system that has been subjected to overhaul (adding radiators, replacing the boiler etc.), clean it to remove any sludge and foreign particles.**
**For this purpose use appropriate products available on the market and make sure they do not contain acids. Do not use solvents that may damage the components.**
**Furthermore, in each heating system (new or overhauled) add to the water suitable corrosion inhibitors, in due concentration, for systems made from multiple metals so as to form a protection layer on the inner metallic surfaces.**
**The manufacturer declines any liability for damages caused to persons, animals or objects arising from failure to comply with the indications above.**

**For all system types fit to the boiler inlet, on the return line, an easy-to-open filter (Y-shaped type) with Ø 0.4 mm mesh.**

#### 3.2.4.1. Direct installation on the wall using the bracket kit (bracket A)

Follow the indications below to install the boiler:
- fasten the template (fig. 5) to the wall;
- drill the holes in the wall for the retaining blocks of the boiler support bracket (bracket A in fig. 5);
- drill, if necessary, the holes for the passage of the air suction / fumes exhaust pipes;
- fasten to the wall using the two expansion hook anchor bolts;
- position the fittings for the connection of the gas supply pipe (G), the cold water supply line (F), the hot water outlet (C, for Play Entry version only), the secondary supply toward the boiler (for Play Entry SV version only), the secondary return from the boiler (for Play Entry SV version only), the heating delivery line (M) and the heating return line (R) by matching them to the same points on the template (bottom side);
- prearrange connection for condensate draining and a 3-bar safety valve draining, too;
- hang the boiler to the hooks of the blocks;
- connect the boiler to the supply pipe (refer to paragraph 3.2.9);
- connect the boiler to the condensate draining system (refer to paragraph headed 3.2.9);
- connect the boiler to the 3-bar safety valve draining system;
- connect the boiler to the air suction / fumes exhaust system (refer to the paragraph 3.2.6 and related sub-paragraphs);
- connect the power supply, the room thermostat (if provided) and any other accessories (see the following paragraphs).

#### 3.2.4.2. Wall-mounting using the option metal bracket (B)

Follow the indications below to install the boiler:
- fasten the template (fig. 5) to the wall;
- drill the holes in the wall for the retaining blocks of the boiler support bracket (bracket B (008445013) in fig. 5);
- drill, if necessary, the holes for the passage of the air suction / fumes exhaust pipes;
- fix the bracket B to wall using the expansion bolts;
- remove and fit back on the boiler the standard bracket (A) reversed;
- position the fittings for the connection of the gas supply pipe (G), the cold water supply line (F), the hot water outlet (C, for Play Entry version only), the secondary supply toward the boiler (for Play Entry SV version only), the secondary return from the boiler (for Play Entry SV version only), the heating delivery line (M) and the heating return line (R) by matching them to the same points on the template (bottom side);
- prearrange connection for condensate draining and a 3-bar safety valve draining, too;
- hang the boiler to the bracket B previously fastened to the wall;
- connect the boiler to the supply pipe (refer to paragraph 3.2.9);
- connect the boiler to the condensate draining system (refer to paragraph headed 3.2.9);
- connect the boiler to the 3-bar safety valve draining system;
- connect the boiler to the air suction / fumes exhaust system (refer to the paragraph 3.2.6 and related sub-paragraphs);
- connect the power supply, the room thermostat (if provided) and any other accessories (see the following paragraphs).

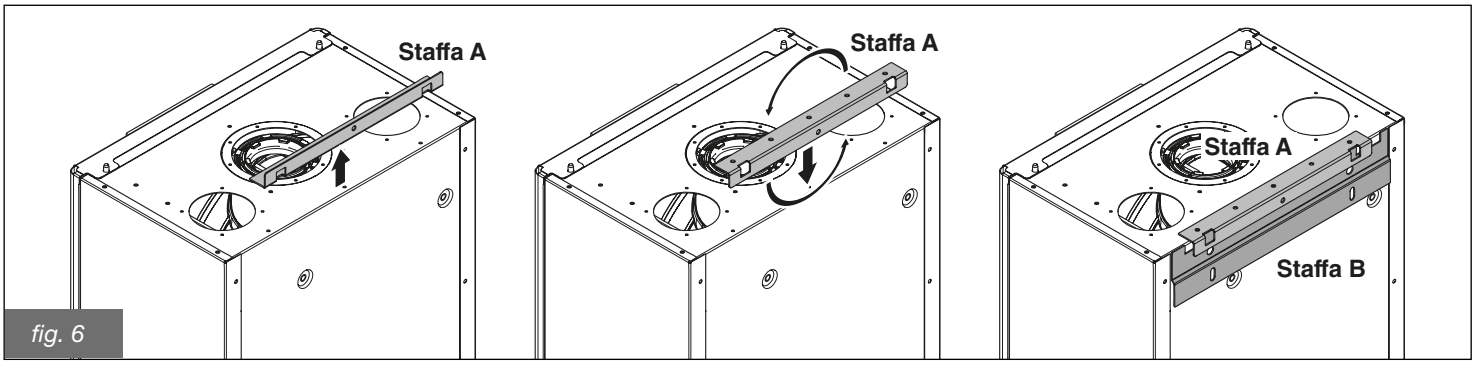


*fig. 6*

### 3.2.5. Ventilation of the premises

The sealed room condensing boilers does not pollute the environment in which is installed, therefore, it does not require any special recommendation on ventilation spouts as regards air combustion; same applies to the room where it is to be installed.

**The boiler must be installed in an appropriate room, in accordance with UNI 7129 and UNI 7131, herein fully applied.**

### 3.2.6. Air suction / fumes exhaust system

As regards fumes emission into the atmosphere and the air suction / fumes exhaust systems, follow the laws and regulations in force, herein integrally applied.

**On the boiler are installed safety devices for the combustion products evacuation control.**
**In the event of air suction / fumes exhaust system, these devices set the boiler in safety and the LCD display shows the flashing code E14.**
**It is strictly forbidden to tamper with and/or to remove these safety devices.**
**In the event of repeated shut-downs of the boiler, check the air suction / fumes exhaust pipes inlet, which might be obstructed or inappropriate for fumes discharging into the atmosphere.**

**For the air suction / fumes exhaust system must be used the original pipes and specific systems for condensation boilers envisaged by the manufacturer, resistant to the corrosion caused by the acids in the condensate.**

**The drain pipes must be installed with a slope toward the boiler so as to ensure the reflux of the condensate toward the combustion chamber, which is designed to collect and discharge the condensate.**
**In case doing so it is not possible, install, at the condensate stagnation points, systems able to collect and convey the condensate toward the draining system.**
**Avoid condensation stagnation points inside the combustion products evacuation system, except for the liquid head of the possible siphon connected to the combustion products evacuation system.**

**The manufacturer declines any liability for damages caused by wrong installation, use, processing of the appliance or failure to comply with the instructions provided by the manufacturer or by the standards in force on the installation of such appliances.**

**Examples of installation**

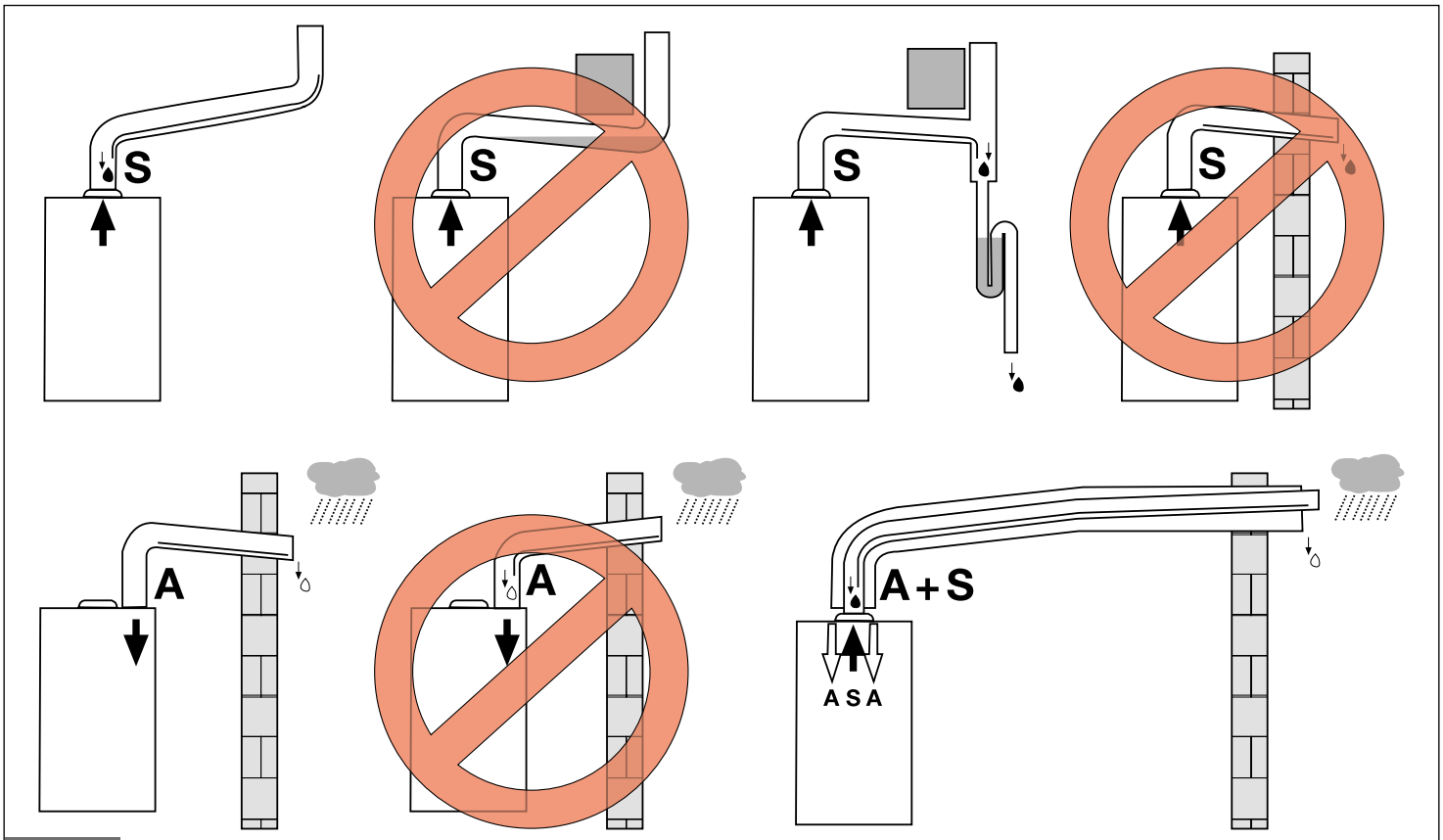
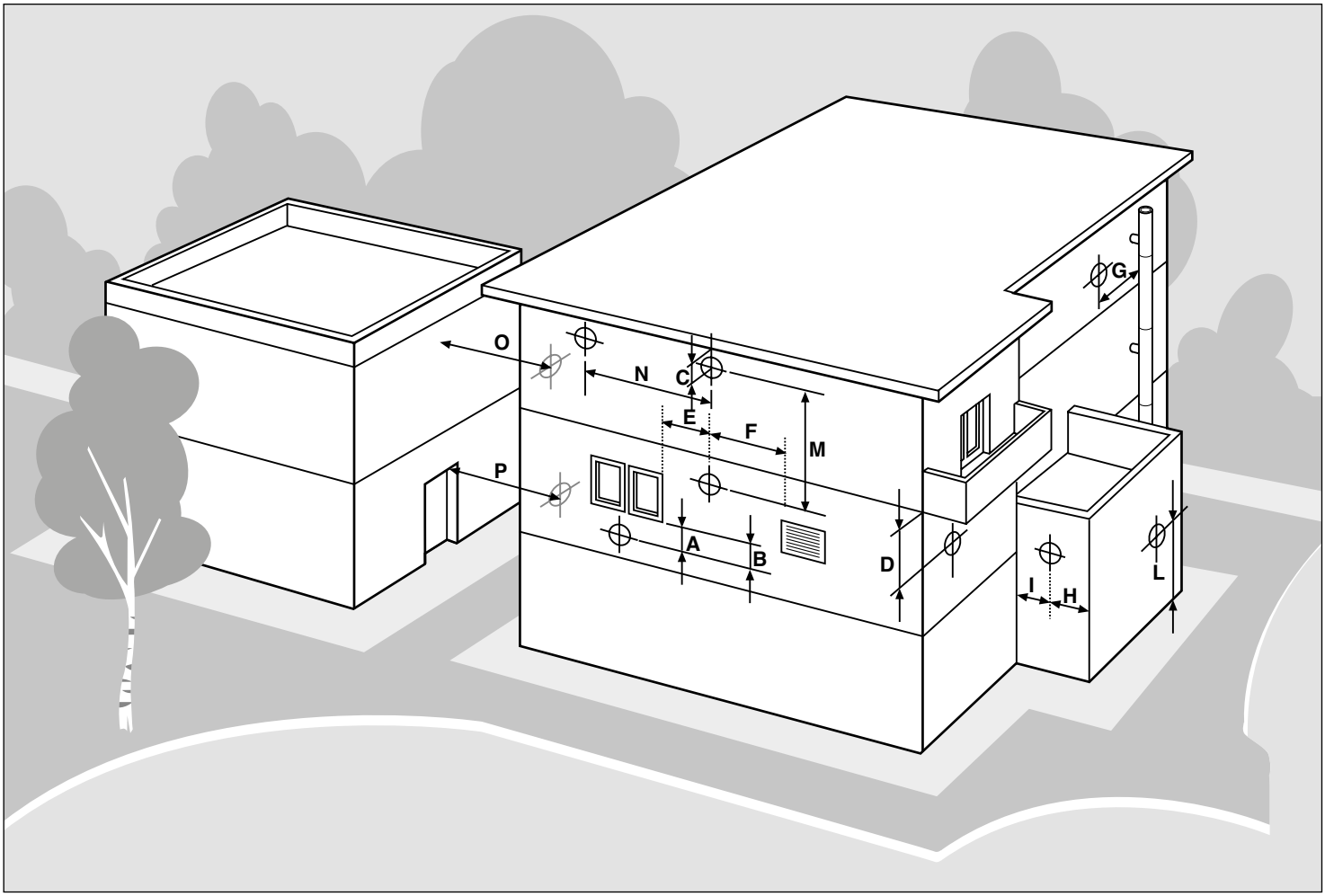



*fig. 7* **KEY**: **A** Air suction - **S** Fumes exhaust - Condensation - Rain

For the positioning on the wall of the boiler draining ends, in the cases envisaged by the Presidential Decree n.551 of 29/12/99, follow the distances referred to in the table and in the figure below.

| POSITIONING THE TERMINALS FOR "FORCED DRAFT" APPLIANCES (quoted from UNI 7129) | | |
|---|---|---|
| **TERMINAL POSITION** | **Minimum distances in mm** | **Appliances with thermal capacity over 16 kW and up to 35 kW** |
| Under the window | **A** | 600 |
| Under venting spouts | **B** | 600 |
| Under the gutter | **C** | 300 |
| Under the balcony (1) | **D** | 300 |
| From an adjacent window | **E** | 400 |
| From an adjacent ventilation spout | **F** | 600 |
| From vertical or horizontal pipes or gutters (2) | **G** | 300 |
| From a building corner | **H** | 300 |
| From a building recess | **I** | 300 |
| From the ground or from another floor | **L** | 2200 |
| Between two terminals, vertically | **M** | 1500 |
| Between two terminals, horizontally | **N** | 1000 |
| From a front surface facing without openings or terminals within 3 meters radius from the fumes outlet | **O** | 2000 |
| Same, but with openings or terminals within 3 meters radius from the outlet of the fumes | **P** | 3000 |

Notes:
(1) The terminals under a balcony normally used must be placed in a position such that the total fumes path, from the exit point from the boiler to the outlet positioned outside the balcony perimeter, including the height of any safety balustrade, must be grater than 2000 mm.
(2) In positioning the terminals ensure distances of minimum 500 mm from materials sensitive to the combustion products action (e.g., gutters and rainwater gutters made from plastic, wooden shutters, etc.) or take the appropriate measures and shield these materials.



### 3.2.6.1. Configuration of the air suction / fumes exhaust pipes

**Type B23**
The boiler is designed to be connected to a flue or combustion products draining device toward the outside of the room in which it is installed. The air is taken in from the installation room and the combustion products are discharged outside the same room.
The boiler must not be equipped with a windproof draught diverting device, but it must feature a fan upstream the combustion chamber/heat exchanger.

**Type C13**
The boiler is designed to be connected to horizontal discharging and suction terminals directed toward outside by means of coaxial type pipes or by means of split type pipes.
The distance between the air suction pipe and the fumes exhaust pipe must be minimum 250 mm and both terminals must be positioned in a square having 500 mm side.
The boiler must be equipped with a fan upstream the combustion chamber/heat exchanger.

**Type C33**
The boiler is designed to be connected to vertical exhaust and suction terminals directed toward outside by means of coaxial type pipes or by means of split type pipes.
The distance between the air inlet pipe and the fumes outlet pipe must be minimum 250 mm and both terminals must be positioned in a square having 500 mm side.
The boiler must be equipped with a fan upstream the combustion chamber/heat exchanger.

**Type C43**
The boiler is designed to be connected to a collective flues system consisting of two ducts, one for combustion air suction and the other for the discharging of the combustion products, be it coaxial or split.
The flue system must comply with the standards in force.
The boiler must be equipped with a fan upstream the combustion chamber/heat exchanger.

**Type C53**
Boiler with separated comburent air suction pipes and combustion products discharge.
These pipes can discharge into different pressure areas.
It is not allowed to position the two terminals on opposite walls.
The boiler must be equipped with a fan upstream the combustion chamber/heat exchanger.

**Type C63**
Boiler with comburent air suction and combustion products discharge pipes to be obtained from products available on the market provided with suitable certification.
The system in this case must not have pressure losses, with the boiler at its nominal power, higher than the residual fan pressure head.

**Type C83**
The boiler is designed to be connected to a terminal for comburent air suction and separated or collective chimney for fumes discharging.
The flue system must comply with the standards in force.
The boiler must be equipped with a fan upstream the combustion chamber/heat exchanger.

### 3.2.6.2. Air suction / fumes exhaust coaxial pipes with 100/60 mm diameter

**These values refer to air suction/fumes exhaust consisting of original rigid, smooth piping provided by the manufacturer.**

**Type C13**

**Play Entry 20**
The minimum length permitted for horizontal coaxial pipes is 1 meter excluding the first elbow.

**The maximum permitted length of horizontal coaxial pipes 100/60 mm is 7 meters, including the first elbow.**

For each straight pipe added having 1 meter length, the maximum allowed length must be decreased of 1 meter.
For each 90° elbow added, the maximum permitted length must be decreased by 1.5 meter.
For each 45° elbow added, the maximum permitted length must be decreased by 1 meters.
The wall terminal maximum permitted length decreases by 1.5 meters.
The air suction must have a slope downwards of about 1 % in the output direction to prevent the entering of rainwater.

**Type C33**

**Play Entry 20**
The minimum permitted length of vertical coaxial pipes is 1 meter.

**The maximum permitted length of vertical coaxial pipes 100/60 mm is 7 meters**.

For each straight pipe added having 1 meter length, the maximum allowed length must be decreased of 1 meter.
For each 90° elbow added, the maximum permitted length must be decreased by 1.5 meter.
For each 45° elbow added, the maximum permitted length must be decreased by 1 meters.
The roof outlet configuration decreases the maximum permitted length by 1.5 meters.

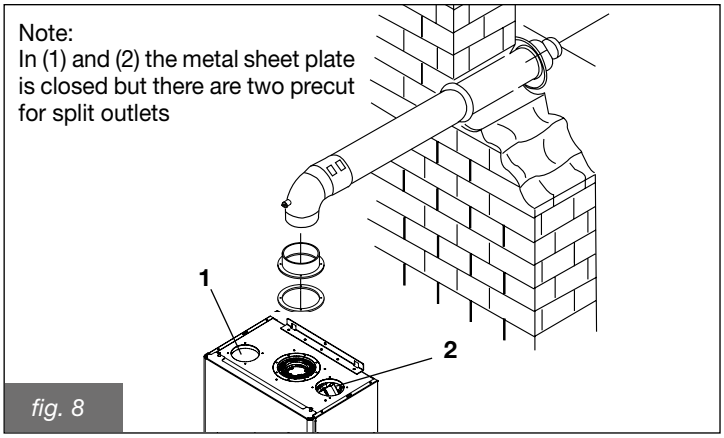


fig. 8

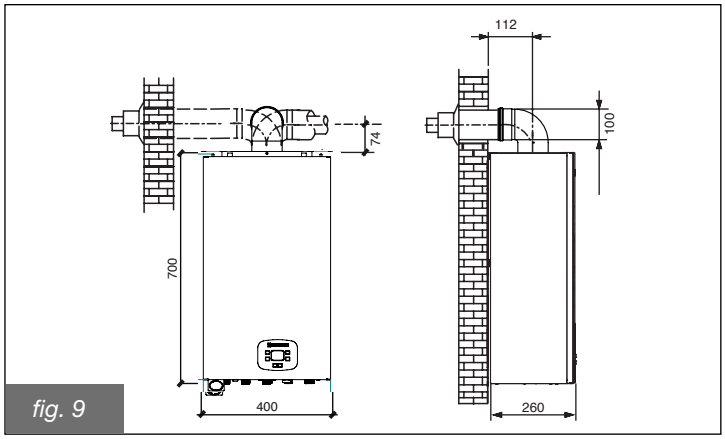


fig. 9

### 3.2.6.3. Air suction / fumes exhaust with split ducts having 80 mm diameter

**These values refer to air suction/fumes exhaust consisting of original rigid, smooth piping provided by the manufacturer.**

**Installation type C43 - C53 - C83**

**Play Entry 20**
The minimum length of the air suction pipe must be 1 meter.
The minimum length of the fumes exhaust pipe must be 1 meter.

**The maximum permitted length of the air suction / fumes exhaust pipes (suction + exhaust) is 60 meters**

**Note:**
For each straight pipe added having 1 meter length, the maximum allowed length must be decreased of 1 meter.
For each 90° elbow added, the maximum permitted length must be decreased by 1 meter.
For each 45° elbow added, the maximum permitted length must be decreased by 0.5 meters.
The roof terminal configuration maximum permitted length is 3 meters
The wall terminal configuration maximum permitted length is 3 meters

**Installation type B23**

The minimum length of the air suction pipe must be 1 meter.
**The maximum permitted pipe length for the Play Entry 20 model is 28 metres**

### 3.2.6.4. Air suction / fumes exhaust with split ducts having 60 mm diameter

**Installation type C43 - C53 - C83**

**Play Entry 20**
The minimum length of the air suction pipe must be 1 meter.
The minimum length of the fumes exhaust pipe must be 1 meter.

**The maximum permitted length of the fume suction/exhaust pipes is 12 meters for all Play Entry models (suction + discharge).**

**Note:**
For each straight pipe added having 1 meter length, the maximum allowed length must be decreased of 1 meter.
For each 90° elbow added, the maximum permitted length must be decreased by 1 meter.
For each 45° elbow added, the maximum permitted length must be decreased by 0.5 meters.
The wall terminal configuration maximum permitted length is 2 meters

### 3.2.6.5. Air suction / fumes exhaust of type C63

The residual pressure head at the fume exhaust spout is 170 Pa for Play Entry 20.

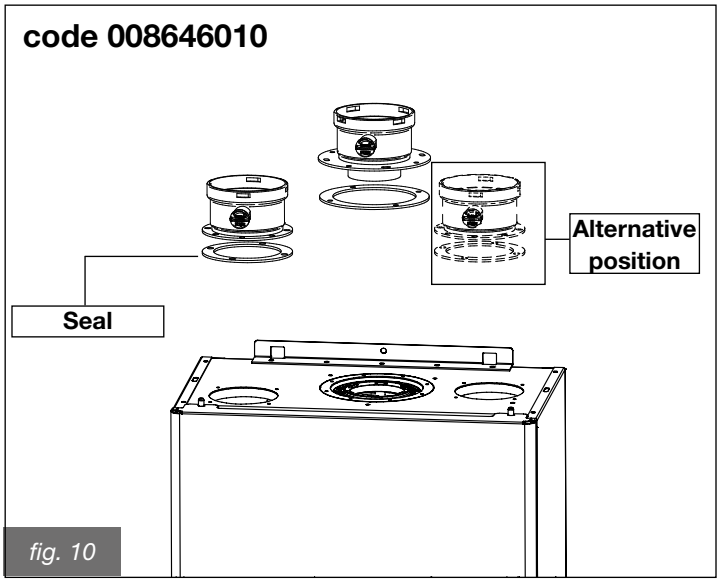


fig. 10

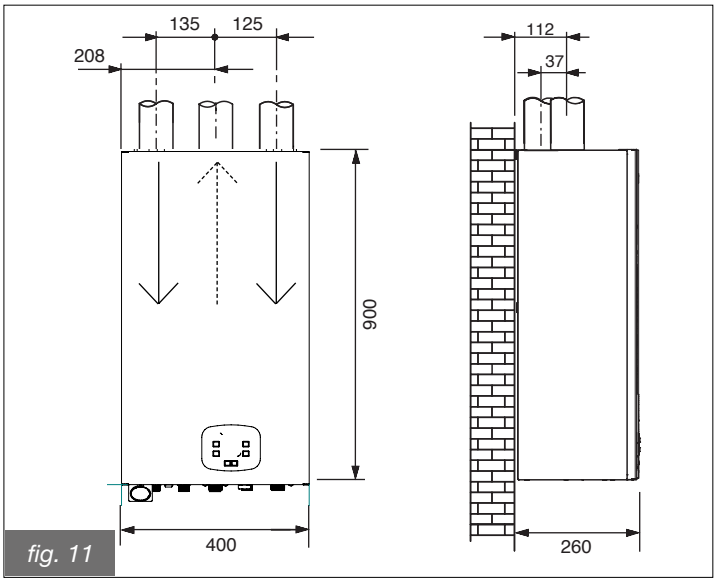


fig. 11

### 3.2.7. Chimney sweep function

The boiler features a chimney sweep function that has to be used to measure in place the combustion efficiency and to access the subsequent combustion adjusting phase.

To enable the chimney sweep function, hold for the cycle time the keys "Mode + Reset" (**A** + **B** fig. 1).
If the keys are released before the cycle time lapses, the boiler continues to operate normally.
If the hot water supply for domestic use is being processed, the chimney sweep function is performed on the same line, otherwise on the heating one.

After having accessed the chimney sweep function on the display shows alternatively the letters "**Lo**" and the heating water temperature value (e.g. 45), indicating the “chimney sweep function" got enabled with **minimum power**. The display shows the symbol "" (**1**, fig. 1), if the burner is running. The boiler performs the start-up sequence and, subsequently, starts operating at minimum power ("").
Press and hold for 3 seconds the key “+” (**F** fig. 1) to go to the “chimney sweep function" at **maximum power** ("**Hi**").
Hold for 3 seconds the key “−” (**E** fig. 1) to return to the “chimney sweep function" with **minimum power** ("").

To exit the chimney sweep function press and hold for 3 seconds the key “Reset” (**B** fig. 1) and return to normal operation.

The chimney sweep function duration is 15 minutes.

### 3.2.8. Connection to the gas network

The gas supply pipe section must be equal or higher than one used for the boiler.
The pipe section depends on its length, type of path and gas flow rate. As a consequence, it has to be sized.

**Follow the installation standards in force, herein integrally applied.**

**Be reminded that, prior to commissioning a gas distribution system, therefore before connecting it to the counter, its sealing must be checked.**
**If system parts are hidden, the sealing test has to be performed prior to covering the piping.**
**The leaks test must not be performed with combustible gas: use air or nitrogen.**
**If gas is fed in the pipes, be remember that it is forbidden to search for leaks using flames; use for this purpose suitable products available on the market.**

**To connect the gas connector of the boiler to the supply pipe IT IS MANDATORY to insert a STOP seal having suitable size and made from the proper material(fig. 12).**
**DO NOT USE hemp, Teflon tape or similar materials for this type of fitting.**

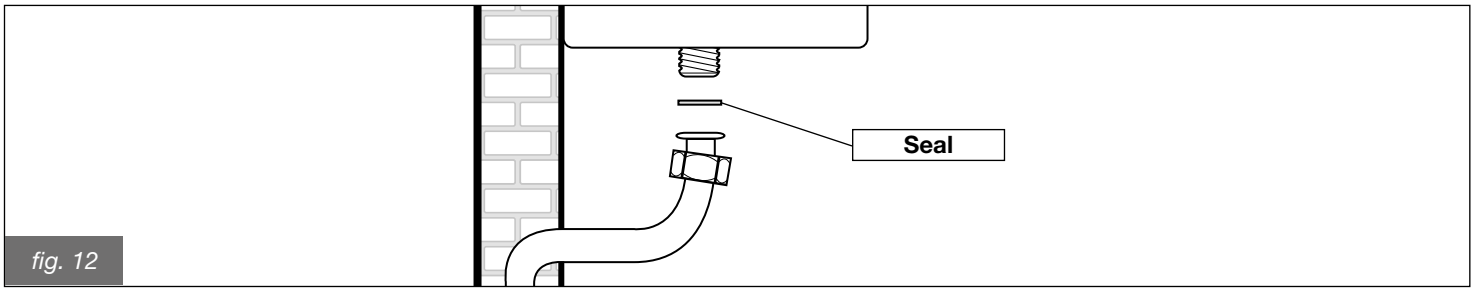


fig. 12

### 3.2.9. Hydraulic Connections

Before installation it is recommended to clean the system so as to remove any impurities that may come from the components, and which might damage the circulator and the exchanger.

**HEATING CIRCUIT**
The delivery and the return heating lines must be connected to the boiler using the related 3/4" fittings **M** and **R** (fig. 5).
For the heating circuit pipes dimensions take into account the pressure losses induced by the radiators, by any thermostatic valves, by shut-off valves of the radiators and by the system configuration.

**It is appropriate to convey into the sewer discharge the safety valve fitted on the boiler. In the absence of such a precaution, a possible intervention of the safety valve can cause the flooding of the room where the boiler is installed.**
**The manufacturer cannot be held liable for damages caused by failure to observe this precaution.**

**HOT WATER FOR DOMESTIC USE CIRCUIT**
The cold water inlet and outlet for domestic hot water use must be connected to the boiler to the related 1/2" fittings **C** and **F** (fig. 5).
The water hardness affects the frequency of cleaning and/or replacement of the secondary exchanger.

**Depending on the water supply hardness, assess whether to install suitable equipment for domestic use with metered feeding of food application products for the treatment of drinking water compliant to the applicable rules.**
**In case of water supply having hardness over 20°F, the water treatment is always recommended.**
**The water coming from the municipal water softeners could not be compatible with some components of the heating system due to its pH values.**

**CONDENSATION DRAIN**
For the draining of the condensate comply with the laws and regulations in force herein fully applied.
Unless otherwise specified, the condensate produced in combustion phase has to be conveyed (through the condensate outlet spout) to an exhaust system which flows out into the domestic waste discharge network that, due to their basicity, counterbalance the fume condensate acidity. To avoid the return of bad smells from the domestic waste discharge network, it is recommended to add a drain trap between the condensate drainage system and the domestic waste discharge network. The condensate draining system and the domestic waste discharge network must be made from suitable materials resistant to the action of the condensation water.
The condensate draining system must be connected to the appropriate connection (A) prearranged on the boiler (see fig. 13).
It is strictly forbidden to connect the condensate draining system to the siphon inspection point (B).

**The manufacturer declines any liability for damages caused to persons, animals or objects arising from failure to comply with the indications above.**

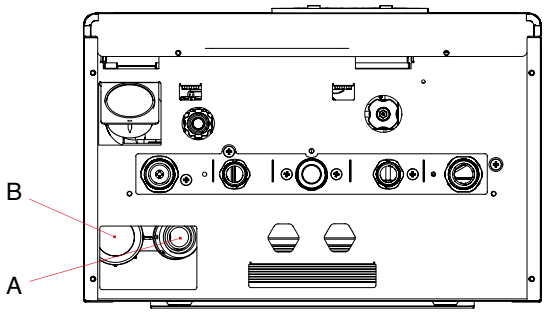


*fig. 13*

### 3.2.10. Connection to the power supply

The boiler must be connected to a 230V-50Hz power supply network.
**When performing the connection, follow the polarity by connecting properly the phase and neutral.**

During installation comply with the local regulations in force herein fully applied.

Upstream the boiler must be installed a bipolar switch, easily accessible, meant to allow cutting off the power supply and carry out in safety conditions all maintenance operations.

The supply line of the boiler must be protected by a thermal magnetic differential circuit breaker having suitable breaking capacity. The power supply network must have a safe earthing bounding. This fundamental safety requirement has to be checked and, in case of doubt, an accurate check must be made on the electric system by qualified personnel.

**The manufacturer cannot be held liable for any damages caused by lack of the earthing system: the gas , water and heating pipes must not be considered grounding points.**

### 3.2.11. Selecting the heating operation range

The heating water temperature adjustment range depends on the operating range selected:
- standard range: from 20°C to 80°C;
- low range: from 20°C to 47°C.

Use the parameter P04 to select the climatic curve (only for operation with external probe). Use the parameter P21 to change the heating circuit operating range. The range can be selected also in the absence of an external probe.
The standard range is active with P21 = 0, while the low range with P21 = 1.

The waiting time between one start-up and the next of the boiler, meant to avoid frequent switching on and off of the boiler during heating operation, equals 3 minutes for both ranges, and can be change using the parameter P05.

The operation range must be selected by the installer or by an Authorized Service Centre.

### 3.2.12. Connection to a room thermostat (option)

The boiler can be connected to a room thermostat (option, not mandatory).
The contacts of the room thermostat must withstand 5 mA at 24 VDC.
The cables of the room thermostat must be connected to the terminals **1** and **2** of the terminal board (fig. 16).
**The thermostat cables must not be sheathed together with the power supply wires.**

### 3.2.13. Installation and operation with Open Therm Remote Control (option)

The boiler can be paired to an Open Therm remote control (option not mandatory, supplied by the manufacturer).

**The Remote Control must be installed exclusively by qualified personnel.**

**Use exclusively original Remote Controls provided by the manufacturer.**
**Using Remote Controls other than originals, not supplied by the manufacturer, decreases the performances of the remote as well as those of the boiler.**

The cables of the Remote Control must be connected to the terminals **A** and **B** of the terminal board (fig. 16).

For the installation of the remote control follow the instructions enclosed to the remote control.

Find below some recommendations on the installation of the remote control:
- **the Remote Control cables must not be sheathed together with the power supply wires**; otherwise, any interference due to other power cables may cause malfunctions of the Remote Control;
- place the remote control on an inner wall indoors, at a height of about 1.5 m from the floor, in a suitable position to correctly detect the environment temperature; avoid installing it in niches, behind doors or curtains, near heat sources, exposed to direct sun light, air currents or water spray.

The connection of the Remote Control is protected against false-polarity, this means the connections can be switched.

**The remote control must not be connected to the power supply 230 V ~ 50 Hz.**

For the complete programming of the Remote Control refer to the instruction manual contained in its installation kit.

The communication between board and Remote Control works in any operation mode of the boiler: OFF/SUMMER/WINTER; as regards the operation mode, the boiler display shows the settings made remotely.

By using the Remote Control the user is able to read and set a series of parameters, named TSP, reserved to qualified personnel (Table 9 e Table 10).
The settings of the parameters TSP02 and TSP15 configure the default data table and restores all original data.
If the one parameter value is wrong, it will be restored by picking it up from the default data table.
If the value to be set is outside the permitted range, the new value is rejected and the existing one will be preserved.

| Parameter | Thresholds values | Default 20 kW Methane | Default 20 kW GPL |
|---|---|---|---|
| **P2 - TSP02**<br>Type of gas | 0 ... 1 | 0 | 1 |
| **P4 - TSP04**<br>Heating curves | 0 ÷ 90 | 30 | 30 |
| **P8 - TSP08**<br>Maximum heating power upper threshold | P10 ÷ 100% | 70 | 60 |
| **P9 - TSP09**<br>Maximum domestic hot water power upper threshold | P10 ÷ 100% | 100 | 75 |
| **P15 - TSP15**<br>Machine type and default data table | 0 ÷ 4 | 4 | 4 |
| **P31 - TSP31**<br>Fan speed at burner ignition power and propagation (P31x25 [rpm]) | 80 ÷ 160 | 140 | 128 |
| **P32 - TSP32**<br>Fan speed at maximum burner power (domestic hot water) (P32x25 + 2000 [rpm]) | From TSP33÷ 255 | 170 | 178 |
| **P33 - TSP33**<br>Fan speed at minimum burner power (domestic hot water and heating) (P33x25 [rpm]) | 30 ÷ 60 | 36 | 36 |

*Table 9: TSP parameters thresholds and default values depending on the boiler type (TSP15)*

### 3.2.14. Installing the external probe (optional) and sliding temperature operation

The boiler can be connected to a sensor for external temperature reading (option not mandatory, supplied by the manufacturer) for sliding temperature operation.

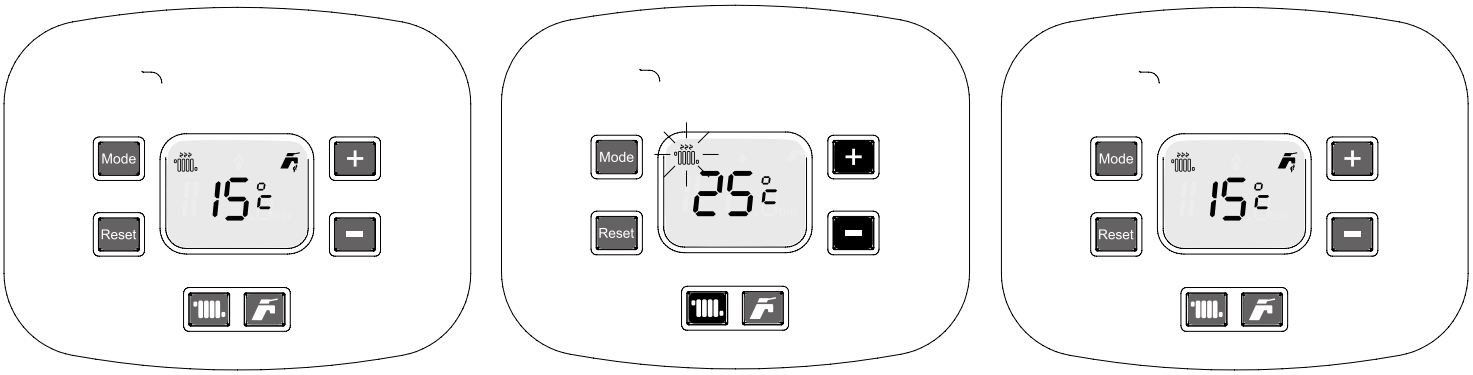
**Use exclusively original external probes provided by the manufacturer.**
**Using external probes other than originals, not supplied by the manufacturer, decreases the performance of the probe and boiler as well.**

The external temperature measuring probe must be connected with a double-insulated cable having minimum section of 0.35 mm$^2$.
The external probe must be connected to the terminals **E1** and **E2** of the boiler terminal board (fig. 16).
**The external temperature probe cables must not be sheathed along with the power supply wires.**

The external probe must be installed on a wall facing NORTH - NORTH EAST, protected from atmospheric agents.
Do not install the external probe inside windows wells, near vents or heat sources.

The external temperature probe changes automatically heating delivery temperature on the basis of the:
- outer temperature measured;
- selected thermal adjustment curve;
- dummy ambient temperature set.

The theoretical ambient temperature is displayed by pressing "" (**C** fig. 1) and subsequently modified by pressing the keys "" or "" (**E** or **F** fig. 1) which, in case the external temperature probe is installed, loses the temperature setting function for the heating water (see paragraph 1.10.6); the value set can be read on the boiler display. Furthermore, the external temperature value detected by the external sensor can also be displayed in the Info menu under the item "In1".




**1.** ADJUSTMENT DUMMY AMBIENT TEMPERATURE

In fig. 14 shows the curves for a dummy ambient temperature value equal to 20°C.
Change the value of the parameter P4, to select one of the curves shown in fig. 14. On changing the dummy temperature as previously described, the selected curve changes upwards or downwards compared to the same value.
With a dummy ambient temperature equal to 20°C, for example, by choosing the curve corresponding to 30, if the external temperature equals -5°C, the temperature delivered will be equal to 70°C.

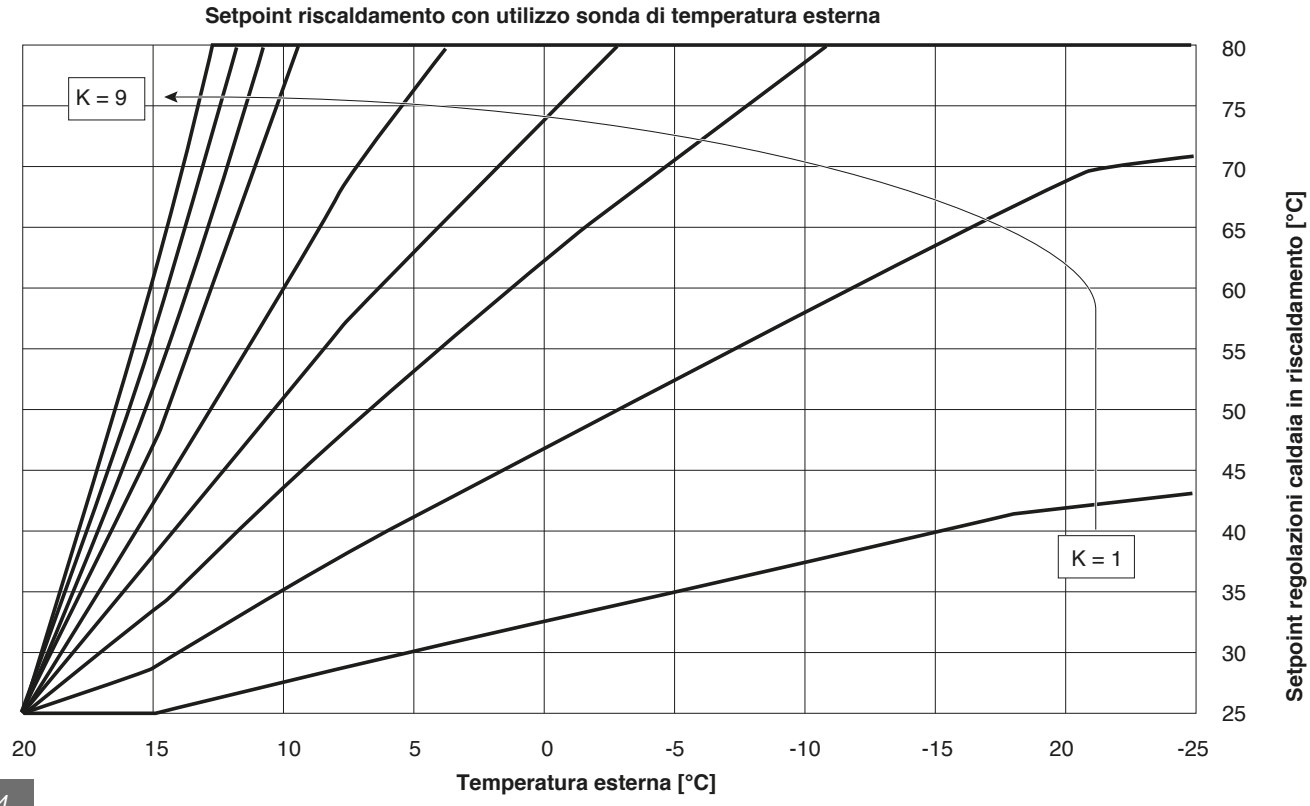



*fig. 14*

By setting a dummy ambient temperature of 23°C, with external temperature at -5°C, the temperature delivered will be 70°C + (23°C - 20°C) = 73°C.
By setting a dummy ambient temperature of 18°C, with external temperature at -5°C, the temperature delivered will be 70°C + (18°C - 20°C) = 68°C.

### 3.2.15. TSP parameters to be set on the interface and using the Remote Control

| Parameter | Editable value | Default values | Notes |
|---|---|---|---|
| **P01** Selects boiler type | 0 ÷ 8 | 0 | 0 = instantaneous<br>1 = with boiler thermostat<br>2 = with boiler temperature probe<br>3 = heating only |
| **P02** Selects gas type | 0 … 1 | 0 | 0 = natural gas<br>1 = GPL |
| **P03** Selects the ACS control type | 0 ÷ 3 | 1 | 0 = flow switch<br>1 = flow meter<br>2 = flow meter dedicated to shinoo pump |
| **P04** Adjusting coefficient with external probe | 0 ÷ 90 | 30 | |
| **P05** Anti Fast Cycles time | 0 ÷ 10 min | 3 | |
| **P06** | | 1 | **DO NOT CHANGE** |
| **P07** Ignition Heating ramp [value 1=10s] | 0 ÷ 80 | 12 | |
| **P08** Selects the maximum heating power (PREMIX) | P10...100 | 70% | |
| **P09** Selects the maximum ACS power | P10…100 | 80% | |
| **P10** Selects the minimum power | 0…P09 | 0% | |
| **P11** Selects the minimum heating set-point value | 20...P12 | 25°C | |
| **P12** Selects the maximum heating set-point value | P11…80 | 80°C | |
| **P13** Selects the maximum ACS set-point value | 35 ÷ 65 | 55°C | |
| **P14** Selects the calibration type | 0 ÷ 20 | 0 | 0 = manu<br>5 = auto |
| **P15** Selects the boiler power | 0 ÷ 4 | 4 | 0 = 24 kW<br>1 = 28 kW<br>2 = 32 kW<br>3 = 16 kW<br>4 = 20 kW |
| **P16** | | | Not used |
| **P17** | | | Not used |
| **P18** | | | Not used |
| **P19** Thermostat (0) / Fumes probe (1) | 0 … 1 | 1 | **DO NOT CHANGE** |
| **P20** Selects ACS minimum set-point value | 10 ÷ 50 | 10 | |
| **P21** Selects the low temperature areas | 0 … 1 | 0 | 0 = high temperature<br>1= low temperature |
| **P22** | | | Not used |
| **P23** Selects the pump activation time (min): cold area | 0 ÷ 10 | 0 | |
| **P24** Children safety | 0 ÷ 1 | 0 | 1 = enabled |
| **P25** | | | Not used |
| **P26** Selects thewater hammer delay (sec) | 0 ÷ 3 | 0 | |
| **P27** Selects the pre-heating temperature OFF (°C) | 30 ÷ 75 | 45 | |
| **P30** | | | Not used |
| **P31** Selectsthe fan start-up speed (P31 x 25) rpm | 80 ÷ 160 | 140 | |
| **P32** Selectsthe fan maximum speed (P32 x 25) + 2000) rpm | P33...255 | 170 | |
| **P33** Selectsthe fan minimum speed (P33 x 25) | 30 ÷ 60 | 36 | |
| **P36** | | | Not used |
| **P37** Probe AUX configuration | 3 ÷ 3 | 3 | **DO NOT CHANGE** |
| **P38** Selects the antifreeze temperature | 0…+10 | 5 | |
| **P39** Selects the heating post-circulation time | 0 ÷ 99 sec x 10 | 120 | |
| **P40** Selects the heating ignition delay time | 0 ÷ 60 sec x 5 | 0 | |
| **P41** Selects the domestic hot water modulation with flow meter | 0 ÷ 1 | 1 | 0 = not enabled<br>1 = enabled |
| **P42** Enables / disables the ACS pre-heating function | 0 ÷ 1 | 0 | 0 = disabled<br>1 = enabled |
| **P43** Selects the ACS activation delay time with solar configuration | 0 ÷ 30 sec | 0 | |
| **P44** Selects the pressure sensor type | 0 … 1 | 1 | 0 = pressure switch<br>1 = transducer |
| **P45** Selects the anti-Legionella function (boiler only) | 54, 55 ÷ 80 | 54 | 54 = disabled<br>55 ÷ 80 = delivery temperature set |
| **P46** Selects the pump modulating speed | 0 … 1 | 1 | 0= not modulated<br>1 = automatic 60% ÷ 100% |

| Parameter | Editable value | Default values | Notes |
|---|---|---|---|
| **P47** Selects ΔT for pump modulation (°C) | 10 ÷ 40 | 20 | |
| **P48** Selects the pump operation | 0 … 1 | 0 | 0 = intermittent<br>1 = continuous |
| **P49** Enables OEM | 0 ÷ 99 | 0 | 49 = allows reading / writing the following parameters |
| **P50** | | | Not used |
| **P51** | | | Not used |
| **P52** Selects the water automatic filling | 0 … 1 | 0 | 0 = not envisaged<br>1 = envisaged<br><br>DO NOT MODIFY THIS VALUE |
| **P53** | | | Not used |
| **P54** Selects the ACS minimum flow for activation request | 10 ÷ 40 (lx10)/min | 15 (1.5l/min) | |
| **P55** Selects the ACS post-ventilation time | 1 ÷ 30 sec x 10 | 3 | |
| **P56** Selects the ACS post-circulation time | 0 ÷ 100 sec | 30 | |
| **P57** Increase the fan revolutions number | 0 ÷ 10% | 0 | **DO NOT CHANGE** |
| **P58** | | | Not used |
| **P59** | | | Not used |
| **P60** Offset additional to the shut-down temperature after burner ignition | 0 ÷ 20 | 0 | **DO NOT CHANGE** |
| **P61** Selects the fumes exhaust temperature alarm | 20 ÷ 150 | 105 | |
| **P62** | | | Not used |
| **P63** | | | Not used |
| **P64** | | | Not used |
| **P65** Selects the anti-Legionella function duration | 5 ÷ 30 min | 15 min | Only for boilers with thermostat |
| **P66** | | | Not used |
| **P67** | | | Not used |
| **P68** | | | **DO NOT CHANGE -** Not Used |
| **P69** | | | **DO NOT CHANGE -** Not Used |
| **P80** Selects the heating ΔT for circulation blocking detection | 0 ÷ 20 | 5 | 0 = disabled |
| **P81** Maximum heating temperature | 0 ÷ 150 | 90 | 0 = disabled |
| **P82** Selects the Δt maximum permitted on delivery/ return | 0 ÷ 50 | 30 | 0 = disabled - **DO NOT CHANGE** |
| **P83** Selects the countdown in months until maintenance | 0 ÷ 255 | 0 | 0 = disabled |
| **P98** Reset TSP to default values | 0 … 1 | 0 | |
| **P99** Reset OEM to default values | 0 … 1 | 0 | |

*Table 10: TSP Parameters General Table*

### 3.3. Filling the system

After having performed all connections of the system, fill the heating circuit.
This operation must be carried out with caution according to the following steps:
- open the outlet valves of the radiators and make sure the automatic valve of the boiler works properly;
- open gradually the filling tap (fig. 2) to make sure the automatic air relief valves installed on the system run smoothly;
- close the radiators relief valves as soon as water comes out;
- check by means on the boiler pressure gauge to make sure the pressure has reached 1÷1.3 bar;
- close the filling tap and then vent the air through the venting valves of the radiators;
- after having started up the boiler and brought the system to the temperature set, stop the pump operation and repeat the air bleeding;
- allow the system to cool and bring the water pressure to 1÷1.3 bar.

**WARNING**
**The UNI CTI 8065/89 standard "Water treatment in domestic heating systems" determines and defines the chemical and physical features the waters used in thermal plants for civil use must have: "... in order to optimize the performance and safety and preserve them over time, to ensure lasting regular operation also of the auxiliary equipment and to minimize the energy consumption thus integrating laws and regulations;...".**
**This regulation must be complied with by law (Law 5/3/90 n.46, Presidential Decree no.412 28/8/93).**
**Therefore, use specific products suitable for systems made from multiple metals (see paragraph 3.2.4).**

**CAUTION**
**The pressure sensor does not send the electric consent for burner ignition when the pressure is lower than 0.5 bar.**
**The water pressure in the heating system must not be lower than 1 bar; otherwise, act on the filling tap fitted on the boiler (fig. 2).**
**The operation must be performed when the system has cooled. The digital pressure gauge allows reading the pressure of the heating circuit.**

### 3.4. Starting up the boiler

#### 3.4.1. Preliminary checks

Prior to starting-up the boiler check that:
- the fumes exhaust pipe and the terminal part are installed in accordance with instructions: **when the boiler is switched on, no combustion products leaks are detected**;
- the boiler supply voltage is 230 V ~ 50 Hz;
- the system is properly filled with water (pressure gauge 1÷1.3 bar);
- all interception valves (if provided) of the system pipes are open;
- the gas network matches the boiler calibration: otherwise, perform the conversion of the boiler to the gas type use available (see section “3.7. Adapting the burner to the use of other gas types”): this operation must be performed by qualified technicians;
- the gas supply valve is open;
- no gas leaks are detected;
- the main power switch upstream the boiler is enabled;
- the 3 bar safety valve is not blocked;
- no water leaks are detected;
- the condensate draining siphon, fitted on the boiler, drains correctly the condensate and is not clogged.

#### 3.4.2. Start-up and shut-down

For the switching on and off of the boiler follow the "**Instructions for the user**".

### 3.5. Available pressure head

The boiler is equipped with a high efficiency variable speed circulator.
The circulator speed is managed automatically by the electronics, on the basis of the settings made in the boiler parameters.
The circulator operation modes are two:

**1 "ΔT constant" operation**

In the ΔT constant operation mode the circulator speed changes automatically to keep fixed the ΔT between the system supply and return lines to a value set in the boiler parameters.

**2 "Fixed speed" operation**

In the fixed operation mode the circulator speed remains constant at maximum value.

**The circulator is set during production in ΔT constant operation mode.**
**For a correct operation of the boiler, it is recommended to not change the default settings.**
**In case the circulator settings must be changed, contact an Authorized Service Centre.**

Play Entry 20

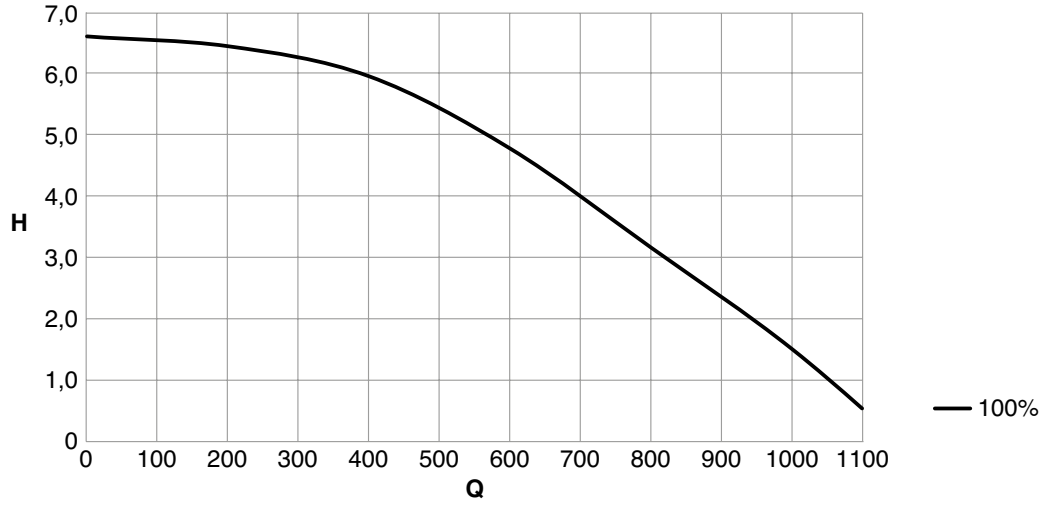



*fig. 15*

**Q** = Flow rate (l/h)
**H** = Pressure head available (m.c.a.)

### 3.6. Electrical connections

#### 3.6.1. Play Entry 20 Models

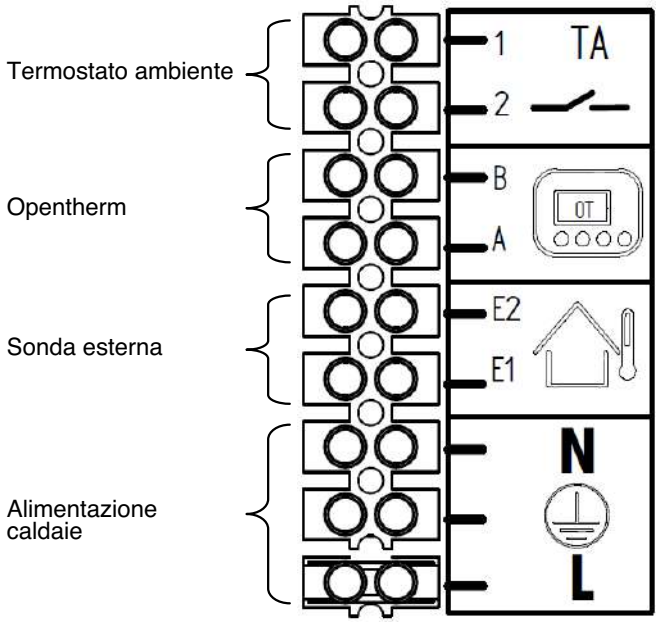



*fig. 16*

## 3.7. Adapting the burner to the use of other gas types

**The boilers are designed for the type of gas specifically required in order phase, which is also indicated on the package label and on the boiler rating plate.**
**Any further processing must be performed by qualified personnel, which will perform the necessary adjusting and modifications using suitable accessories provided by the manufacturer.**

### 3.7.1. From METHANE to GPL

Edit the parameter P02 from **0** to **1**.
Apply on the boiler a label indicating the adjustment to GPL.
Check and if necessary change the parameters P08, P09, P31, P32 and P33 as indicated in the Table 24

**ACCESS TO THE PARAMETERS**
Press simultaneously for the cycle time the keys "Reset" and "" (**B** + **C** fig. 1) to access the parameters programming mode.
The display will show "TS" for 1 sec, then the number P of TSP for 1 sec followed by the value for 3 sec.

The first parameter that can be changed is P01.


Press the keys "" or "" (**F** or **e** fig. 1) to select the parameter of interest.
Press for the cycle time the key "" (**D** fig. 1) to enable the editing of the parameter selected.

On the display is shown the previously value set.

Press the keys "" or "" (**F** or **E) and** fig. 1to edit the value of the parameter selected.

Press for the cycle time, the key "" (**D** fig. 1) to save the new setting.
Press simultaneously for the cycle time the keys "Reset" and "" (**B** + **C** fig. 1) to exit the parameters programming mode.

Adjust the combustion ($CO_2$) as indicated in the section 3.7.3.

### 3.7.2. From GPL to METHANE

Edit the parameter P02 from **1** to **0**.

Apply on the boiler a label indicating the adjustment to Methane.
Check and if necessary change the parameters P08, P09, P31, P32 and P33 as indicated in the Table 24

**ACCESS TO THE PARAMETERS**
Press simultaneously for the cycle time the keys "Reset" and "" (**B** + **C** fig. 1) to access the parameters programming mode.
The display will show "TS" for 1 sec, then the number P of TSP for 1 sec followed by the value for 3 sec.

The first parameter that can be changed is P01.

Press the keys "" or "" (**F** or **E** fig. 1) to select the parameter of interest.
Press for the cycle time the key "" (**D** fig. 1) to enable the editing of the parameter selected.

On the display is shown the previously value set.

Press the keys "" or "" (**F** or **E) and** fig. 1to edit the value of the parameter selected.

Press for the cycle time, the key "" (**D** fig. 1) to save the new setting.
Press simultaneously for the cycle time the keys "Reset" and "" (**B** + **C** fig. 1) to exit the parameters programming mode.

Adjust the combustion ($CO_2$) as indicated in the section 3.7.3.

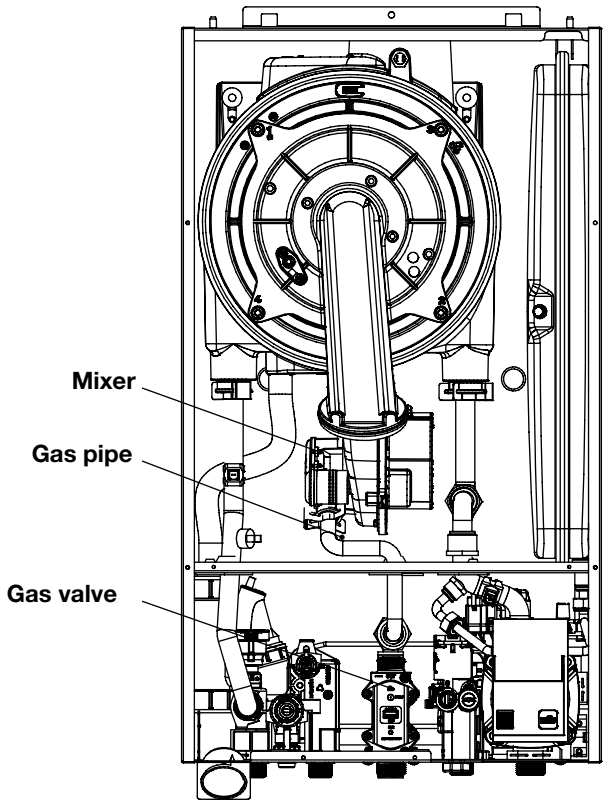



*fig. 17*

### 3.7.3. Checking and adjusting the gas valve

**PREAMBLE**

Through the "BEST" function, the boiler adapts automatically the combustion to the installation conditions, therefore the following procedure is to be carried out after the chimney sweep function if the gas calibration values do not match those on the plate or if the electronic board, the electrode, the fan or the gas valve have been replaced.

The boiler must be ready for operation, the air must be bleed out and the heating function must be enabled. The procedure can begin in two different manners, depending on the parameter "P14" value:
**AUTO** ("P14" = 5): the boiler performs 10 ignition attempts by gradually increasing power values;
**MANU** ("P14" = 0): the boiler performs 5 ignition attempts at the power value indicated in the parameter "P31".
After the burner ignition, the boiler performs a cycle with minimum power "P0", ignition "P1" and at maximum power "P2" to obtain a proper flame stability, then goes into $CO_2$ edit mode to allow the manual calibration.
The mode (AUTO or MANU) is set in the activation code of the parameter "P14" in the TSP Parameters menu as described in the paragraph "3.2.15. TSP parameters to be set on the interface and using the Remote Control" page 39.

*The AUTO mode is the recommended one, since it allows greater freedom in calibrating the $CO_2$.*

**OPERATIONS TO BE PERFORMED**

Access the chimney sweep function (see paragraph 3.2.7) and check if the value of $CO_2$ is within the limits of Table 12, both as regards maximum (Hi) and lowest (Lo) power (if the temperature of the system rises excessively, open the ACS valve to dissipate heat; the procedure cannot be started with the ACS open).

Otherwise, proceed as described below.

Press simultaneously for the cycle time, the keys "Mode" and "Reset" (**A** + **B** fig. 1). Release and then press immediately (within 2 seconds) once the key "" (**C** fig. 1).
The board confirms activation of the function and shows on the display "**Au-to**" or "**Ma-nu**" depending on the setting mode defined.

The adapter generates internally a "calibration" operation mode request and initialises the start-up sequence. In case the "Au-to" function is enabled, the symbol "radiator" comes on and flashes.

Once the start-up is done, the boiler performs a parameters programming cycle at maximum power, then at the ignition power, and, finally, at the minimum power. During this phase the LCD screen displays, alternatively, the cycle time and the delivery circuit temperature.
At this point the user can enter the fumes analysing probe in the exhaust duct.

**SELF-ADJUSTMENT**

The display shows "P0" and the board is ready to adjust the $OR_2$ value at minimum power.
Under this condition:
"" (**D** fig. 1) is used to switch between the Power / $O_2$ menu (for the cycle time).
"" or "" (**F** or **E** fig. 1) are used to increase / decrease the $O_2$ value or to change the system power (if the related symbol flashes).

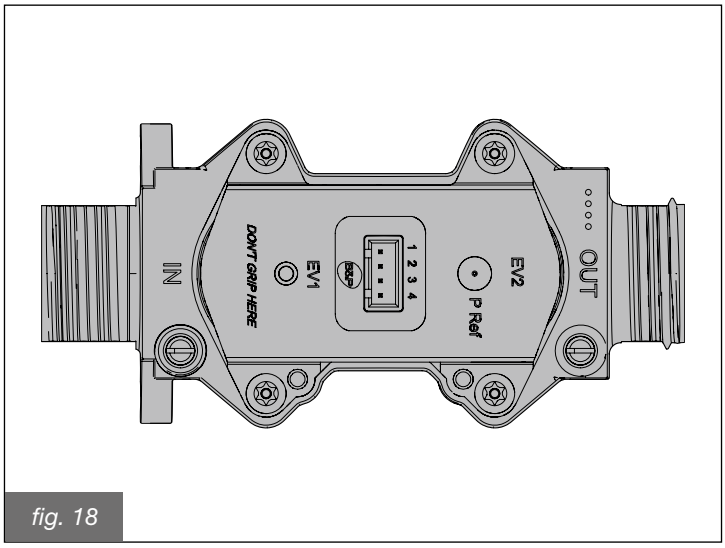



*fig. 18*

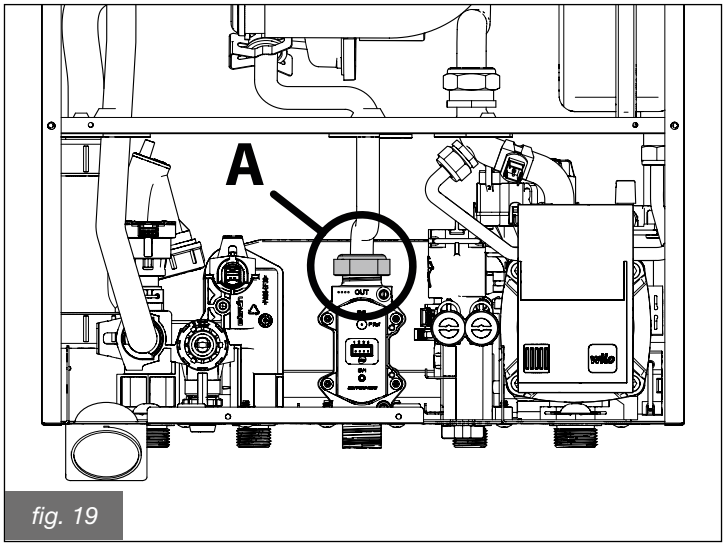



*fig. 19*

| Fuel | $O_2$ values [%] | | $CO_2$ values [%] | |
|---|---|---|---|---|
| | From | To | From | To |
| Metano | 5,7 | 4,0 | 8,5 | 9,5 |
| GPL | 5,9 | 4,5 | 10,0 | 10,9 |

*Table 12: $O_2$ and $CO_2$ values*

| **DIAPHRAGMS DIAMETER** | |
|---|---|
| | **Methane/GPL (mm)** |
| 20 kW | 5.6 |

*Table 11: Diaphragms diameter*

Press for the cycle time the key "" (**D** fig. 1) to activate the $O_2$.menu.
Press the keys "" or "" (**F** or **e** fig. 1) to change the current RFlame set value and to vary the $O_2$.
Press the key "" (for the cycle time) to confirm the calibration to "P0" and "" (for the cycle time) to move to the second level and adjust "P1". Calibrate the $CO_2$ by following the steps performed to adjust the minimum value.
Press the key "" to confirm and "" to go to adjust "P2" to the maximum. Adjust the value as per the table
Confirm using the key "".

Press the key "Mode" (without waiting for the cycle time to finish the process) and save the adjustments made.

**MANU ADJUSTMENT**
The display shows "P0" and the board is ready to adjust the $CO_2$ value at minimum power.
Under this condition:
"" (**D** fig. 1) is used to switch between the Power / $CO_2$ menu (for the cycle time).
"" or "" (**F** or **E** fig. 1) are used to increase / decrease the $CO_2$ value or change the system power (if the related symbol flashes).

Press for the cycle time the key "" (**D** fig. 1) to enable the $CO_2$ menu.
Press the keys "" or "" (**F** or **E** fig. 1) to change the current RFlame set value and to vary $CO_2$.
Press the key "" (for the cycle time) to confirm the calibration to "P0" and "" (for the cycle time) to move to the second level and adjust "P1". Calibrate the $CO_2$ by following the steps performed to adjust the minimum value.
Press the key "" to confirm and "" to go to adjust "P2" to the maximum. Adjust the value as per the table
Confirm using the key "".

Press the key "Mode" (without waiting for the cycle time to finish the process) and save the adjustments made.
Exit at any moment during function adjustment by pressing for the cycle time the key "Mode" (**A** fig. 1).

Set P08 to 70% and P09 to 80%.

## 4. Boiler final testing

**Each boiler comes with an inspection certificate.**
**The inspection certificate is filled in by an Authorized Service Centre to allow the user enjoying all benefits offered by the insurance provided by the manufacturer in accordance with the specifications on the inspection certificate.**
**The inspection certificate is filled in FREE OF CHARGE.**

### 4.1. Preliminary checking

Prior to testing the boiler check that:
- the fumes exhaust pipe and the terminal part are installed in accordance with instructions: **when the boiler is switched on, no combustion products leaks are detected**;
- the supply voltage of the boiler is 230 V - 50 Hz;
- the system is properly filled with water (pressure gauge 1÷1.3 bar);
- all interception valves (if provided) of the system pipes are open;
- the gas network matches the boiler calibration: otherwise, perform the conversion of the boiler to the gas type use available (see section 3.7): this operation must be performed by qualified technicians;
- the gas supply valve is open;
- **no gas leaks are detected;**
- the main power switch upstream the boiler is enabled;
- the 3 bar safety valve is not blocked;
- no water leaks are detected;
- the condensate draining siphon, fitted on the boiler, drains correctly the condensate and is not clogged.

**If the boiler has not been installed according to the laws and regulations, warn the plant manager and do not perform testing on the boiler.**

### 4.2. Start-up and shut-down

For the switching on and off of the boiler follow the "**Instructions for the user**".

## 5. Maintenance

**Maintenance operations and repairs must be carried out by qualified personnel.**

For maintenance and repairs operations the manufacturer recommends its clients to contact its network of Authorised Service Centres, which are trained to perform the above interventions.

Proper maintenance of the boiler allows it to work under the best conditions, to protect the environment and to ensure the safety of persons, animals and objects.

### 5.1. Maintenance plan

The maintenance operations must be performed at least once a year.

**Prior to any maintenance operation involving replacement of components and/or cleaning of the inner boiler parts, cut off the appliance from the power mains.**

The maintenance operations envisage for control and cleaning operations as specified below:

**Checks:**
- general check of boiler integrity;
- check the sealing of the boiler gas circuit and of the gas supply network;
- check the boiler supply pressure;
- check the boiler ignition;
- check the boiler combustion parameters by analysing the fumes;
- check the integrity and good preservation as well as the sealing of the fumes exhaust pipes;
- check the combustion air fan operation;
- check the integrity of the boiler safety devices in general;
- check for water leaks and signs of oxidation on the boiler fittings;
- check the efficiency of the system safety valve;
- check the level of the expansion tank;
- check the correct draining of the condensate from the siphon fitted on the boiler.

**Cleaning Operations:**
- clean the inner parts the boiler;
- clean the gas nozzles;
- clean the air suction and the fumes exhaust circuit;
- clean the heat exchanger;
- clean the condensate draining siphon and pipes.

If the boiler is subjected to these interventions for the first time check:
- the declaration of conformity of the system;
- the system booklet;
- the suitability of the installation premise;
- the fumes evacuation channels, their diameters and lengths;
- the correct installation of the boiler according to the instructions given in this manual.

**In case the appliance cannot work properly and in the absence of danger to persons, animals and objects, warn the plant manager and fill in a report in this sense.**

### 5.2. Combustion analysis

The control parameters of the boiler combustion for performance evaluation and pollutant emissions must be carried out in accordance with the laws and regulations in force.

## 6. Decommissioning, disassembling and disposal

**If the boiler is permanently decommissioned, use exclusively authorised personnel for all operations involved in the dismantling and disposal.**
**The user is not authorized to personally perform these operations.**

The decommissioning , disassembling and disposal operations must be performed when the boiler is cold, after it has been disconnected from the gas network and from the power network.
This appliance contains potentially recyclable materials that can be reused. The components are easily separable and, therefore, can be sorted for subsequent recycling or disposal.
- Electrical and electronic components no longer usable must be collected separately and recycled in a manner compatible with the environment.
- Do not dispose of the product or its accessories with household waste. Make sure that the product and all its accessories will be properly disposed of.
- Always observe all regulations in force

**CAUTION**

Gas boiler are electrical and electronic equipment (EEE) that become waste electrical and electronic equipment (WEEE) once decommissioned: therefore, they must be disposed of in accordance with the applicable regulations in force.
Gas boilers are classified as household appliances and must be disposed of together with the washing machines, dishwashers and tumble-dryers (WEEE R2 waste).
The dismantling and disposal of gas boilers in other ways than those specifically provided by law are forbidden.

The user has the right to send the decommissioned gas boiler, complete in all its parts, to the municipal waste collection and recycling centre.

The installer and the user have the right to return the decommissioned gas boiler, complete in all its parts, to the point of sale from which it was purchased for replacement with a new boiler (one for one recycling plan).

## 7. Troubleshooting

| BOILER CONDITION | PROBLEM |
|---|---|
| **E 02** | Water pressure in the heating system is too low |
| **E 03** | The system pressure is too close to the maximum thresholds. |
| **E 04** | Domestic hot water circuit probe faulty |
| **E 05** | Delivery probe faulty |
| **E 14** | Fumes probe faulty |
| **E 13** | Fume probe has tripped |
| **E 15** | Faulty fan (feedback / power supply) |
| **E 06 + reset** | Failure to start up |
| **E 07 + reset** | The safety thermostat has tripped |
| **E 08 + reset** | Flame error |
| **E 09** | No water circulation inside the system |
| **E 16** | Return probe faulty |
| **E 20** | System over-temperature |
| **E 21** | Delta T CH/Ret > TSP82 (1) |
| **E 11** | The gas valve modulator is disconnected |
| **E 12** | Boiler probe faulty |
| **E 19** | Domestic hot water circuit flow meter error |
| **E 28 + reset** | Maximum no. of attempts to unlock from boiler interface has been reached |
| **E 37** | Excessively low power voltage |
| **E 40** | Wrong network frequency |
| **E 41 + reset** | Flame loss for over 6 consecutive times |
| **E 42** | Keys anomaly |
| **E 43** | OT communication failure |
| **E 44 + reset** | SGV opening time without flame error |
| **E 62** | Request combustion calibration |
| **E 96** | Fume exhaust clogged |
| **E 72 + reset** | The Δt between the supply and return is not within thresholds |
| **E 88 + reset** | SGV management circuit failure |
| **E 80 + reset** | SGV opening problem |
| **E 81 + reset** | Shut-down for combustion problems upon ignition (2) |
| **E 87 + reset** | Problem on the SGV circuit |
| **E 91 + reset** | Flame loss for over 6 consecutive times (with max correction ignition to ON) |
| **E 98 + reset** | SW error / board error |
| **E 99 + reset** | Generic fault |

*Table 13: Troubleshooting*

(1) This control gets enabled 120 sec after pump activation and only during the CH request (without domestic hot water).
(2) Fault 81 may be caused by a blockage of the fume exhaust pipe. In this case contact your service centre before unlocking the boiler.

NOTE:

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