



GIMAX 25-30-35

Wall-mounted condensing boiler



Kondens

INSTALLATION, COMMISSIONING, USE AND MAINTENANCE MANUAL

ITALIAN DESIGN





GiMAX 25-30 MANUAL
VERS. 12/2020 - REV.2

TABLE OF CONTENTS

General requirements		2	-Connecting the condensate line	17
-EC conformity declaration		2	-Connection to the mains gas supply	18
-General instructions	2		-Connection to the mains electrical system	19
Use and operation		3	-Combustion gas evacuation system: compatible applications	20
-Description of the boiler		3	-Combustion gas evacuation system: installation	21
-Components		3	-Air intake and combustion gas evacuation system: important information	23
-Ignition	4		Adjustment and maintenance	24
-Season selection		5	-Preliminary maintenance operations	24
-Temperature regulation		6	-General maintenance operations	24
-Information menu		7	-Service function	24
-Operation with room thermostat		8	-Data plate	26
-Operation with external sensor		8	-Power adjustment	26
-Operation with Open-therm timer thermostat		8	-Testing the gas supply dynamic pressure	27
-Special functions		9	-Analysis - Checking and regulating combustion	28
-Faults		10	-Changing gas type	30
-Fault codes table		11	-Configuration the accessing menu	31
Installation		12	-Configuration menu	32
-Operation diagram	12		-Installation of room thermostat/Open-Therm	34
-Three-way boiler diagram		12	-Installation and configuration of external temperature sensor	35
-Electrical wiring diagram		13	-Configuring the climate curve from those available	36
-Graphs for the head available to the system		14	-Special functions	37
-Installation		14	-Thermostat post circulation/ventilation function	38
-Fastening the boiler to the wall		15	-Technical Data sheet	39
-Layout of connections	16			
-Plumbing the boiler	16			
-Connecting filling tap for central heating only boilers		17		
-Filling the system		17		

GENERAL REQUIREMENTS

EC CONFORMITY DECLARATION (ACCORDING TO ISO/IEC 17050-1)

Kleine Kessel srl established in Loc. Campogrande, 13 - Carpaneto Piacentino whose processes of design, manufacturing and after-sales service are in compliance with requirements of UNI EN ISO 9001:2008 - DECLARES that boilers are in compliance with European Directives and with European Delegates regulations.

Chief Executive *Marco Rapaccioli*



CE CERTIFICATES ARE AVAILABLE ON OUR WEBSITE www.produzionecaldaie.it

GENERAL INFORMATION

This manual, supplied with every boiler, should be considered as an integral component as it contains instructions for the correct, safe and appropriate installation, use and maintenance of the system.

The manual must always be kept by the user of the boiler and made available for the installation and/or maintenance technicians to consult. It must also accompany the boiler if it should be moved or otherwise transferred.

The manufacturer shall not be held responsible for any damage caused by failure to follow the instructions contained in this manual, nor:

If the boiler is used for purposes other than those for which it was built

If any part or circuit of the boiler is modified

If accessories or kits not approved by the manufacturer are installed

If ordinary and extraordinary maintenance is not performed by qualified personnel

If applicable technical and legal requirements have not been observed during installation and maintenance of the boiler.

WARNING!

If the boiler should cease to function or not function correctly, deactivate it immediately by turning it off and then shutting off the gas supply. Do not attempt any repairs or direct work on the boiler.

Only personnel with the necessary qualifications and licenses must perform maintenance on the boiler. Any repairs must be performed using only original parts and accessories.

SYMBOLS USED IN THE MANUAL



Advice, suggestion, note



Important communications, signaling of modes and operations which could compromise the correct operation of the boiler and endanger people.

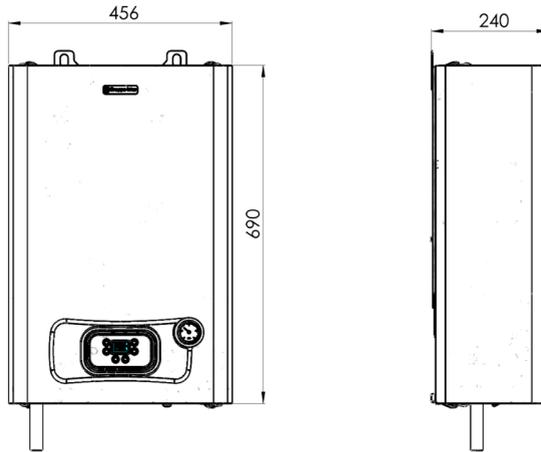


DESCRIPTION OF THE BOILER

The range of wall-hung condensing boilers is completed by the GiMax model. A perfect, powerful, reliable and ecological boiler, it is fitted with a high efficiency condensing heat-exchanger and is completely made in Italy. The boiler includes a PCB with microprocessor

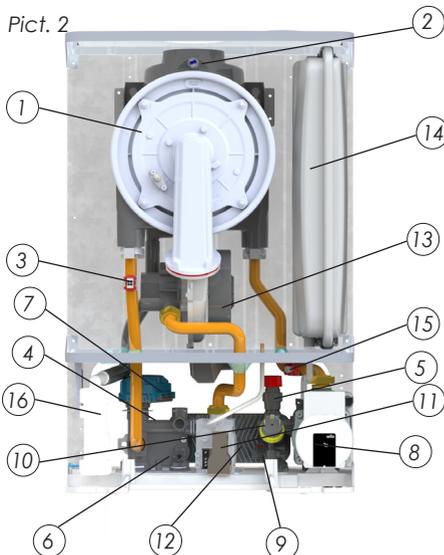
to manage the system in such a way as to always provide maximum efficiency and minimum waste.

Pict. 1



COMPONENTS

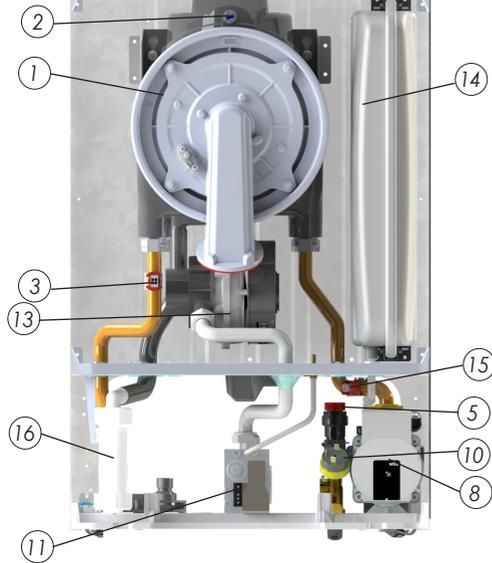
Pict. 2



GIMAX MR/CR (CH/DHW)

- 1) MAIN HEAT EXCHANGER
- 2) EXHAUST SAFETY SENSOR
- 3) CH PROBE/SAFETY PROBE
- 4) 3WAY GROUP
- 5) SAFETY VALVE
- 6) DHW IMMERSION PROBE
- 7) 3WAY MOTOR
- 8) CIRCULATOR UNIT
- 9) DHW PRIORITY DEVICE
- 10) PRESSURE TRANSMITTER
- 11) GAS VALVE
- 12) PLATE HEAT EXCHANGER
- 13) FAN
- 14) EXPANSION VASSEL 8 LT
- 15) RETURN PROBE
- 16) SIFON

Pict. 3



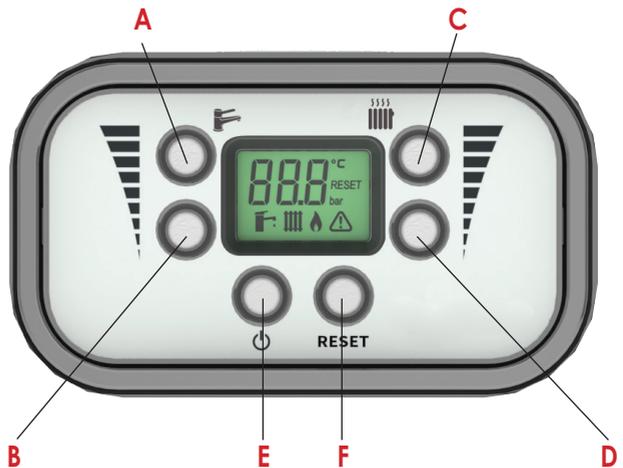
GIMAX MN/CN (CH ONLY)

- 1) MAIN HEAT EXCHANGER
- 2) EXHAUST SAFETY SENSOR
- 3) CH PROBE/SAFETY PROBE
- 4) -
- 5) SAFETY VALVE
- 6) -
- 7) -
- 8) CIRCULATOR UNIT
- 9) -
- 10) PRESSURE TRANSMITTER
- 11) GAS VALVE
- 12) -
- 13) FAN
- 14) EXPANSION VASSEL 8 LT
- 15) RETURN PROBE
- 16) SIFON

IGNITION

Pict. 4

- A= DHW temperature increase
- B= DHW temperature decrease
- C= CH temperature increase
- D= CH temperature decrease
- E= Function selection button
- F= Reset button



IGNITION

Turn on the boiler electric supply by the switch installed on the power supply line to the boiler.

The LCD display will turn on immediately, showing the software version loaded on the PCB microprocessor; the boiler goes into stand-by and the display show the word OFF.

By pressing the button "E" the boiler goes into ON mode and the display shows the "-" sign and the "TAP" symbol which indicates the Summer mode.

The boiler is now turned on and ready for operation.

Pict. 5



POWER OFF

Repeatedly press button "E" until the word "OFF" appears.



DURING THIS MODE THE BOILER IS INACTIVE BUT ELECTRICALLY POWERED.

SEASON SELECTION

The boiler has three operating modes, which depend from the active functions in response to the external temperature or the user requirements.

It is possible to set the **SUMMER** mode during which all the functions for domestic heating are deactivated and only the production mode of Domestic Hot Water is maintained; this mode is selected by pressing button "E" which turns the "TAP" symbol on (Pict. 6). During the DHW intake the DHW temperature, the flashing "TAP" symbol and "FLAME" symbol of burner on are displayed at the same time.

The **WINTER** mode is activated by pressing button "E" which turns the "TAP" and "RADIATOR" symbols on (Pict.7). In this mode, the appliance satisfies both Domestic Hot Water and Central Heating requirements. During the DHW intake the DHW temperature,

the flashing "TAP" symbol and "FLAME" symbol of burner on are displayed at the same time. During the CH mode operation, the CH temperature, the flashing "RADIATOR" symbol and "FLAME" symbol of burner on are displayed at the same time.

The **HEAT ONLY** mode is activated by pressing button "E" which turns the "RADIATOR" symbol on (Pict.8). In this mode, the appliance satisfies Central Heating requirements only.

Pict. 6



SUMMER MODE

Pict. 7



WINTER MODE

Pict. 8



HEAT ONLY MODE

TEMPERATURE REGULATION

DHW temperature and CH temperature can be adjusted by setting the desired temperature value; the temperature will be reached, if possible, and maintained at the set value.

Setting DHW temperature

Press button "A" to increase temperature value and button "B" to decrease it; the set value and the flashing "TAP" symbol of DHW are displayed for 5 seconds, then the previous display mode is restored and the temperature value is stored.

The minimum DHW temperature which can be set is 30°C; the maximum 60°C.

Setting CH temperature

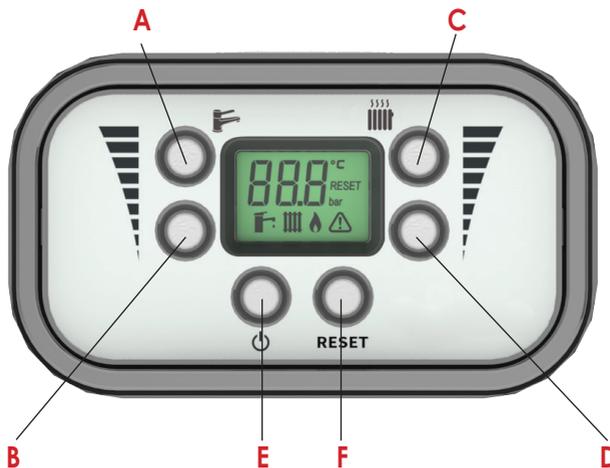
Press button "C" to increase temperature value and button "D" to decrease it; the set value and the flashing "RADIATOR" symbol of CH are displayed for 5 seconds, then the previous display mode is restored and the temperature value is stored.

For boilers used for high temperature systems, the temperature range is 50°C-80°C, while for the ones used for low temperature systems, the temperature range is 27°C-55°C.



ASK YOUR AREA INSTALLER FOR INFORMATION ON THE TYPE OF SYSTEM CONNECTED AND RESPECTIVE ADJUSTMENTS

Pict. 4

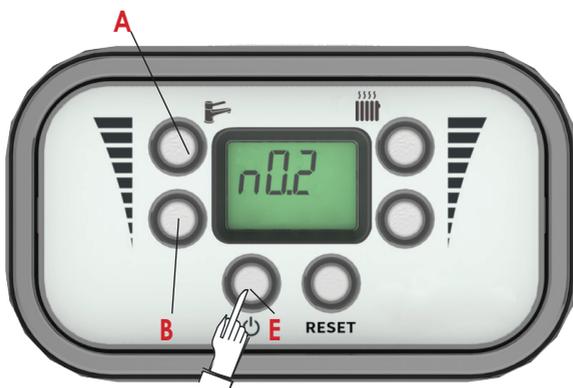


INFORMATION MENU

By accessing the “Information Menu” it is possible to consult the information that is shown on the display without any possibility of modifying the functional parameters.

To access the menu pages, press button “E”. The successful access will be confirmed by the display of the menu page alternating with the relevant value. To scroll the pages, use button “A” and “B”.

Pict. 9



INFORMATION MENU LIST	
n 02	DHW temperature
n 03	Return sensor temperature
n 04	Flue gas probe temperature
n 05	External sensor temperature (if present)
n 10	CH circuit pressure
n 13	Ionization current
n 14	Circulator speed %
n 15	Velocità ventilatore
n 20	Fan speed
n 21	Last fault code
n 22	Second to last fault code
n 26	CH temperature
n 29	Days to ordinary maintenance expiration
n 30	Circulator Feedback

OPERATION WITH ROOM THERMOSTAT

Energy savings regulations REQUIRE the boiler to be connected to a room thermostat in order to optimally regulate and maintain the temperature in domestic environments.



ASK YOUR AREA INSTALLER FOR INFORMATION ON THE INSTALLATION AND OPERATION OF A ROOM THERMOSTAT.

OPERATION WITH EXTERNAL SENSOR

The boiler can be connected to an EXTERNAL sensor. In this mode, the system can regulate the central heating circuit temperature automatically based on the temperature measured by the suitably located sensor on the outside of the building.

Adjustments are made automatically to the central heating circuit temperature using a pre-loaded mathematical algorithm. Different "climate curves" can be selected by modifying the correct parameters, allowing the boiler to be optimized for a specific climatic area or season.



REQUEST INFORMATION ON INSTALLATION OF THE EXTERNAL SENSOR AND OPTIMAL REGULATION OF THE BOILER FROM YOUR AREA AUTHORISED INSTALLER.

OPERATION WITH OPEN-THERM TIMER THERMOSTAT

For optimum and even more economical management of the domestic premises it is possible to use the Easycontrol programmable timer thermostat. Easycontrol allows all main boiler functions to be managed remotely, allowing it to be fully managed from a different room to that where the boiler is installed. Easycontrol can also be used to schedule daily and weekly room temperatures and manage reduced demand periods (holidays, anti-frost and maintenance modes).

to connect the timer thermostat, and follow the already specified instructions in the "INSTALLATION OF ROOM THERMOSTAT"

chapter.

Refer to the instructions for correct installation and use of the "Ecocono" thermostat.

To activate the O.T. communication it is necessary to select the corresponding parameter P13.



REQUEST INFORMATION ON INSTALLATION OF THE EXTERNAL SENSOR AND OPTIMAL REGULATION OF THE BOILER FROM YOUR AREA AUTHORISED INSTALLER.

SPECIAL FUNCTION

- Heating system Anti-frost function (all models)

The anti-frost function is always active and prevents the heating system water from freezing.

If the heating circuit water temperature probe detects a too low water temperature, the circulating pump starts and the burner ignites at the minimum power.

The function remains active until the set temperature is reached, in order to prevent the heating system water from freezing.

- Instant DHW exchanger pre-heating

This function can be activated exclusively on models which are prepared and configured to instantly obtain domestic hot water; this function allows to keep the DHW exchanger at a temperature which is close to the set one.

The activation of this function may improve the boiler's performance on the DHW request.



ALWAYS LEAVE THE BOILER POWERED ON AND THE SHUT-OFF VALVES OPEN, IF THE SYSTEM IS EXPECTED TO BE SUBJECT TO VERY COLD TEMPERATURES.

THIS FUNCTION DOES NOT GRANT TO PREVENT THE HEATING SYSTEM FROM FREEZING, SINCE IT DEPENDS ON THE BOILER CONTINUOUS ELECTRIC POWER AND GAS SUPPLY.

FOR INFORMATION ABOUT CONFIGURING THE BOILER TO PROTECT IT FROM FREEZING, ASK THE AUTHORIZED AREA INSTALLER.



FOR INFORMATION ABOUT CONFIGURING THE DHW TEMPERATURE, ASK THE AUTHORIZED AREA INSTALLER.



ACTIVATING THIS FUNCTION MAY CAUSE THE EARLY DETERIORATION OF THE DHW EXCHANGER AND A HIGHER GAS CONSUMPTION. FOR INFORMATION ABOUT THE CORRECT FUNCTION CONFIGURATION, ASK THE AUTHORIZED AREA INSTALLER .

FAULTS

All the functions supported by the boiler are managed by a microprocessor system, which, in addition to allowing them to perform perfectly with the aim of obtaining the best possible home comfort, constantly checks that the functional parameters fall within a wide range of necessary safety, therefore that all the devices work perfectly.

If any device malfunctions or conditions unsuitable for safe operation of the device are detected, the microprocessor system detects a fault status, arranges the latter to operate in reduced mode or even completely prevents its operation. The microprocessor system is able to appropriately detect and report the main fault conditions in order to be able to intervene and bring the condition back to normal as quickly as possible. The faults are reported on the LCD display; the malfunction condition is detected and signaled immediately by an intermittent numerical code preceded by the symbol "E" (Pict. 10). The anomaly is displayed on any page of the main menu.

There may be conditions that cause transient faults. Many of them are detected and cause a temporary block that is automatically resolved once the anomalous cause has ceased; while for some of them it is possible to perform a manual attempt to restore operation.

To manually reset the system following an anomaly condition, press the reset button "F" (Pict.4).

In case of reset, all the previously set functions are resumed; in case of persistence of the fault condition on the display, it is necessary to request the intervention of technical support.

Pict. 10



IF A FAULT IS NOT SOLVED AFTER 2 MANUAL RESET ATTEMPTS THEN THE AUTHORISED TECHNICAL ASSISTANCE CENTRE MUST BE CALLED. TAMPERING WITH ANY DEVICE MAY BE DANGEROUS AND ANNULS EVERY WARRANTY CONDITIONS.

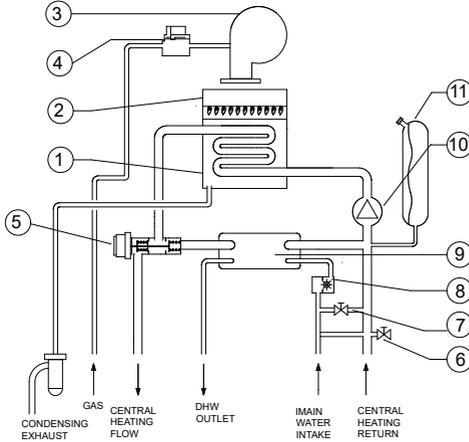
FAULT CODES TABLE

Code	Possible cause	Behaviour	Possible actions
E01	Ignition failed	Boiler locked	Check gas presence Check gas line pressure Check ignition/detection electrodes Check electronic cable Check igniter
E03	Heating system temperature sensor fault	Boiler locked	Replace DHW sensor
E04	Domestic hot water system temperature sensor fault	DHW supplied in provisional mode Heating functions	Replace CH sensor
E06	High temperature detected by heating system sensor	Device in stand-by Normal DHW supply	Wait for automatic unlocking Check pressure to CH system
E08	Central heating system pressure too low	Boiler locked	Check pressure to CH system
E09	Over-temperature safety probe intervention	Boiler locked	Perform reset maneuver Contact technical support
E10	Central heating system pressure too HIGH (> 2.7 bar)	Boiler locked	Check pump functioning
E11	Pressure transmitter failure	Boiler locked	Check integrity of connection Replace pressure transmitter
E12	Remote control reset used-up	Boiler locked	Reset system Switch off power
E13	SYSTEM error	Boiler locked	Reset system Switch off power Replace electronic board
E17	Exhaust probe damaged or Exhaust overtemperature	Boiler locked	Reset the system or replace the probe
E23*	Fault on external temperature sensor	Resumption of operation without external sensor	Check position of external probe Check communication line Replace external sensor
E24	Return probe damaged	The boiler continues to operate with circulator always at maximum power	Replace the probe
E25	Central heating system temperature too low freezing risk	Boiler locked	If possible reset normal functioning conditions
E28*	Water cylinder / water heater probe failure	Boiler locked	Replace probe
E30	Fan fault feedback	Boiler locked	Check fan connections Replace fan
E31	Faulty safety probe	Boiler locked	Replace the probe
E60	Circulator PWM error	Circulator always at maximum power	Check wiring Replace the circulator
E61	Temporary circulator failure	The circulator works in emergency mode	Wait for normal conditions to be restored or replace the circulator
E62	Circulator failure	Boiler locked	Replace circulator
E75	Failure communication between electronic board and display board	Boiler locked	Reset system Switch off power Replace electronic board
E88	Failure OPEN THERM COMMUNICATION	Boiler locked	Check connection between boiler and Open Therm
E99	Parameter configuration error	Boiler locked	Check and reconfigure the parameters

*visible only if the relevant devices are present

OPERATION DIAGRAM

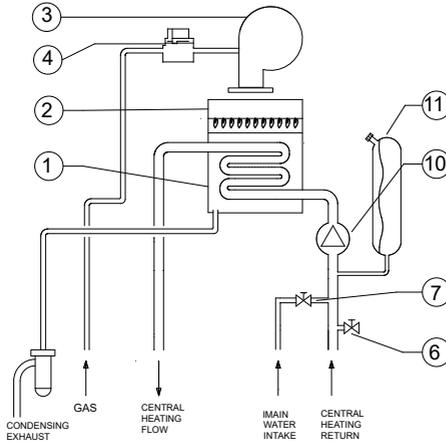
COMBINATION: DOMESTIC HOT WATER + CENTRAL HEATING
Pict. 11



- 1) Primary heat exchanger
- 2) Burner
- 3) Fun
- 4) Gas valve
- 5) Three-way valve
- 6) Safety valve
- 7) Filling loop cock
- 8) Hot water priority turbine
- 9) Secondary heat exchanger
- 10) Circulator unit
- 11) Expansion tank

OPERATION DIAGRAM

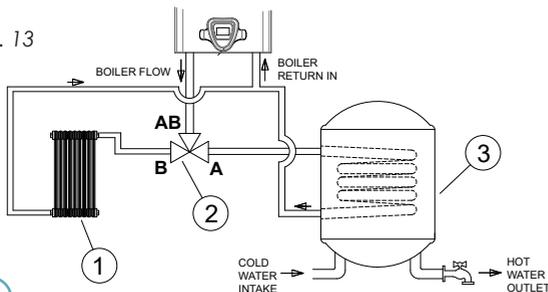
CENTRAL HEATING ONLY
Pict. 12



- 1) Primary heat exchanger
- 2) Burner
- 3) Fun
- 4) Gas valve
- 5) -
- 6) Safety valve
- 7) Filling loop cock
- 8) -
- 9) -
- 10) Circulator unit
- 11) Expansion tank

THREE-WAY BOILER OPERATION DIAGRAM

Pict. 13

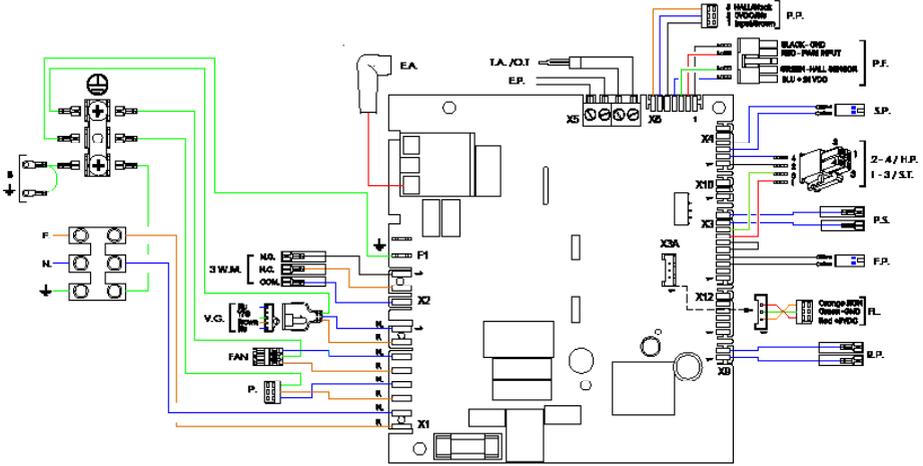


- 1) Central heating circuit
- 2) Three-way valve
- 3) Boiler

ELECTRICAL WIRING DIAGRAM

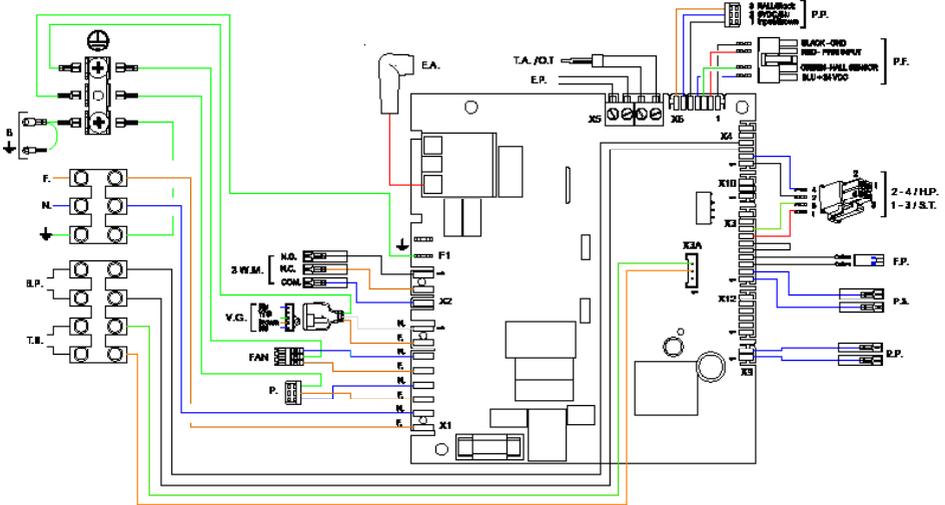
COMBINATION: DOMESTIC HOT WATER + CENTRAL HEATING

Pict. 14



CENTRAL HEATING ONLY

Pict. 15



List of connexion GIMAX MR/MN

3.W.M.	3way valve	F.	Phase	N.	Neutral	S.P.	DHW Probe	V.G.	Gas Valve
B.	Boiler Earth	FAN	Fan	P.	Circulating Pump	S.T.	Safety Probe		
B.P.	Sonda Boiler	FL.	Flow Switch	P.F.	Fan PWM	P.S.	Pressure Transmitter		
E.A.	Ignition Electrode	F.P.	Exhaust Probe	P.P.	Pump PWM	T.A./O.T.	Room Thermostat/ Open-Therm		
E.P.	Outdoor probe	H.P.	CH Probe	R.P.	Return Probe	T.B.	Storage Tank Thermostat		

COMING SOON

INSTALLATION

Use:

The boiler has been constructed according to current technical standards and the most stringent safety rules. Despite this, improper use may endanger persons and property as well as damaging the boiler itself.

This boiler has been designed as a thermal generator for closed-loop central heating systems and for the production of domestic hot water.

This boiler is only for heating water to a temperature below that of boiling point at atmospheric temperature.

Any use different from those outlined herein is to be considered improper. The manufacturer/supplier declines any responsibility for damage or injury caused by improper use.

Use of the boiler according to its design also means respecting the instructions given in the operation and maintenance manuals and observing the general inspection and maintenance conditions.

General requirements

- Installation must only be performed by qualified and licensed personnel. They also assume responsibility for correct installation, adjustment and commissioning.

Adjustment, maintenance and repair of the boiler must only be performed by qualified and authorised personnel.

- Do not install the boiler in environments containing dust or strong vapours.

The presence of substances such as fluorine, chlorine, sulphur etc. (e.g. vapours from sprays, solvents or detergents, paints, adhesives or fuels) may cause the boiler's components or combustion gas evacuation system to corrode and become damaged.

Avoid installing the boiler directly in commercial/industrial premises (e.g. hair salons, painting/carpentry workshops, cleaning companies etc.).

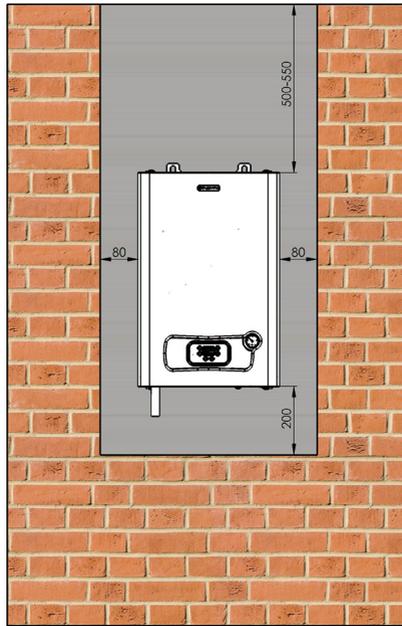
- Install the device respecting the minimum distances and spaces in Pict. 18 (also when installing inside an enclosure).

- Mount the boiler on a solid wall.

- Ensure that there are no depressions which could cause the boiler to stand out from the wall.

- Ensure you do not drill into tracked cables or piping when drilling.

Pict. 17



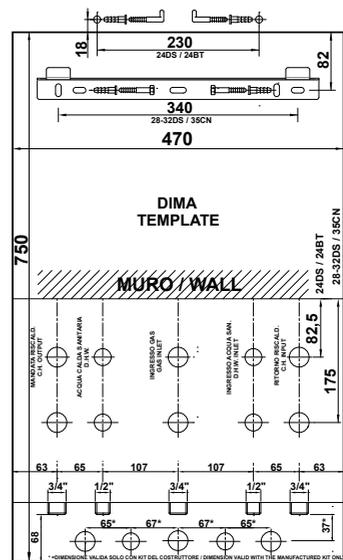
FASTENING THE BOILER TO THE WALL

Attach the cardboard template giving the connection and fastening schemes to the wall, paying attention to the boiler dimensions and necessary clearances. (Pict. 19)

- Use a suitable bit to drill the holes indicated by the two wall plug symbols on the template.
- Remove the template; insert the two wall plugs in the previously prepared holes, then hang the boiler, inserting the hooks of the plugs in the specific holes.

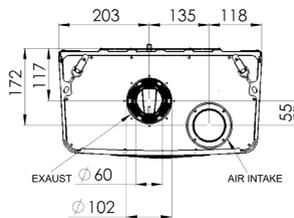


Fasten the template so that its axis coincides perfectly with that of the boiler.

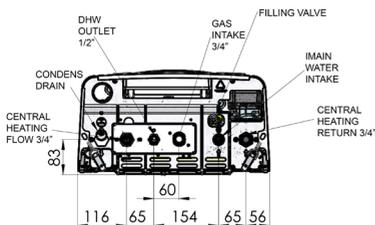


LAYOUT OF CONNECTIONS

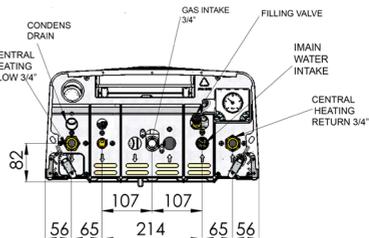
Fig. 19



Only Eco MR



Only Eco MN



PLUMBING THE BOILER

Connect the water and central heating pipes to the boiler, respecting the positions and distances indicated (Pict. 20); take particular care when connecting pipes to ensure they are not placed under pressure in order to minimise the danger of future leaks. Use appropriate tools and procedures for tightening.



• THE MANUFACTURER ASSUMES NO RESPONSIBILITY FOR DAMAGE CAUSED TO PERSONS OR PROPERTY DUE TO OPERATION OF THE SAFETY VALVE DO NOT USE THE PLUMBING PIPEWORK CONNECTIONS AS EARTH POINTS FOR ELECTRICAL EQUIPMENT.



Flush thoroughly before connecting the pipes to ensure that any impurities present in the piping and radiators are completely removed.



Connect the safety valve outlet so that its operation would not cause any damage to persons or property

- Use piping of not less than 1/2" diameter
- Ensure that the line is always at atmospheric pressure by using suitable traps (do not connect pipes directly to the valve outlet)
- Connect the safety valve outlet line to the household grey water drainage system
- Apply suitable protection to the drainage line – the water carried in it may be at high temperatures

WARNING!!!

PROTECT THE PRIMARY HEAT EXCHANGER BY THE USE OF THE CORROSION INHIBITOR FLUID EXCLUSIVELY SUPPLIED BY THE MANUFACTURER. OTHERWISE THE HEAT EXCHANGER WARRANTY SHALL DECAY.

- Idraterm p.100 In 1% sol. For high temperature systems
- Idraterm p.140 In 1% sol. For low temperature systems

CONNECTING FILLING TAP FOR CENTRAL HEATING ONLY BOILERS

In order to fill the system, it is sufficient to connect the supplied ball valve to the 1/2" DHW intake and connect this to a water pipe.



Pict. 20

Filling ball valve

FILLING THE SYSTEM

When all of the boiler connections have been plumbed in, it is possible to proceed to fill the central heating circuit. Perform the operation slowly to help all air bleed out of the system. When filling, check all the internal and external parts of the system to make sure they are perfectly tight.

- Open the bleed valves on the radiators.
- Gradually open the filling loop cock Pict. 21, ensuring that any automatic air bleed valves installed on the system are working correctly.
- Close the radiator bleed valves as soon as water starts to come out.
- Check on the boiler pressure gauge that a pressure of between 1.3 and 1.6 bar has been reached.
- Close the filling loop.



Perform the filling and topping up of the system with the boiler completely off and all parts at ambient temperature.

Always close the filling loop cock once you have finished the operation.

Pict. 21



Filling loop cock

CONNECTING CONDENSATE LINE

The GiMax boiler is already fitted with a condensate trap to avoid the combustion products entering the environment it is installed in.

The boiler's connection to the condensate line must be inspectable and must drain into the household waste-water drainage system with a minimum fall specified by applicable regulations. There must be no points where standing water can form and no narrowing which could impede the flow.

An open type connection must be used

to ensure that any formation of ice in the drainage system does not impede the condensate flow. Pict. 23 shows how to connect the trap to the household drainage system.

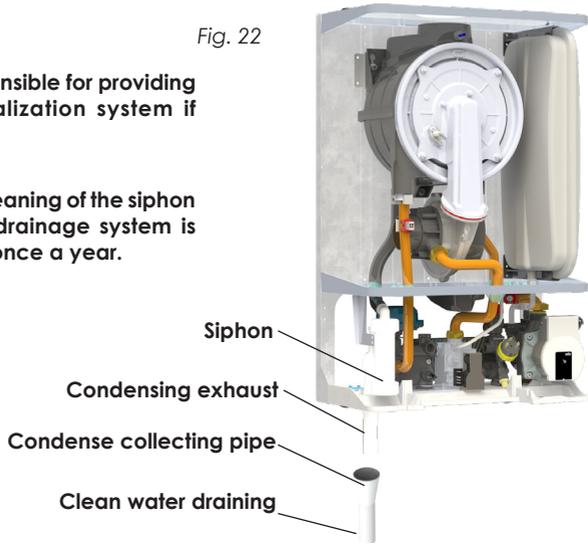


The installer will be responsible for providing a condensation neutralization system if necessary



A check and possible cleaning of the siphon and the condensation drainage system is recommended at least once a year.

Fig. 22



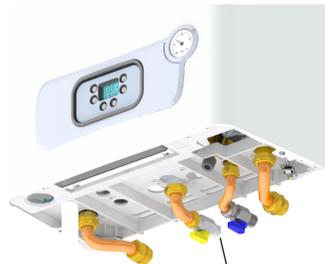
CONNECTION TO THE MAINS GAS SUPPLY

Before connecting the boiler to the mains gas, check that it is designed to function with the available type of gas. Thoroughly flush all the gas pipes to remove any residues which could compromise correct operation of the boiler.

The gas supply must be connected to the boiler intake (Pict. 23), following all applicable regulations. Rigid metal piping or continuous-wall stainless-steel hose must be used and a shut-off valve must be connected before the boiler.

Check that the flow rate from the line from the gas meter is sufficient to support the simultaneous use of all equipment connected to it. Check that there is no significant drop in pressure along the distribution line from the gas meter; pipes of sufficient diameter must therefore be used to satisfy this requirement.

Pict. 23



Mains gas intake



Check that all devices necessary for creating and limiting the maximum permissible pressure of the relative gas are installed in the system before opening the boiler's gas connection.

Do not use the gas supply pipework connections as earth points for electrical equipment.



Always install a gas shut-off valve before the device. This must have a YELLOW valve handle and must be placed in a position which allows full access to it.

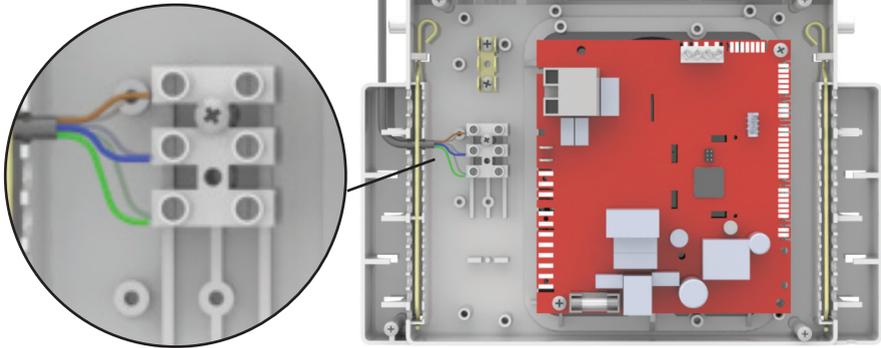
CONNECTION TO THE MAINS ELECTRICAL SYSTEM

For safe installation of the boiler it must also be correctly connected to the mains electrical supply in accordance with all applicable regulations, and in particular it must be connected to a suitable protective earthing system.

The device is fitted with a three-core electrical cable supplied without a plug. It must be connected to the mains with a dedicated connection via a dual-pole switch whose contacts have an opening of at least 3 mm. It is important to respect the correct polarity (LIVE: brown cable / NEUTRAL: blue cable / EARTH: yellow-green cable) when wiring in the boiler. When installing or replacing the power-supply cable, the earth conductor must be left 2 cm longer than the others. If it is necessary to completely replace the pre-wired power-supply cable, it will be necessary to access the PCB compartment:

- Cut power to the boiler using the power switch installed before it.
- Remove the lower cover by removing the four screws; turn the instrument panel to the open position.
- Remove the rear case cover by unscrewing the 4 screws.
- Identify the terminals next to the PCB (Pict. 25) and disconnect the live, neutral and earth poles of the pre-wired cable; remove the cable.
- Connect the new cable in the same position
- Close the rear cover and screw it closed
- Return the panel to its operational position and reposition the lower protection.

Fig. 25



For connecting or replacing conductors, use H05VV -F, H05VVH2-F CEI EN 60228 or better rated cable.



A qualified electrician should check the suitability of the protective earthing system. The manufacturer is not responsible for any damage caused by the lack of a suitable earthing system.

Check that the electrical connection is sufficient to satisfy the boiler's maximum power consumption, indicated on the boiler plate.



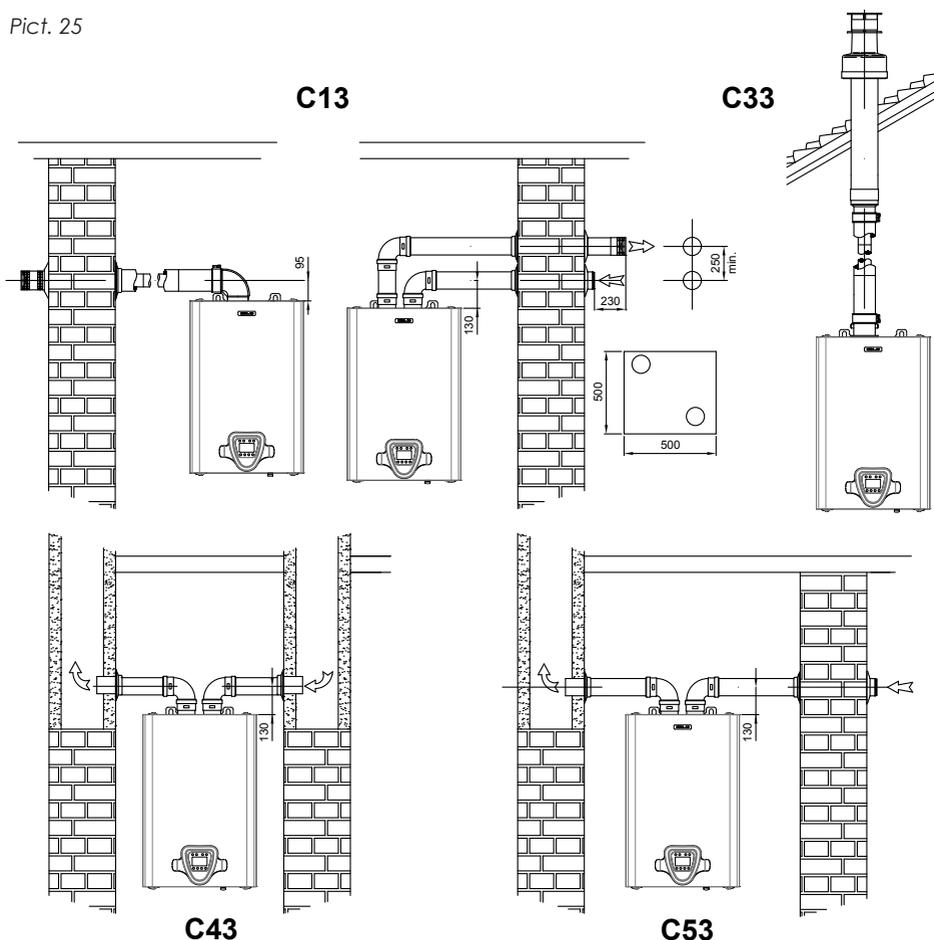
Extensions, adaptors or gang sockets must not be used when connecting the device to the mains electrical system. Before accessing the internal components of the control panel, make sure that the boiler is turned off.

COMBUSTION GAS EVACUATION SYSTEM: COMPATIBLE APPLICATIONS

The boiler is a type C room-sealed fan-assisted device; the air intake and flue must be connected to a combustion gas evacuation/air intake system. The types of permissible air intake and combustion gas evacuation (flue) systems are listed on the technical data plate and summarized below:

- C13 concentric wall flue. The pipes may also be split, but the outlets must be exposed to similar wind conditions.
- C33 concentric vertical flue (with the same specifications as type C13).
- C43 combustion gas evacuation and air intake in separate common flues, but which are exposed to similar wind conditions.
- C53 separate horizontal or vertical flues, in any case in areas exposed to different pressures.
- C63 combustion gas evacuation and air intake performed with pipes sold and certified separately.
- C83 chimney discharge; wall air intake

Pict. 25



COMBUSTION GAS EVACUATION SYSTEM: INSTALLATION

The boiler, can be connected to **COAXIAL** and **SPLIT** intake and flue evacuation systems.

The "coaxial" system is composed of a single pipe containing both the flue and intake pipes on the same axis. The system provides for all components necessary for completing the line, including changes of direction, straight sections of various lengths, connections to

the boiler and outside terminals as well as all necessary seals. Below is a list of compatible components with their relative characteristics:

SISTEMA COASSIALE Diametri 60/100 mm

No.	Description	Pressure drop (Pa)	Equivalent lenght m
1	Terminal L.990	25	2.8
2	Extension L.1000 M-F	6	1
3	Vertical flanged coupling M	15	2.2
4	90° bend M-F	7	1.3
5	45° bend	6	1
6	Neoprene gasket ø 128		
7	Intake gasket ø 100		
8	Flue evacuation gasket ø 60		

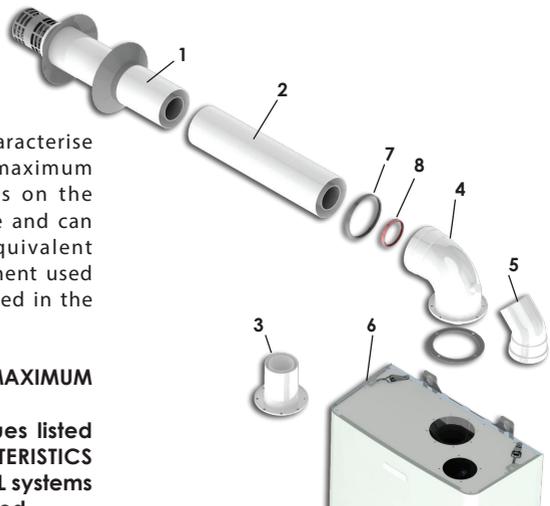
Pict. 27

The large pressure drops which characterise this system limit its length. The maximum possible length therefore depends on the components used to create the line and can be determined by adding the "Equivalent lengths" for each individual component used (excluding the initial 90° elbow) listed in the "COAXIAL SYSTEM" table.

IT IS ESSENTIAL NOT TO EXCEED THE MAXIMUM PERMISSIBLE LENGTH!

Consult the maximum length values listed in the "FLUE TECHNICAL CHARACTERISTICS SUMMARY" on page 23 for COAXIAL systems relative to the type of device installed.

The "split" flue system is composed of one pipe for combustion gas evacuation connected to the fan outlet and one for the air intake connected to the hole on the roof of the sealed chamber. The system provides for all components necessary for completing the line, including changes of direction, straight



sections of various lengths, connections to the boiler and outside terminals as well as all necessary seals, for both pipes. Below is a list of compatible components with their relative characteristics:

SPLIT SYSTEM 80 mm diameter:

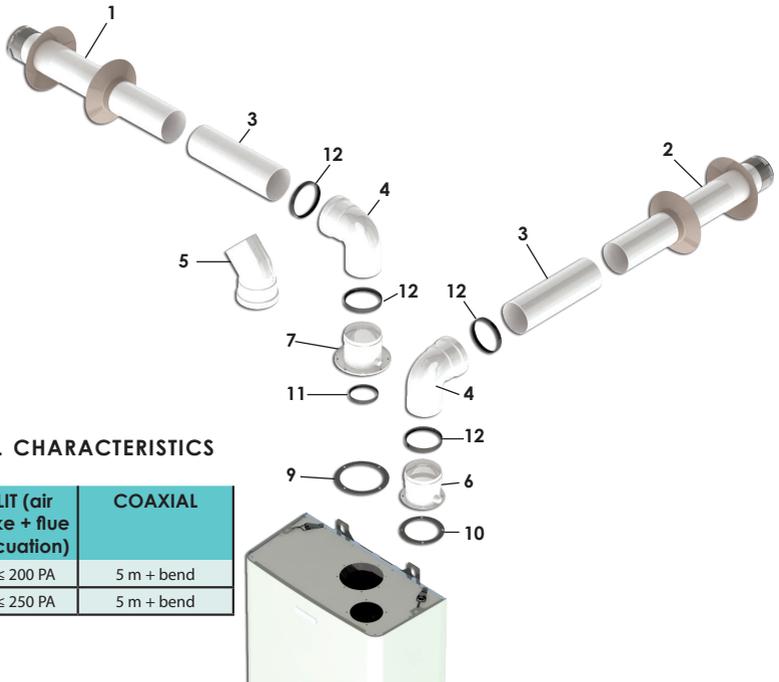
No.	Description	Pressure drop (Pa)	Equivalent length m
1	Intake terminal L.950	15	0.8
2	Flue evacuation terminal L.990	3.5	1.5
3	Extension M-F L.1000	3	1
4	90° bend M-F	14	3
5	45° bend M-F	7	1.3
6	Intake adaptor d 80		
7	Flue evacuation adaptor d 80		
8	L50 d 60 flue evacuation connection		
9	Neoprene gasket d 128		
10	Neoprene gasket d 100		
11	Collar gasket d 60		
12	Gasket d 80		

The maximum possible length therefore depends on the components used to create the line and can be determined by adding the "Equivalent lengths" for each individual component for both the intake and evacuation lines listed in the "SPLIT SYSTEM" table.

IT IS ESSENTIAL NOT TO EXCEED THE MAXIMUM PERMISSIBLE PRESSURE DROP FOR THE DUCTS (air intake + flue evacuation)!

Consult the maximum PRESSURE DROP values listed in the "FLUE TECHNICAL CHARACTERISTICS SUMMARY" for SPLIT systems relative to the power and type of device installed.

Pict. 28



FLUE TECHNICAL CHARACTERISTICS SUMMARY

GIMAX	SPLIT (air intake + flue evacuation)	COAXIAL
25 kW	dp ≤ 200 PA	5 m + bend
30 kW	dp ≤ 250 PA	5 m + bend

*At maximum power
(ACS or function SERVICE)

AIR INTAKE AND COMBUSTION GAS EVACUATION SYSTEM: IMPORTANT INFORMATION



FOLLOW APPLICABLE LEGISLATION AND REGULATIONS TO THE LETTER.

INSTALL AIR INTAKE AND FLUE EVACUATION SYSTEMS CONFORMING TO THE SPECIFICATIONS GIVEN ON THE TECHNICAL DATA PLATE AND OBSERVE ANY LIMITATIONS ARISING FROM APPLICABLE LEGISLATION AND REGULATIONS TO THE LETTER.

ONLY USE APPROVED COMPONENTS FOR AIR INTAKE AND COMBUSTION GAS EVACUATION SYSTEMS WHICH ARE OF THE CORRECT DIMENSIONS AND PURPOSELY DESIGNED AND MANUFACTURED FOR THE PURPOSE.

FOLLOW INSTALLATION INSTRUCTIONS TO THE LETTER.

INSULATE ANY FLUE SECTIONS WHICH WILL BE EXPOSED TO LOW TEMPERATURES.

WHENEVER NECESSARY, PLACE APPROPRIATE CONDENSATE TRAPS ON THE FLUE EVACUATION LINE:

Ensure the following before commissioning the boiler:

- THAT THE FLUE EVACUATION AND AIR INTAKE LINES ARE PERFECTLY SEALED.
- THAT THEY ARE CORRECTLY POSITIONED AND FASTENED.
- THAT THERE ARE NO MECHANICAL, THERMAL OR CHEMICAL STRESSES ON THE LINES WHICH COULD EVEN MOMENTARILY COMPROMISE THEIR INTEGRITY.

INSTALL SYSTEMS TO ABSORB ANY THERMAL EXPANSION WHEN THE SECTIONS OF FLUE DUCTING ARE LONGER THAN THE MINIMUM SPECIFIED LENGTHS.

All maintenance operations MUST BE PERFORMED BY QUALIFIED PERSONNEL.

These operations must also be performed in full compliance with all applicable legislation and regulations. The boiler should be inspected by a qualified technician at

the end of every heating season (winter) and whenever else it is considered necessary in order to keep it in optimum operating condition.

PRELIMINARY MAINTENANCE OPERATIONS

- Declaration of conformity check.
- Check the log book.
- Check that the Instruction Manual is present.
- Visual check of the installation (in conformity with applicable regulations).
- Visual check of the flue system.
- Check that combustion gases are being properly evacuated.

GENERAL MAINTENANCE OPERATIONS

- Clean any deposits on the heat-exchanger fins.
- Remove any oxidation on the burner.
- Check that the boiler ignites, turns off and functions correctly.
- Visual check for leaks in gas and water pipes and unions.
- Check that the safety devices are operational.
- Check that the boiler's control and regulation devices are functioning correctly.
- Check that the combustion gas evacuation device and/or duct is in good condition and operating correctly.
- Perform a visual check that the safety valve outlet is not blocked.
- Check hydraulic system static pressure.



If any components of the boiler require replacement, original spare parts supplied by the manufacturer must be used. Use of other components could compromise correct operation of the device. The manufacturer declines any responsibility for consequences linked to the use of non-original spare parts. At the end of the maintenance procedure a report must be prepared and left with the owner. This must contain the findings of the inspection, any work performed and any recommendations.

SERVICE FUNCTION

This function allows the boiler to be run at minimum and maximum power conditions during maintenance and adjustment operations, independently of the room thermostat signals.

The boiler installation must be completed before activating the "SERVICE" function. Before activating this function check that all conditions specified in the "Commissioning" chapter have been satisfied.

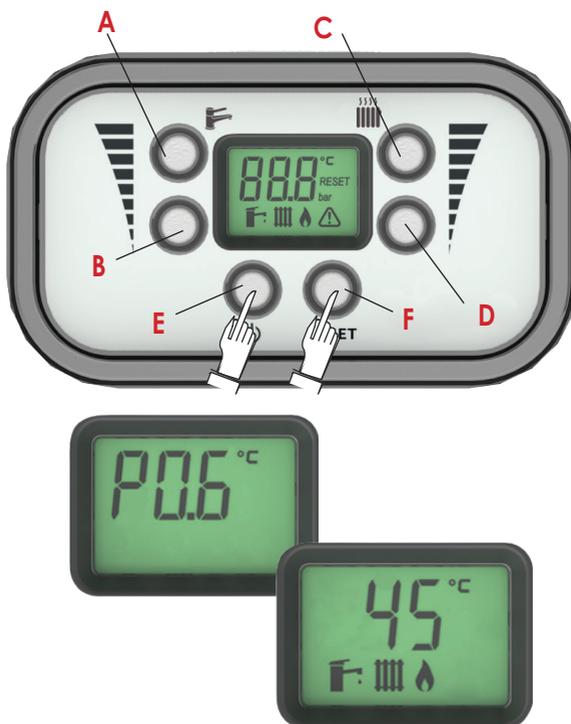
Activating the function:

To activate the function it is necessary to access the MENU and activate the relative modes from the dedicated page. Refer to the

procedures indicated in the relative chapter (page 32) to access the configuration MENU. Enter the "PARAMETER MENU" and select page "P01" by using the button 6. Press one of the two buttons upon the digits displayed next to the relevant page. The value will begin to flash. Press button 8 to increase the displayed value and button 7 to decrease it.

P01	00 = normal operation	01 = minimum power	02 = maximum power
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Pict. 29



ENSURE THAT:

THE CENTRAL HEATING SYSTEM IS CHARGED AND PRESSURISED ANY SHUT-OFF VALVES FITTED TO THE CH FLOW AND RETURN AND ON THE GAS LINE ARE OPEN AND THAT THE GAS SUPPLY IS AVAILABLE ANY CONTROL VALVES ARE TURNED TOWARDS THE SYSTEM THE SPECIFICATIONS FOR CORRECT INSTALLATION AND COMMISSIONING OF THE BOILER HAVE BEEN OBSERVED.

If the function remains activated for long periods of time an increase in pressure may occur in correspondence with the system's terminals.

All safety measures are active when in SERVICE mode, in particular those for the control of the maximum temperature in the central heating circuit via the flow temperature sensor; on reaching 80°C the

function is suspended.

The function is exited in mode automatic after 20 minutes of permanence, or by assigning the value "00" to parameter P1

which returns the device to normal functions.

DATA PLATE

Pict. 31 - TECHNICAL DATA PLATE

Boiler type: Serial number Code: Country of destination: Manufacturer: Gas:	A B C D E F	Cat.: Type: Date: PIN Code: Nox class:	O G H I J K		
..... Natural gas G20 G31 C.H. Circuit	Flow L/a (m3/h) L/a (kg/h)	Pressure L/b (mbar) L/b (mbar)	Pressure min/max L/c (mbar) L/c (mbar)		
Thermal power Useful load Useful load in condensing Pressure	M (kW min.) N (kW min.) P (bar)	M/a (kW max) N/a (kW max) O (kW max) Work temperature: Q(C°)			
D.H.W. Circuit Thermal load: Specific flow $\Delta t25$: Work Pressure:	R (kW min.) S (l/min.) T (bar)	R/a (kW max) Work Temperature: U(C°)			
IP protection rate: Work Temperature:	W Y(C°)	Electric power: X(W) Power supply: Z			

O= Supervisory body
A= Type of boiler
B= Boiler model
C= Serial Number
D= Code
E= Country of destination
F= Manufacturer
G= Category
H= Approved types of exhaust exchange configuration
I= Date of production
J= P.I.N. product identification number
K= NOx Class
L= Set by gas type
L/a= Load
L/b= Supply nominal pressure
L/c= Pressure min/max
M= Thermal load min
M/a= Thermal load max
N= Useful load min
N/a= Useful load max
O= Useful load in condensing
P= C.H. work pressure
Q= C.H. work temperature
R= D.H.W thermal load if different from M min.
R/a= D.H.W thermal load if different from M/a max
S= A.C.S. specific flow rate according to EN625-EN13203-1
T= D.H.W work pressure
U= D.H.W work temperature
W= IP protection rate
X= Gas consumption
Y= Operating temperature
Z= Power supply

POWER ADJUSTMENT

When supplied, the boiler is already set up to function optimally with a specific type of gas, which can be identified by consulting the technical data plate present on the rear of the instrument panel.

It is in any case ALWAYS necessary to check the following before running the device:

Commissioning

- That the device has been correctly located and installed in a location satisfying all the manufacturer's requirements as well as any applicable legislation and regulation.
- That the boiler is correctly plumbed in.
- That the central heating circuit is filled with water at a suitable pressure.
- That the central heating circuit and all the boiler's hydraulic connections are perfectly tight.
- That the boiler is connected to the mains electrical supply according to the electrical

code and any other applicable regulations.

- That the boiler is connected to the combustion gas evacuation system in accordance with all applicable legislation and regulations and that the manufacturer's specifications and compatible methods listed on the technical data plate (Pict.31) are respected. Also check the presence, if necessary, of appropriate diaphragms (Pag.24).

Failure to carry out these checks may make the boiler's operation extremely dangerous to the health of people and animals.

- That the gas supplied by the mains network connected to the boiler corresponds to that indicated on the data plate and for which the boiler is set up.

Running the boiler on gas which is incompatible with the specifications on the boiler data plate can prove extremely dangerous to people and property as well as causing irreparable damage to the device itself.

- That the entire gas distribution line both

inside and outside the building, as well as inside the device, where applicable, is tested for tightness.

- **That the gas line meets all applicable legislation and regulations, in particular: That a gas shut-off valve is installed immediately before the device. This must have a YELLOW valve handle and must be placed in a position which allows full access to it.**

Commissioning / periodically:

- Check that the above specifications have been maintained and that the boiler is in perfect working order.
- Check the dynamic pressure of the mains gas supply.
- Check the gas pressure in the burner at different outputs.

TESTING THE GAS SUPPLY DYNAMIC PRESSURE:

- Remove the iron cover by loosening the 4 fastening clips.
- Free up access to the gas valve by rotating the instrument panel to the open position (Pict. 31).
- Loosen the screw holding the pressure outlet upstream of the regulator and connect it with silicone tubing to the + input of a differential manometer with an appropriate range (at least 0 - 50 mbar), leaving the second input free if present – (Pict. 32).
- Turn on the gas supply by opening the shut-off valve located on the meter and open the gas cock before the boiler.
- Use the FLUE CLEANING function to bring the boiler to maximum power.
- Measure the gas pressure before the regulator (dynamic mains supply pressure). - Check that the value measured with the manometer falls within the max-min interval given in the “Dynamic mains supply pressure” table for the specific type of gas.



Whenever dynamic pressures below the specified minimum levels should be found:

- Check that there are no kinks, blocks or other impediments to the normal gas flow in the gas supply line to the boiler.
- Check that the diameter of piping used for the gas supply line is sufficient and constant along the whole length.
- Check that there are no elements in the supply line which could lead to excessive pressure drops, e.g. too many bends, changes of direction, excessively long or countersloping sections etc.
- Consult the gas company on the specified minimum supply pressure values.



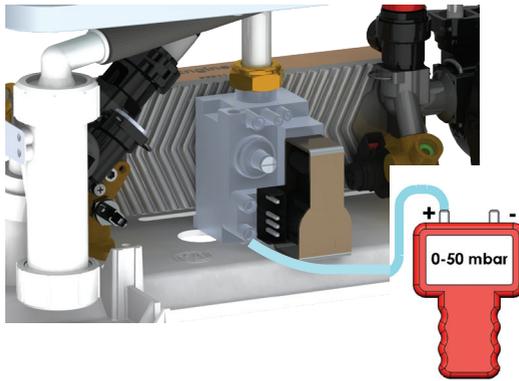
Whenever dynamic pressures above the specified maximum values should be found:

- Install a suitable pressure reducer/regulator on the gas supply line before the boiler.
- Adjust the dynamic pressure of the gas via the regulator, if already present.

Pict. 30

DYNAMIC PRESSURE mbar (MAINS)			
G20 (NATURAL GAS)		G31 (PROPANE)	
min	max	min	max
17	25	25	37

Pict. 31



ANALYSIS - CHECKING AND REGULATING COMBUSTION

The boiler comes already calibrated and tested for the requested type of gas, however it is advisable to check that the type of gas supplied in the mains and the supply pressure are correct. If this should not be the case, follow the procedures described in this section.

MAXIMUM POWER:

- Use the FLUE CLEANING function to bring the boiler to maximum power.
- Insert the combustion analyser probe in the inspection outlet provided in the flue (Pict. 33). After the boiler has been running for 2-3 minutes, run the analysis and check that the CO₂ measured by the analyser corresponds to the value indicated in the table for maximum power.
- If the CO₂ does not correspond, regulate with screw "N" (Pict. 33) of the ratio adjuster until the specified CO₂ value is obtained. Turn clockwise to decrease the CO₂ value, anticlockwise to increase it.

MINIMUM POWER:

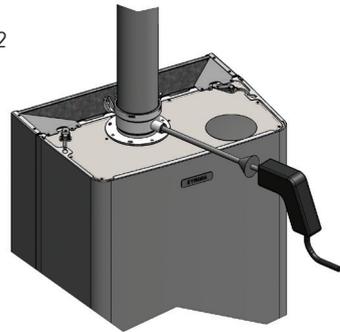
- Use the FLUE CLEANING function to bring the boiler to minimum power.
- Wait a few seconds for the ignition phase to complete and the boiler to bring itself to minimum power.
- After the boiler has been running for 2-3 minutes, run the analysis and check that the CO₂ measured by the analyser corresponds to the value indicated in the table for maximum power.
- If the CO₂ value does not correspond, regulate with screw "M" (Pict. 34) of the ratio adjuster after removing the protective cover

"L" until the specified CO₂ value is obtained. Turn clockwise to increase the CO₂ value, anticlockwise to decrease it.

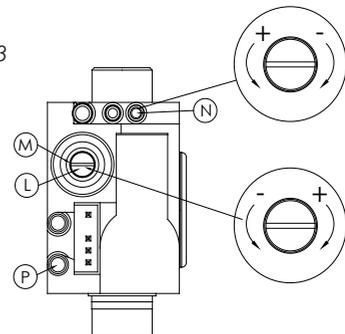
It may be necessary to repeat the maximum and minimum adjustment twice to obtain correct regulation.

For a correct regulation could be necessary to repeat twice the regulation of the maximum one and the minimum one)

Pict. 32



Pict. 33



CO2 VALUES TABLE		NATURAL GAS G20		LPG G31	
	UdM	25 KW MR/MN	30 KW MR/MN	25 KW MR/MN	30 KW MR/MN
CO2 max power	%	9,1 + 0,1 - 0	9,0+ 0,1 - 0	10,1 + 0,1 - 0	10,1+ 0,1 - 0
CO2 min power	%	8,9 + 0,1- 0	8,9+ 0,1 - 0	9,9 + 0,1 - 0	9,9+ 0,1 - 0
Minimum mains pressure	mbar	17	17	25	25
Maximum mains pressure	mbar	25	25	45	45

CHANGING GAS TYPE

When necessary, it is possible to modify the boiler to run on types of gas which are supported but which the boiler was not set up for in the factory.

This modification concerns in particular the change from NG (natural gas) to LPG (butane

/ propane) and vice versa.

In order to perform this change the boiler's basic configuration must be modified to that necessary to support the supplied type of gas.



CONVERSIONS MUST ALWAYS BE PERFORMED BY QUALIFIED PERSONNEL

Proceed as follows to change the system:

CHANGING FROM NATURAL GAS (NG) TO LPG

- CONFIGURING THE SOFTWARE
- REGULATING COMBUSTION
- APPLY LABEL B1 ON THE GAS VALVE AFTER REMOVING THE OLD LABEL

CHANGING FROM LPG TO NG

- CONFIGURING THE SOFTWARE
- REGULATING COMBUSTION
- APPLY LABEL B2 ON THE GAS VALVE AFTER REMOVING THE OLD LABEL

CONFIGURING THE SOFTWARE FOR A CHANGE IN GAS TYPE:

- To adapt the supply driver of the gas regulation valve modulator it is necessary to enter the "CONFIGURATION MENU" (see page 32 for how to access this menu) and view the value of parameter "A01".
- Set the parameter according to the gas supply and the change performed, following the values given in the table below:

Adjust the values of parameter A13 / A14 as per table B

TABLE B

Value	Gas	Parameters
A01	Methane	0
	LPG	1
A13	Methane	14
A14	LPG	23
A13	Methane	18
A14	LPG	25

GI Max 25

GI Max 30

APPLIANCE CONVERTED : G31 TO GAS	Conversion performed on date: ___/___/___ Signature of service: _____	SET ACCORDING TO: GPL G30 - G31
APPLIANCE CONVERTED : G20 TO GAS	Conversion performed on date: ___/___/___ Signature of service: _____	SET ACCORDING TO: METANO G20
SET ACCORDING TO: METANO G20 	To be returned to G20 Engineering with a copy of the warranty certificate and/or Appendix G of 1st commissioning Converted to <input type="checkbox"/> G20 <input type="checkbox"/> G28 on ___/___/___ Signature of service: _____	SET ACCORDING TO: GPL G30 - G31



BEFORE COMMISSIONING THE NEWLY CONFIGURED BOILER IT IS NECESSARY TO CHECK THE GAS SUPPLY PRESSURE BEFORE THE BOILER AND MEASURE AND ADJUST THE GAS PRESSURE AT THE BURNER. REFER TO THE PRESSURE VALUES AND PROCEDURES GIVEN FOR EACH SPECIFIC GAS IN THE "TESTING THE GAS SUPPLY DYNAMIC PRESSURE:" CHAPTER (Page 28).

Complete the change by attaching the label A1/A2 indicating the change to the new type of gas for which the boiler has now been configured, near the technical data plate located on the rear instrument panel cover.

REGULATING COMBUSTION:

Carry out the combustion adjustment as necessary, check and adjust the ignition speed by changing the parameter "A15" for LPG or "A16" for NG

CONFIGURATION THE ACCESSING MENU

It is possible to view information or perform complete configuration of the boiler by accessing the pages of CONFIGURATION MENU.

Accessing the CONFIGURATION MENU, aside

from displaying information on the state or presence of most of the devices, also allows the configuration parameters to be altered, therefore substantially influencing the device's operation.



ACCESS TO THE "CONFIGURATION MENU" IS EXCLUSIVELY RESERVED FOR TECHNICIANS WITH THE NECESSARY QUALIFICATIONS AND LICENSES. ARBITRARY MODIFICATION OF ANY PARAMETER CAN CAUSE MALFUNCTIONING OF AND DAMAGE TO THE BOILER, AS WELL AS CREATING A DANGEROUS SITUATION FOR PERSONS AND PROPERTY.

Accessing menu pages:

Press buttons "E" and "F" for more than 5 seconds; after releasing the buttons, "P" letter and "00" number will be displayed (Pict. 34).

Selecting a page from menu:

Information of the menu are arranged into pages corresponding to a code that identifies a parameter and its relevant value. To select a page scroll pages by pressing buttons "A" and "B".

Modifying parameters setting:

Changing the value of a given parameter can be made only after entering the "installer" password.

Accessing installer menu by password:

Press buttons "E" and "F" for more than 5 seconds; "P00" will appear. By pressing button "B" the word "Cod" will appear and then "---".

Enter the first value pressing buttons "C" and "8". Confirm pressing button "B", then enter in sequence the second and third value. Once the code "198" is entered, confirm by pressing button "B".

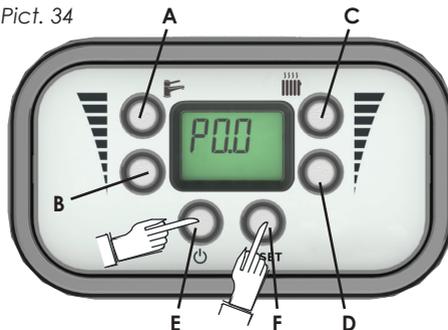
Now the access to the modification of all parameters is achieved.

Select the parameter using buttons A and B; modify the values using buttons C and D: button "C" to increase and button "D" to decrease.

To memorize the value, press button "B".

To exit without saving, reset the desired value, press button "6" to return to modify page and press button "C" or wait for the automatic return to the main menu.

Pict. 34



CONFIGURATION MENU

Pag	Description	Min	Max	Default
P0	ALL PARAMETER MODIFICATION ENABLE CODE	0-99 INSTAL.		198
P1	SERVICE FUNCTION	0 = deactivated 1= minimum power 2= maximum power		0
P2	RESET SERVICE	1= boiler power day/hour time reset		
P3	Deareation program	0 = deactivated	1 = enabled	1
P4	Ramp CH (minutes)	0	10	1
P5	Anti frequent ignition parameter min	0	255	3
P6	Plate heat exchanger preheating	0 = not enabled	1 = enabled	0
P7	DHW preheating offset (minutes)	0	10	3
P8	Minimum water flow	0 = not enabled	1 = enabled	1
P9	Delay time for activation of DHW request (seconds)	0	10	0
P10	Anti-water hammer function in diverter valve switching	0 = not enabled	1 = enabled	1
P11	Activation external probe	0 = not enabled	1 = enabled	0
P12	"K"climate curve parameter	10	30	10
P13	Selection T.A. or O.T.	0 = T.A.	1 = O.T.	0
P14	AAnti-legionella function activation	0 = not enabled	1 = enabled	1

Pag	Description	Min	Max	Default
A00	Boiler type setting	0 = combination with plate heat exchanger 1 = combination with DHW storage tank 2 = central heating only		0 MR/CR 1 MN/CN
A01	Gas type setting	0 Natural gas	1 LPG	0
A11	Modulating circulating pump	0 = disattivato	1 = attivato	1
A12	System type	1 = High temperature	2 = Low temperature	1
A13	Burner ignition power % with NATURAL GAS supply	0	99	14 For GiMax 25 18 For GiMax 30
A14	Burner ignition power % with LPG supply	0	99	23 For GiMax 25 25 For GiMax 30
A15	Burner maximum power % with LPG	0	99	80 For GiMax 25 84 For GiMax 30
A16	Burner maximum power % with natural gas supply	0	99	84 For GiMax 25 85 For GiMax 30
A17	"Post circulation" time sec in CH	0	99	60
A18	Post circ. time in DHW sec.	0	99	60
A19	"Post ventilation" time sec	0	99	10

Pag	Description	Min	Max	Default
A20	"Post ventilation" time sec in DHW	0	99	10
A21	Δ burner ignition in CH mode ° C	-10	+10	-5
A22	Δ burner shutdown in CH mode ° C	-10	+10	+5
A23	Δ burner ignition in DHW mode ° C	-10	+10	0
A24	Δ burner shutdown in DHW mode ° C	-10	+10	+4
A25	ΔT prim in DHW emergency ° C	0	+30	10
A26	Water tank temperature detection	0 = ntc probe	1 = thermostat	0
A27	Water tank preparing temperature ° C	+50	+80	80
A28	Δ water tank ignition preparing temperature ° C	-10	+10	-5
A29	Δ water tank shutdown preparing temperature ° C	-10	+10	0
A30	System maximum pressure (bar)	20	40	25
A31	System minimum pressure (bar)	5	11	5
A32	Δt CH modulating circulator ° C	5	35	20
A33	Circulator minimum PWM in CH mode % RPM	20	60	60
A34	Circulator maximum PWM in CH mode % RPM	65	100	100
A35	Feedback on circulator PWM	0 (non enabled)	1 (enabled)	0
A36	Anti-legionella days frequency	1	30	7
A37	Anti-legionella temperature ° C	60	85	60
A38	Anti-legionella temperature holding time (minutes)	5	30	15

Some parameters may not be visible, depending on the type of boiler configuration.

INSTALLTION OF ROOM THERMOSTAT/OPEN-THERM

It is recommended, and in many cases mandatory, to connect the boiler to a device which monitors and regulates the temperature in the areas served by the boiler itself. The purpose of this device is to create the maximum comfort and maximum energy savings possible.

The main heating area can be managed both by a thermostat, and by a remote control electronic device called OT.

The appliance is supplied in TA Thermostatic Control configuration; **in order to activate Open-Therm control, it is necessary to connect the OT timer thermostat and enable it by accessing to CONFIGURATION MENU (see page 32) modifying parameter P13 from 0 to 1.**

For the correct installation of Room Thermostat or Open-Therm, refer to the instructions supplied by the thermostat manufacturer.

To connect the Room Thermostat or Open-Therm to the boiler it is possible to use the supplied two-core cable labelled "TA".

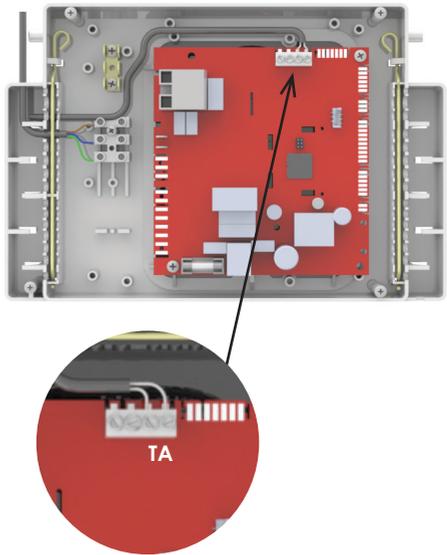
The connection to the boiler PCB is the same both for the Thermostat control and for the Open-Therm (see wire scheme at page 13, Connection x6).

Whenever necessary, replace the "TA" cable and connect it directly to the slot present in the PCB case as follows:

- Power the boiler off
- Remove the boiler iron cover by unscrewing the 4 fastening clips
- Rotate the instrument panel in "Open" position
- Remove the rear instrument panel cover by unscrewing the 4 screws
- Identify the two-pole terminal board located on the left-hand side of the PCB.
- Disconnect any cable which may be present by loosening the terminal screws and remove it completely
- Connect the wires from the thermostat cable to their respective slots (Pict. 35)
- Run the cable and hold it in position with the cable grip at the edge of the case
- Position the cable, running it under the

- cable gripping tabs on the side of the case
- Close the case cover with the 4 screws, paying attention that all the cables running out of the case are correctly positioned
- Return the electrical panel to the operational position (with the visible display)

Pict. 35



COMPLETELY DISCONNECT THE DEVICE FROM THE ELECTRICITY SUPPLY BEFORE PERFORMING ANY OPERATION. USE THERMOSTATS COMPATIBLE WITH THE BOILER.

INSTALLATION OF EXTERNAL TEMPERATURE SENSOR

Type and positioning:

Use an NTC 10K_ β 3435 pre-wired sensor with protective cover.

Position the sensor outside the area to be heated facing NORTH/NORTH WEST, or in any case in a position with minimal exposure to direct sunlight and air currents (corridors, crawl spaces etc.). Fasten the sensor to a wooden or masonry structure which is thermally insulating, avoiding fixing it directly in contact with metal structures and surfaces

(guttering, arches, frames etc.). Avoid the sensor being even partially immersed in water, ideally ensuring it does not come into direct contact with ice formations, either. Where possible, install the sensor in an area protected (e.g. under roof overhang) or partially protected from bad weather, ensuring it is at least 3 - 4 m from the ground. The pre-wired sensor can be installed for all boilers.



DO NOT USE SENSORS DIFFERENT FROM THOSE SPECIFIED, AS THIS COULD RESULT IN MALFUNCTIONING OF, DAMAGE TO AND EVEN DESTRUCTION OF THE BOILER.

Wiring:

Connect the sensor with insulated, dual-core cable with sheath of 5 – 6 mm diameter and conductor diameter of between 1 and 1.5

mm; the maximum recommended length is 40 - 50 m.

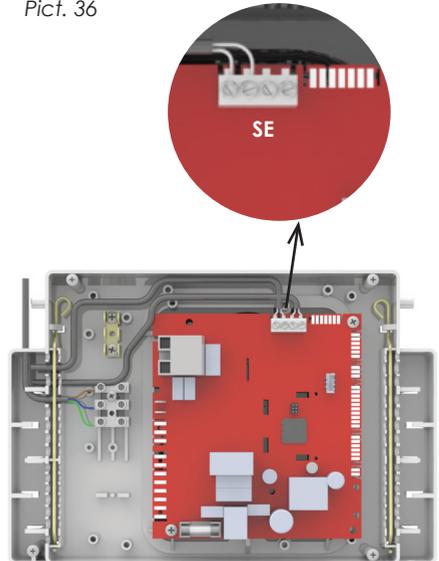
Wire the cable from the sensor to the correct slot in the terminal block inside the PCB panel:



COMPLETELY CUT THE POWER SUPPLY TO THE BOILER BY TURNING IT OFF AT ITS DEDICATED SWITCH

- Remove the iron cover by loosening the 4 fastening clips
- Rotate the instrument panel to the open position
- Remove the rear instrument panel cover by unscrewing the 4 screws
- Identify the terminals next to the PCB
- Connect the wires of the sensor cable to their respective slots (Pict. 36).
- Run the cable and hold it in position with the cable grip at the edge of the case
- Position the cable, running it under the cable gripping tabs on the side of the case
- Close the case cover with the 4 screws, paying attention that all the cables running out of the case are correctly positioned
- Return the electrical panel to the operational position

Pict. 36



EXTERNAL TEMPERATURE SENSOR CONFIGURATION

Accessing the configuration menu (see page 32) : enter the password to enable parameter modification and change parameter "P11" from 0 to 1.

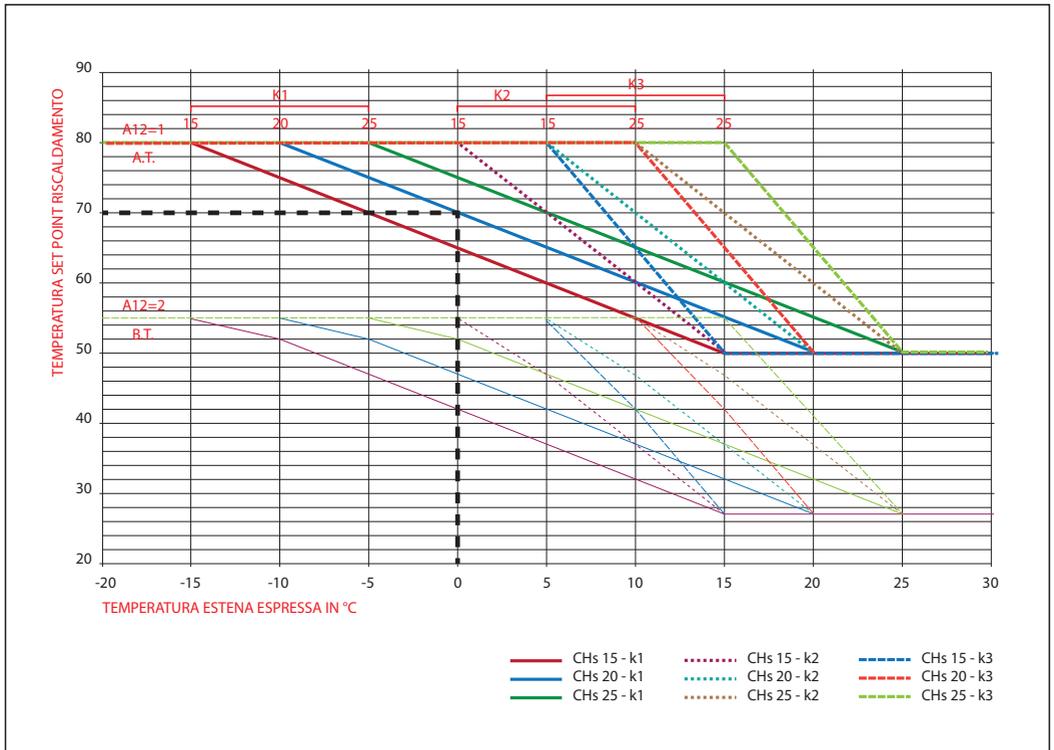
CONFIGURING THE CLIMATE CURVE FROM THOSE AVAILABLE

Operation in external sensor mode makes the boiler heat the water in the central heating circuit to a temperature which depends on the temperature measured by the external sensor, in other words the temperature outside the heated building. Running in external sensor mode automates the boiler's response to climatic variations, allowing a high level of home comfort to be maintained while making significant savings in gas consumption.

It is possible to adapt the boiler's response based on the climatic conditions present by configuring the slope of the climate curve via the corresponding parameter on page P12. It's also possible by pressing buttons "C" and "D" (these lose the function of increasing and decreasing CH temperature) to make a further improvement of climate curve variable from 15 to 25.

The configuration of parameter P12 is indicated in the graph (Pict.37)

Pict. 37



Example:

With an external temperature of 0°C a CH flow temperature of 70°C is needed, it's necessary to:

- Set P12 parameter value to 10 (K1)
- Adjust by pressing "C" and "D" buttons the value to 20

SPECIAL FUNCTIONS

ANTI-FROST:

This function is always active, whatever mode the boiler is in.

In order to allow this function to fulfil its purpose, the device must be:

- Turned on
- Connected to the mains gas supply
- The shut-off valves on the central heating circuit must be open
- The shut-off valve on the gas supply line must be open
- No fault conditions must be present

If the temperature measured by the sensor

on the central heating flow circuit is $< 4^{\circ}\text{C}$, circulation is activated, the diverter valve (when present) switched to the CH circuit and the burner lit at minimum power.

When the temperature measured by the sensor reaches 35°C , the function is deactivated by turning off the burner and restoring the previous conditions.

Also for DHW circuit, the antifrost function activates at 4° temperature and deactivates 10° .



THIS FUNCTION DOES NOT GUARANTEE COMPLETE AND CERTAIN PROTECTION OF THE SYSTEM FROM TOTAL OR PARTIAL FREEZING!



WHEN CONSIDERED NECESSARY, AND WHEN THE SYSTEM IS CERTAIN TO BE EXPOSED TO LOW TEMPERATURES, IT IS POSSIBLE TO ADD ANTIFREEZE TO THE CENTRAL HEATING CIRCUIT.



ONLY USE ANTIFREEZE WHICH IS COMPATIBLE WITH THE CENTRAL HEATING SYSTEM DEVICES AND EQUIPMENT. CAREFULLY FOLLOW THE INSTRUCTIONS FOR USE.

CIRCULATOR DEVICE/DIVERTER VALVE ANTI-LOCK FUNCTION:

The function is active when the boiler is in "SUMMER" or "STANDBY / OFF" modes

In order to allow this function to fulfil its purpose, the device must be:

- Turned on
- The shut-off valves on the central heating circuit must be open
- No fault conditions must be present

The function is activated if there are no requests to the boiler in the previous 24 hours. The function stops the devices from locking up, which is possible after long periods of inactivity, by switching the diverter valve (when present) to the central heating circuit

and running the circulator device for a predetermined time (35 sec).

ANTI FREQUENT IGNITION FUNCTION:

This function is active when the boiler is in heating mode (season selector A on winter) and parameter P5 in the "CONFIGURATION" menu is enabled. The function does not allow unnecessarily frequent ignitions to satisfy heating requests when the system water temperature is near that set by the selector.

The parameter P5 is set to 0 when the function is not enabled and can have a value up to 255 indicating the wait time in minutes between one ignition and the next.

THERMOSTAT POST CIRCULATION/VENTILATION FUNCTION

In winter mode:

In order to prevent an overheat stress, in case at the end of a CH request the heat exchanger temperature is too high, a heat disposal function by circulator pump ignition is activated.

This function remains active until the temperature values of heat exchanger decrease. This function is displayed by E06 flashing.

In summer mode:

In order to prevent an overheat stress, in case at the end of a DHW intake the heat exchanger temperature is too high, a heat disposal function by circulator pump and fan ignition is activated.

This function remains active until the temperature values of heat exchanger decrease. This function is displayed by E06 flashing.

DEAERATION FUNCTION

Following each ignition consequent to a power disconnection, boiler starts automatically the circulator pump; this activates ignition cycles in CH and in DHW to remove residual air in the CH circuit.

THIS FUNCTION MAY BE DISABLED BY "P3" PARAMETER

TECNICAL DATA SHEET

Category Type		GIMAX 25 NR/CN	GIMAX 25 MN/CN	GIMAX 30 NR/CN	GIMAX 30 MN/CN
		IEHP	IEHP	IEHP	IEHP
Normal Load	kW	20,00	20,00	25,71	25,71
Minimum normal Load	kW	4,01	4,01	5,40	5,40
Maximum Load (90°/90°)	kW	20,44	20,44	25,16	25,16
Minimum Load (90°/90°)	kW	3,86	3,86	5,23	5,23
Maximum load in condensing (90°/30°)	kW	22,5	22,5	27,48	27,48
Minimum load in condensing (90°/30°)	kW	4,38	4,38	5,86	5,86
Max Efficiency (90°/90°)	%	97,80	97,80	97,90	97,80
Min Efficiency (90°/90°)	%	96,20	96,20	96,90	96,80
Max efficiency in condensing (90°/30°)	%	107,08	107,08	107,88	107,88
Efficiency at partial normal load (90°/90°)	%	107,80	107,80	107,58	107,58
Max exhaust temperature	°C	55,40	55,40	52,28	52,28
Mass flow rate	g/s	11,78	11,78	11,90	11,80
Min. Mass flow rate	g/s	1,88	1,88	2,55	2,55
Heat loss from chimney when burner off	%	0,15	0,15	0,15	0,15
Heat loss from chimney when burner on (max power)	%	0,88	0,88	0,97	0,97
Heat loss from chimney when burner on (min power)	%	0,62	0,62	0,70	0,70
Heat loss from boiler surface area (Max. Power)	%	1,37	1,37	1,18	1,18
Heat loss from boiler surface area (Min. Power)	%	2,88	2,80	2,40	2,48
Max dew	°C	6	6	6	6
Max available pressure (max: section 0.5 G 88 mm separate plate)	Pa	200	200	258	258
DHW normal load	kW	25,87	/	30,04	/
Min. DHW normal load	kW	4,01	/	5,48	/
CH min/max operating pressure	bar	0,4/3	0,4/3	0,4/3	0,4/3
Power supply	Volt-Hz	230/50	230/50	230/50	230/50
Maximum absorbed electric power	W	170	170	170	170
IP rating	IP	2-02	2-02	2-02	2-02
Expansion vessel	l	8	8	8	8
Expansion vessel pre-charge	bar	1	1	1	1
Max. CHW pressure	bar	6	/	6	/
Min. CHW pressure	bar	0,58	/	0,58	/
DHW flow rate at Δt 35°C	M³/h	6,95	/	12	/
DHW min. flow rate	M³/h	1,8	/	1,6	/
DHW flow limiter	M³/h	10	/	12	/

(*G20 fuel = 20 °C

	Fuel	MN	MN	MR	MR
Gas consumption at nominal load	6281 m ³ /h	2,12	2,12	2,62	2,62
	6211 kg/h	1,53	1,53	1,90	1,88
Gas consumption at maximum load	6281 m ³ /h	2,55	-	3,10	-
	6211 kg/h	2,18	-	2,30	-
Gas consumption at minimum load	6281 m ³ /h	0,41	0,41	0,55	0,55

TECHNICAL PARAMETERS ACCORDING TO ErP REGULATION (812/2013)

			24 MR/CN	24 MN/CN	30 MR/CN	30 MN/CN	
Energy Season Efficiency Class for Floor Heating		-	A	A	A	A	
	Minimal Load	PowerRate	28	29	25	25	
Energy Season Efficiency for Floor Heating		75	91	91	91	91	
	At Minimal Load and High Temperature	P4	28,44	29,44	25,16	25,16	
EFFICIENCY	At 30% Minimal Load and Low Temperature	P1	6,6	6,6	6,3	6,3	
	At Minimal Load and High Temperature	74	88,0	88,0	88,1	88,1	
At 30% Minimal Load and Low Temperature	71	97,0	97,0	96,8	96,8		
	AUXILIARY POWER CONSUMPTION	Fullload	stream	0,0291	0,0291	0,0292	0,0292
Partial load		stream	0,0239	0,0239	0,0235	0,0235	
Standby		PSB	0,0883	0,0883	0,0883	0,0883	
OTHER PARAMETERS	Heat Loss in Stand-by mode	Passive	0,3	0,3	0,29	0,04	
	Power Consumption of pilot flame	QHE	GI	28,9	28,9	47	48
	lower Stand Power Level	LSPA	all	51	51	52	52
	Emissions of nitrogen oxides	NOx	mg/kWh	21	21	23	23
FOR COMBI BOILERS:	Declared Load Profile	-	XL	-	XL	-	
	Hot Water Power Efficiency	Qhac	kWh	0,18	-	0,18	-
	Annual Power Consumption	AEC	kWh	28,9	-	29	-
	Annual Gas Consumption	gas	m ³	67	-	85	-
	Daily Power Consumption	Qfwd	kWh	21,7	-	22,2	-
	Daily Gas Consumption	AFC	GI	16,6	-	16,9	-

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