

VICTRIX ZEUS SUPERIOR 25/30/35

IE

Instructions and recommendations

Installer

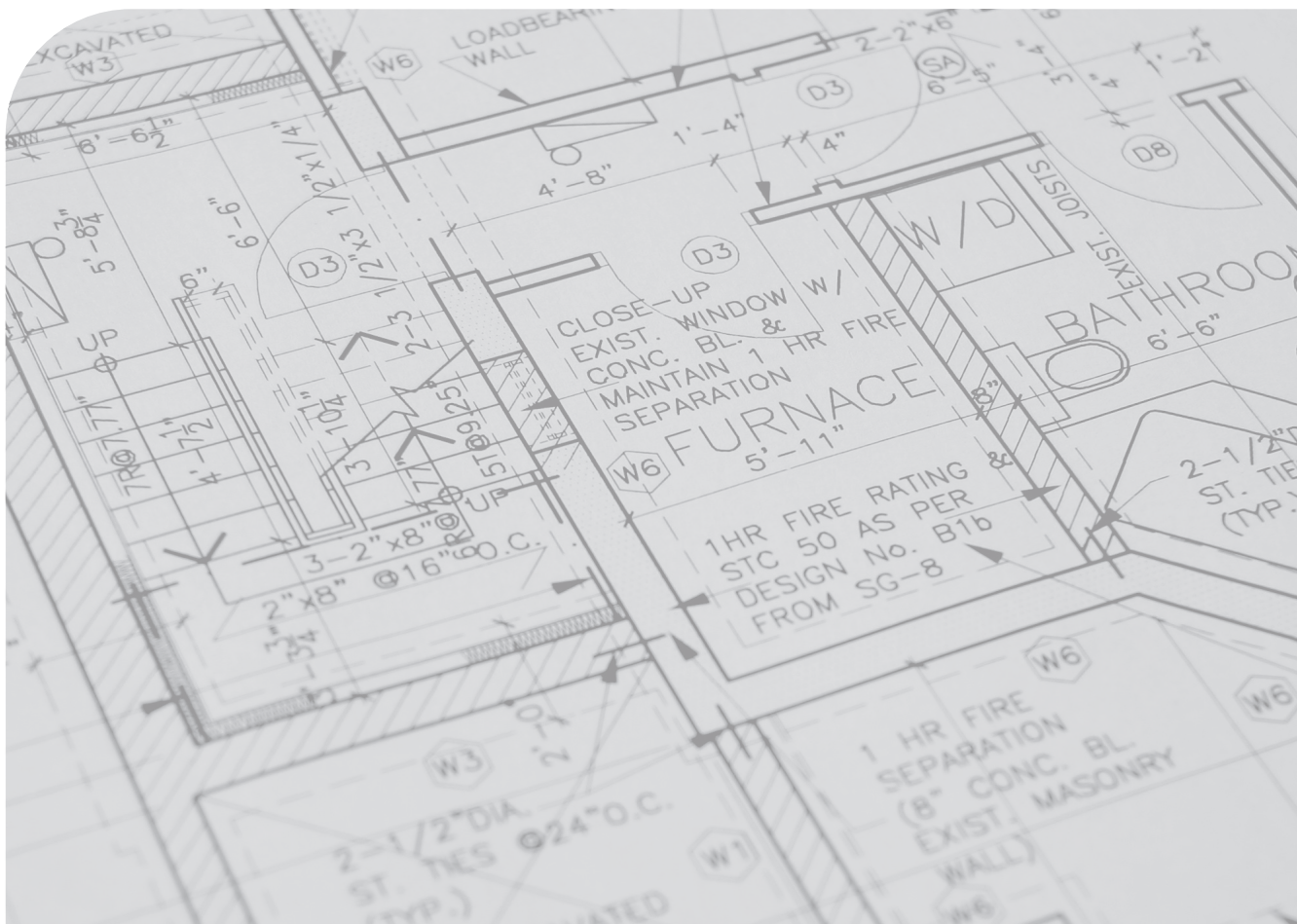
User

Control Panel

Maintenance technician

Technical Data

1.045260ENG



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Dear Customer

For assistance and routine maintenance, contact Authorised Technical Service Centres: they have original spare parts and are specifically trained directly by the manufacturer.

Congratulations for having chosen a top-quality Immergas product, able to assure well-being and safety for a long period of time. As an Immergas customer you can also count on a Qualified Authorised After-Sales Technical Assistance Centre, prepared and updated to guarantee the constant efficiency of your products. Read the following pages carefully: you will be able to draw useful tips on the proper use of the device, compliance with which will confirm your satisfaction with the Immergas product.

The company **IMMERGAS S.p.A.**, with registered office in via Cisa Ligure 95 42041 Brescello (RE), declares that the design, manufacturing and after-sales assistance processes comply with the requirements of standard **UNI EN ISO 9001:2015**.

For further details on the product CE marking, request a copy of the Declaration of Conformity from the manufacturer, specifying the appliance model and the language of the country.

The manufacturer declines all liability due to printing or transcription errors, reserving the right to make any modifications to its technical and commercial documents without forewarning.





GENERAL RECOMMENDATIONS

This book contains important information for the:

Installer (section 1);

User (section 2);

Maintenance Technician (section 3).

- The user must carefully read the instructions in the specific section (section 2).
- The user must limit operations on the appliance only to those explicitly allowed in the specific section.
- The appliance must be installed by qualified and professionally trained personnel.
- The instruction booklet is an integral and essential part of the product and must be given to the new user in the case of transfer or succession of ownership.
- This manual must be stored with care and consulted carefully, as all of the warnings provide important safety indications for installation, use and maintenance stages.
- In compliance with legislation in force, the systems must be designed by qualified professionals. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, intended as staff with specific technical skills in the system sector, as envisioned by the Law.
- Improper installation or assembly of the Immergas appliance and/or components, accessories, kit and devices can cause unexpected problems to people, animals and objects. Read the instructions provided with the product carefully to ensure proper installation.
- This instruction manual provides technical information for installing Immergas products. As for the other issues related to the installation of products (e.g. safety at the workplace, environmental protection, accident prevention), it is necessary to comply with the provisions of the standards in force and the principles of good practice.
- All the Immergas products are protected with suitable transport packaging.
- The material must be stored in a dry place protected from the weather.
- Damaged products must not be installed.
- Maintenance must be carried out by skilled technical staff. For example, the Authorised Service Centre that represents a guarantee of qualifications and professionalism.
- The appliance must only be destined for the use for which it has been expressly declared. Any other use will be considered improper and therefore potentially dangerous.
- If errors occur during installation, operation and maintenance, due to non-compliance with technical laws in force, standards or instructions contained in this booklet (or however supplied by the manufacturer), the manufacturer is excluded from any contractual and extra-contractual liability for any damages and the device warranty is invalidated.
- In the event of malfunctions, faults or incorrect operation, turn the appliance off and contact an authorised company (e.g. the Authorised Technical Assistance Centre, which has specifically trained staff and original spare parts). Do not attempt to modify or repair the appliance alone.



SAFETY SYMBOLS USED



GENERIC HAZARD

Strictly follow all of the indications next to the pictogram. Failure to follow the indications can generate hazard situations resulting in possible harm to the health of the operator and user in general, and/or property damage.



ELECTRICAL HAZARD

Strictly follow all of the indications next to the pictogram. The symbol indicates the appliance's electrical components or, in this manual, identifies actions that can cause an electrical hazard.



MOVING PARTS

The symbol indicates the appliance's moving components that can cause hazards.



DANGER OF HOT SURFACES

The symbol indicates the appliance's very hot components that can cause burns.



WARNINGS

Strictly follow all of the indications next to the pictogram. Failure to follow the indications can generate hazard situations resulting in possible minor injuries to the health of both the operator and the user in general, and/or slight material damage.



ATTENTION

Read and understand the instructions of the appliance before carrying out any operation, carefully following the instructions given. Failure to observe the instructions may result in malfunction of the unit.



INFORMATION

Indicates useful tips or additional information.



EARTH TERMINAL CONNECTION

The symbol identifies the appliance's earth terminal connection point.



DISPOSAL WARNING

The user must not dispose of the appliance at the end of its service life as municipal waste, but send it to appropriate collection centres.

PERSONAL PROTECTIVE EQUIPMENT



SAFETY GLOVES



EYE PROTECTION



SAFETY FOOTWEAR



1 UNIT INSTALLATION

1.1 INSTALLATION WARNINGS



Operators who install and service the appliance must wear the suitable personal protective equipment required by applicable law.



This appliance has been designed for wall mounted installation only, for central heating and production of domestic hot water for domestic use and similar purposes.



The place of installation of the appliance and relative Immergas accessories must have suitable features (technical and structural) such to allow (always in safety, efficiency and easy conditions):

- installation (according to the provisions of technical legislation and technical regulations);
- maintenance operations (including scheduled, periodic, routine and special maintenance);
- removal (to outdoors in the place for loading and transporting the appliances and components) as well as the eventual replacement of those with appliances and/or equivalent components.



The wall surface must be smooth, without any protrusions or recesses enabling access to the rear part. They are not designed to be installed on plinths or floors (Fig. 1).



By varying the type of installation the classification of the appliance and precisely:

- **Open chamber appliances (type B)** if installed using the relevant terminals for air intake directly from the room in which the appliance has been installed.
- **Type C appliance** if installed using concentric pipes or other types of pipes envisioned for the sealed chamber appliance for intake of air and expulsion of flue gas.



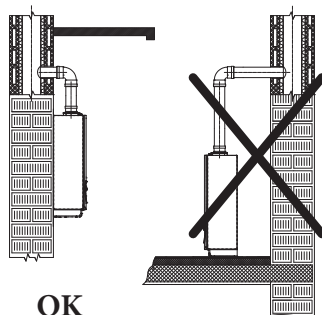
Only professionally enabled companies are authorised to install Immergas gas appliances.



The equipment classification is shown in the illustrations of the various installation solutions on the following pages.



Installation must be carried out according to regulation standards, current legislation and in compliance with local technical regulations and the required technical procedures.



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It is forbidden to install appliances removed from other systems.

The manufacturer declines all liability in the event of damage caused by appliances removed from other systems or for any non-conformities with such equipment.



Check the environmental operating conditions of all parts relevant to installation, referring to the values shown in the technical data table in this booklet.



Installation of the appliance when powered by LPG or propane air must comply with the rules regarding gases with a greater density than air (remember, as an example, that it is prohibited to install plants powered with the above-mentioned gas in rooms where the floor is at a lower quota than the country level).



If installing a kit or servicing the appliance, first empty the system and domestic hot water circuits when necessary, so as not to compromise the appliance's electrical safety (Par. 2.5, 2.6).

Always disconnect the appliance from voltage and, depending on the type of operation, decrease the pressure and/or bring it to zero in the gas and DHW circuits.



If the appliance is connected to a low temperature direct zone, it is necessary to check the necessary flow rate and possibly add a relaunch pump.



It is just as important that the intake grids and exhaust terminals are not obstructed.



Check that no flue gas recirculation is found in the air sample points. Allow the appliance to reach the maximum heat output; the CO₂ value measured in the air must be less than 10% of that measured on the flue gas.



The minimum distance for exhaust pipes from flammable materials must be at least 25 cm.



Keep all combustible material away from the appliance (paper, rags, plastic, polystyrene, etc.).



Do not place household appliances underneath the appliance as they could be damaged if the safety valve intervenes, if the drain trap is blocked, or if there are leaks from the hydraulic connections; otherwise, the manufacturer cannot be held responsible for any damage caused to the household appliances.



For the aforementioned reasons, we recommend not placing furnishings, furniture, etc. under the appliance.



Any modification to the appliance that is not explicitly indicated in this section of the booklet is forbidden.



Before installing the appliance, ensure that it is delivered in perfect condition; if in doubt, contact the supplier immediately. Packing materials (staples, nails, plastic bags, polystyrene foam, etc.) constitute a hazard and must be kept out of the reach of children.

If the appliance is installed inside or between cabinets, ensure sufficient space for routine servicing; for minimum installation distances, see Fig. 6.



Installation standards



This type of installation is possible when permitted by the laws in force in the appliance's country of destination.



This appliance can be installed outdoors in a partially protected area.
By partially protected area, we mean one in which the unit is not directly exposed to the elements (rain, snow, hail, etc.).



Installation of gas appliances, flue exhaust pipes and combustion air intake pipes is forbidden in places with a fire risk (for example: garages, closed parking stalls), and in potentially dangerous places.



Do not install on the vertical projection of hobs.



Do not install in places/rooms that constitute public areas of apartment buildings, internal stairways or other escape routes (e.g. floor landings, entrance halls, etc.).



Installation is forbidden in places/rooms that constitute common parts of apartment buildings such as cellars, entrance halls, attics, lofts, internal stairs or other elements making up escape routes, unless otherwise provided by local regulations.



These appliances, if not adequately isolated, are not suitable for installation on walls of combustible material.



Wall mounting of the appliance must guarantee stable and efficient support for the generator.

The plugs (standard supply) that come with the appliance are only to be used to fix the latter to the wall; they only ensure adequate support if inserted correctly (according to technical standards) in walls made of solid or semi-hollow brick or block. In the case of walls made from hollow brick or block, partitions with limited static properties, or in any case walls other than those indicated, a static test must be carried out to ensure adequate mount. Appliances must be installed in such a way as to avoid knocks or tampering.



These appliances are used to heat water to below boiling temperature in atmospheric pressure.



They must be connected to a central heating system and domestic hot water circuit suited to their performance and capacity.

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“Anti-legionella” thermal treatment of the accumulation storage tank.

The anti-Legionella function is programmed directly on the control panel.

During this phase, the temperature of the water inside the tank exceeds 60°C with the subsequent risk of burns. Keep this domestic hot water treatment under control (and inform the users) to prevent unforeseeable damage to people, animals, things. If required install a thermostatic valve on the domestic hot water outlet to prevent scalding.

Risk of damage due to corrosion caused by unsuitable combustion air and environment.

Spray, solvents, chlorine-based detergents, paints, glue, ammonium compounds, powders and similar cause product and flue duct corrosion.



Check that combustion air power supply is free from chlorine, sulphur, powders, etc.



Make sure that no chemical substances are stored in the place of installation.



If you want to install the product in beauty salons, paint workshops, carpenter's shop, cleaning companies or similar, choose a separate installation area that ensures combustion air supply that is free from chemical substances.



Make sure the combustion air is not fed through chimneys that were previously used with boilers or other central heating appliances powered by liquid or solid fuels. In fact, these may cause an accumulation of soot in the chimney

Risk of material damage after using sprays and liquids to search for leaks

Leak sprays and liquids clog the reference hole P.Ref. (Fig. 71) of the gas valve, damaging it irreparably. During installation and maintenance, do not use spray or liquids on the gas valve (electric connections side).

Filling the condensate drain trap

When the appliance is switched on for the first time, combustion products come out of the condensate drain. After a few minutes of operation, check that combustion flue gases are no longer coming out of the condensate drain; this means that the drain trap has filled to a correct condensate height that the flue gases cannot pass through.

- 

Open chamber appliances (type B) must not be installed in places where commercial, artisan or industrial activities take place, which use products that may develop volatile vapours or substances (e.g. acid vapours, glues, paints, solvents, combustibles, etc.), as well as dusts (e.g. dust deriving from the working of wood, coal fines, cement, etc.). These may be damaging for the components of the appliance and jeopardise functioning.
- 

Open chamber appliances (type B), unless otherwise specified by local regulations, must not be installed in bedrooms, bathrooms, toilets or studios; They must neither be installed in rooms containing solid fuel heat generators nor in rooms communicating with said rooms.
- 

The installation rooms must be permanently ventilated, in compliance with the local regulations in force (at least 6 cm² for every kW of installed heat input, except in the event of any increases needed for electro-mechanical vacuum cleaners or other devices that could put the installation room under vacuum).
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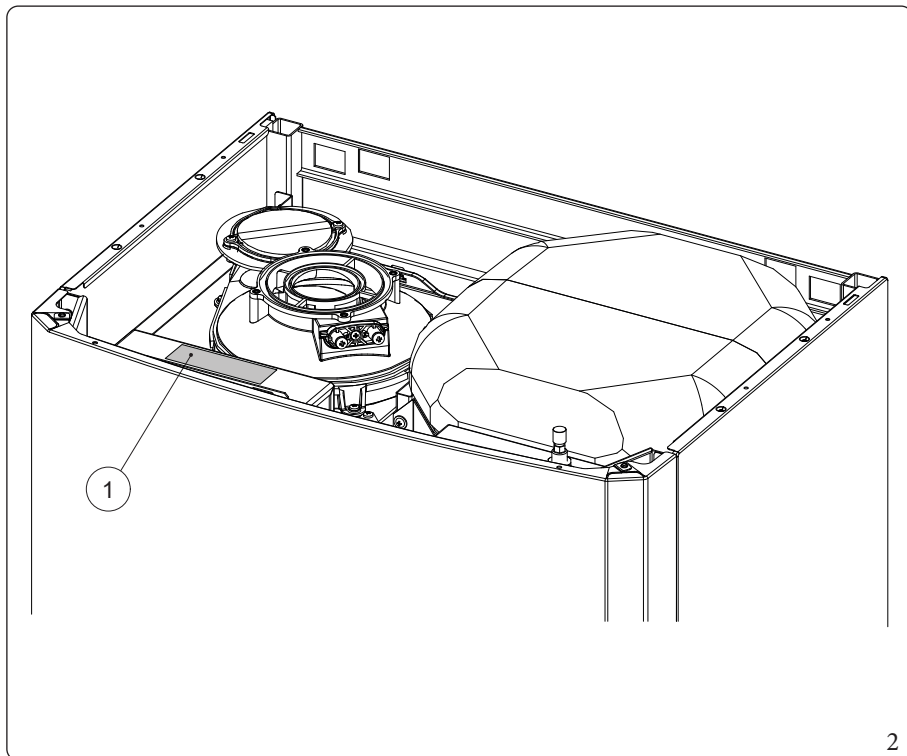
Failure to comply with the above implies personal responsibility and invalidates the warranty.



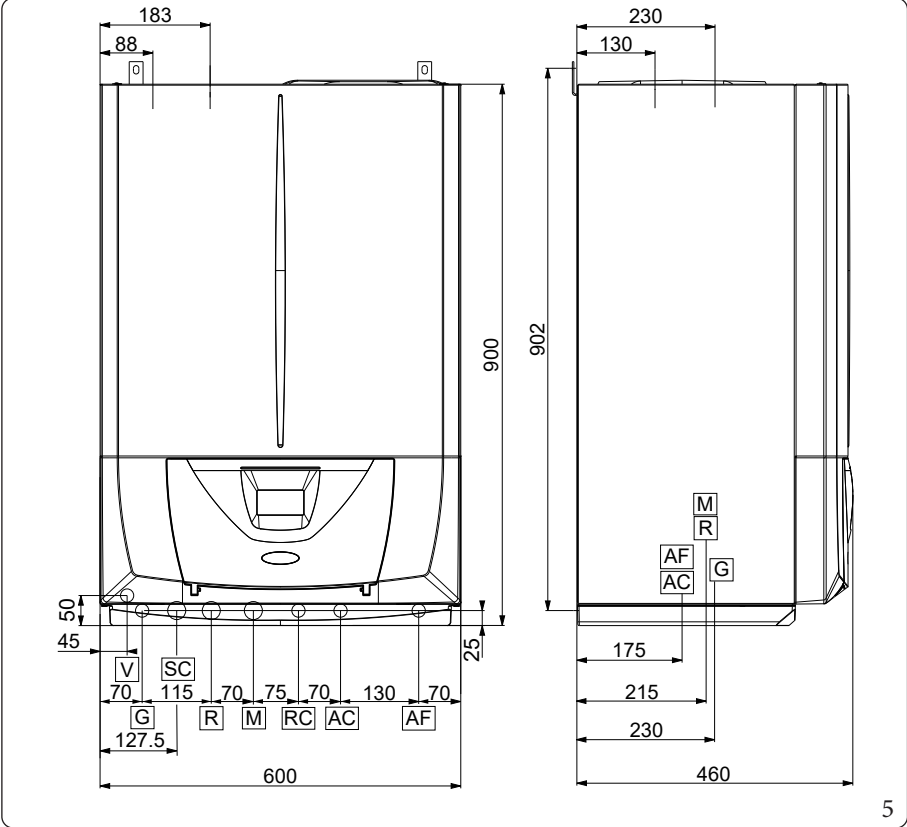
1.2 DATA NAMEPLATE AND INSTALLATION INFORMATION STICKER

1.2.1 Data nameplate positioning

Key (Fig. 2):
1 - Dataplate

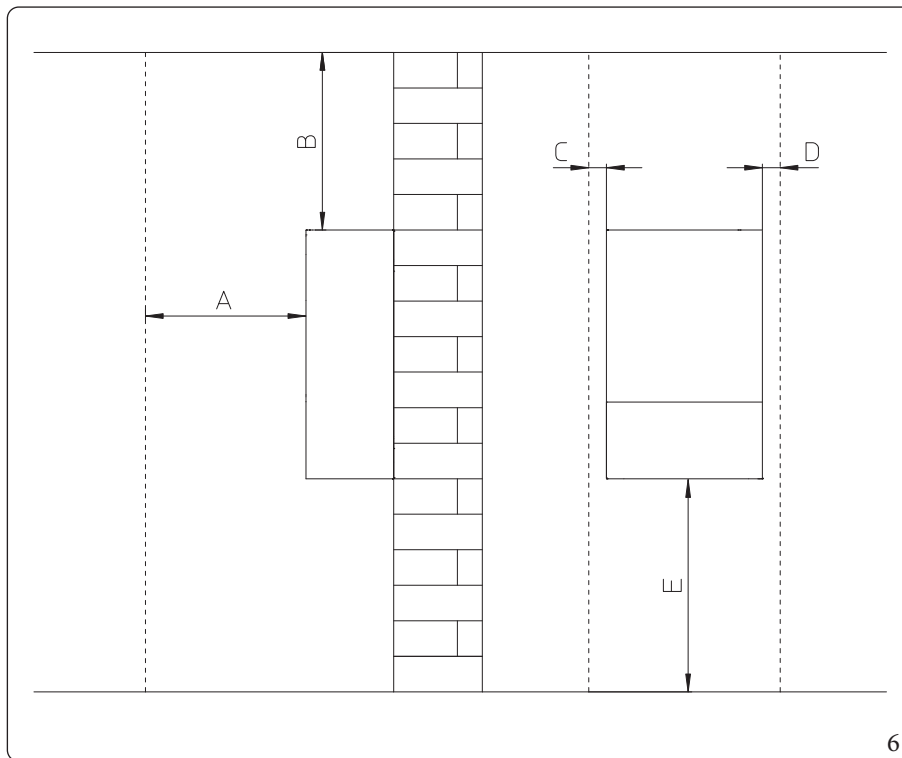


1.3 MAIN DIMENSIONS



Height (mm)	Width (mm)		Depth (mm)	
900	600		460	
TEMPLATE CONNECTIONS				
GAS	D.H.W.		SYSTEM	
G	AC	AF	R	M
1/2"	1/2"	1/2"	3/4"	3/4"

1.4 MINIMUM INSTALLATION DISTANCES



Key (Fig. 6):

- | | | |
|----------|---|--------|
| <i>A</i> | - | 450 mm |
| <i>B</i> | - | 350 mm |
| <i>C</i> | - | 30 mm |
| <i>D</i> | - | 30 mm |
| <i>E</i> | - | 600 mm |



1.5 ANTIFREEZE PROTECTION

Appliance antifreeze protection is thus only ensured if:

- the appliance is correctly connected to gas and electricity power supply circuits;
- the appliance is powered constantly;
- the appliance is not in "off" mode.
- the appliance is not in anomaly conditions (Parag. 3.6);
- the appliance essential components are not faulty.

To prevent the risk of freezing follow the instructions below:

- Protect the central heating circuit from freezing by inserting a good-quality antifreeze liquid into this circuit, which is specially suited for central heating systems and which is manufacturer guaranteed not to cause damage to the heat exchanger or other components of the appliance. The antifreeze liquid must not be harmful to one's health. The instructions of the manufacturer of this liquid must be strictly followed regarding the necessary percentage with respect to the minimum temperature at which the system must be kept.
- The materials used for the central heating circuit of Immergas appliances resist propylene glycol based antifreeze liquids (if the mixtures are prepared perfectly).
- An aqueous solution must be made with potential pollution class of water 2 (EN 1717:2002 or local standards in force).



The excessive use of glycol could jeopardise the proper functioning of the appliance.



Follow the supplier's instructions for the life cycle duration and possible disposal of the antifreeze liquid.

Minimum room temperature 0°C



Insulate the visible pipes and fittings with 10 mm thick insulating material (cooling inlet pipe, heating outlet pipe and condensate draining pipe).

The appliance comes as per standard with an antifreeze function that activates the pump and the burner when the system water temperature in the appliance falls below 4°C.



In these conditions, previously listed, the appliance is protected against freezing up to an ambient temperature of 0°C.



If the appliance is installed in a place where the temperature drops below 0°C, the appliance may freeze.



Minimum room temperature -15°C

 When installing the appliance in locations where the temperature falls below 0°C, installation of the antifreeze kit is required, respecting all the conditions listed above.

Protect the domestic hot water circuit against freezing by using an accessory that is supplied on request (antifreeze kit) comprising two electric heating elements, the relevant wiring and a control thermostat (carefully read the installation instructions contained in the accessory kit pack).
The warranty does not cover damage due to interruption of the electrical power supply and failure to comply with that stated on the previous pages.

 In the previously listed conditions and with the addition of the antifreeze kit, the appliance is protected against freezing up to a temperature of -15°C.

 The antifreeze systems described in this chapter are only to protect the appliance; the presence of these functions and devices does not exclude the possibility of parts of the system or domestic hot water circuit outside the appliance from freezing.

 The warranty does not cover damage due to interruption of the electrical power supply and failure to comply with that stated on the previous pages.

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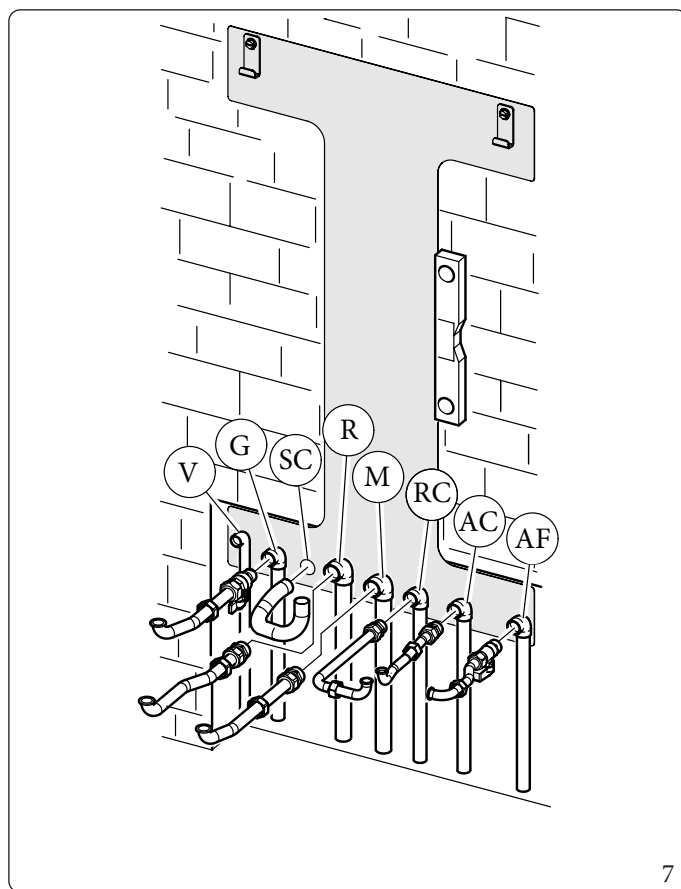
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1.6 APPLIANCE CONNECTION UNIT

The connection unit consisting of all the necessary parts to perform the hydraulic and gas system connections of the appliance comes as standard with the boiler, perform the connections in accordance with the type of installation to be made (Fig. 7).



The unit includes:

- N°2 - 3/4" telescopic fittings (R-M)
- N°1 - 1/2" telescopic fitting (AC)
- N°1 - 1/2" gas isolation valve (G)
- N°1 - 1/2" ball valve (AF)
- N°3 - Ø18 copper bends
- N°2 - Ø14 copper bends
- N°2 - adjustable expansion bolts
- N°2 - boiler support hooks
- N°1 - filling knob

Key (Fig. 7):

- V - Electrical connection
- G - 1/2" gas supply
- SC - Condensate drain
- R - 3/4" system return
- M - 3/4" System flow
- RC - 1/2" domestic hot water recirculation (optional)
- AC - 1/2" domestic hot water outlet
- AF - 1/2" domestic hot water inlet

1.7 GAS CONNECTION

Our appliances are built to operate with methane gas (G20), LPG and methane and hydrogen mixtures up to 20% by volume (G20Y20), referring to the gas distributed in the network. The supply pipe must be equal to or higher than the appliance connection.



Before connecting the gas line, carefully clean inside all the fuel feed system pipes to remove any residue that could impair appliance efficiency.

Also make sure the gas corresponds to that for which the appliance is prepared (see appliance data nameplate).

If different, the boiler must be converted for operation with the other type of gas (see converting appliance for other gas types).



It is also important to check the dynamic pressure of the mains (methane or LPG) used to supply the boiler, which must comply with EN 437 and its attachment, as insufficient levels may reduce generator output and cause discomfort to the user. Static/dynamic network pressures higher than those required for regular operation may cause serious damage to the appliance control elements; in this case shut the gas line off.

Do not operate the device.

Have the system inspected by skilled personnel.



According to the local regulation in force, make sure that a gas isolation valve is installed upstream of each connection between the appliance and the gas system. This valve, if supplied by the appliance's manufacturer, can be directly connected to the appliance (i.e. downstream from the pipes connecting the system to the appliance), according to the manufacturer's instructions.

The Immergas connection unit, supplied as standard, also includes the gas isolation valve.

In any case, make sure the gas isolation valve is connected properly.



The appliance is designed to operate with fuel gas free from impurities; otherwise it is advisable to fit special filters upstream of the appliance to restore the purity of the fuel.

Storage tanks (in case of supply from LPG depot).

- New LPG storage tanks may contain residual inert gases (nitrogen) that degrade the mixture delivered to the appliance causing functioning anomalies.
- Due to the composition of the LPG mixture, layering of the mixture components may occur during the period of storage in the tanks. This can cause a variation in the calorific value of the mixture delivered to the appliance, with subsequent change in its performance.



1.8 HYDRAULIC CONNECTION



In order not to void the condensation module warranty, before making the device connections, carefully clean the heating system (pipes, radiators, etc.) with special pickling or descaling products to remove any deposits that could compromise correct device operation.

3 bar safety valve

The drain of the safety valve must always be properly conveyed to a tundish; consequently, in case of valve operation, the leaked fluid will end up in the sewer system.

Otherwise, the appliance manufacturer declines any responsibility in case of flooding if the drain valve cuts in.

Condensate drain

To drain the condensate produced by the appliance, it is necessary to connect to the drainage system by means of acid condensate resistant pipes, with an internal Ø of at least 13 mm.

The system connecting the appliance to the drainage system must be carried out in such a way as to prevent occlusion and freezing of the liquid contained in it.

Before appliance ignition, ensure that the condensate can be correctly removed. After first ignition, check that the drain trap is filled with condensate (Parag. 1.33).

Also, comply with national and local regulations on discharging waste waters.

In the event condensate is not discharged into the wastewater drainage system, a condensate neutraliser must be installed to ensure compliance with the parameters established by the legislation in force.

The current technical standards in force prescribes the washing and treatment of the water in the heating and water system, in order to protect the system and the appliance from deposits (e.g. scale), slurry or other hazardous deposits.

In order not to void the heat exchanger warranty, you are required to comply with what has been prescribed in (Par. 1.31).

Hydraulic connections must be made in a rational way using the couplings on the appliance template.



The manufacturer declines all liability in the event of damage caused by the installation of an automatic filling system.

In order to meet the system requirements established by EN 1717 in terms of pollution of drinking water, we recommend installing the Immergas anti-backflow kit to be used upstream of the cold water inlet connection of the appliance. We also recommend using category 2 heat transfer fluid (e.g.: water+ glycol) in the appliance's primary circuit (C.H. circuit), as defined in standard EN 1717.



To preserve the duration of appliance efficiency features, in the presence of water whose features can lead to the deposit of lime scale, installation of the "polyphosphate dispenser" kit is recommended.



1.9 ELECTRICAL CONNECTION

The appliance has an IPX5D protection degree; electrical safety of the appliance is achieved only when it is connected properly to an efficient earthing system, as specified by current safety standards.



The manufacturer declines any responsibility for damage or physical injury caused by failure to connect the appliance to an efficient earthing system or failure to comply with the IEC reference standards.

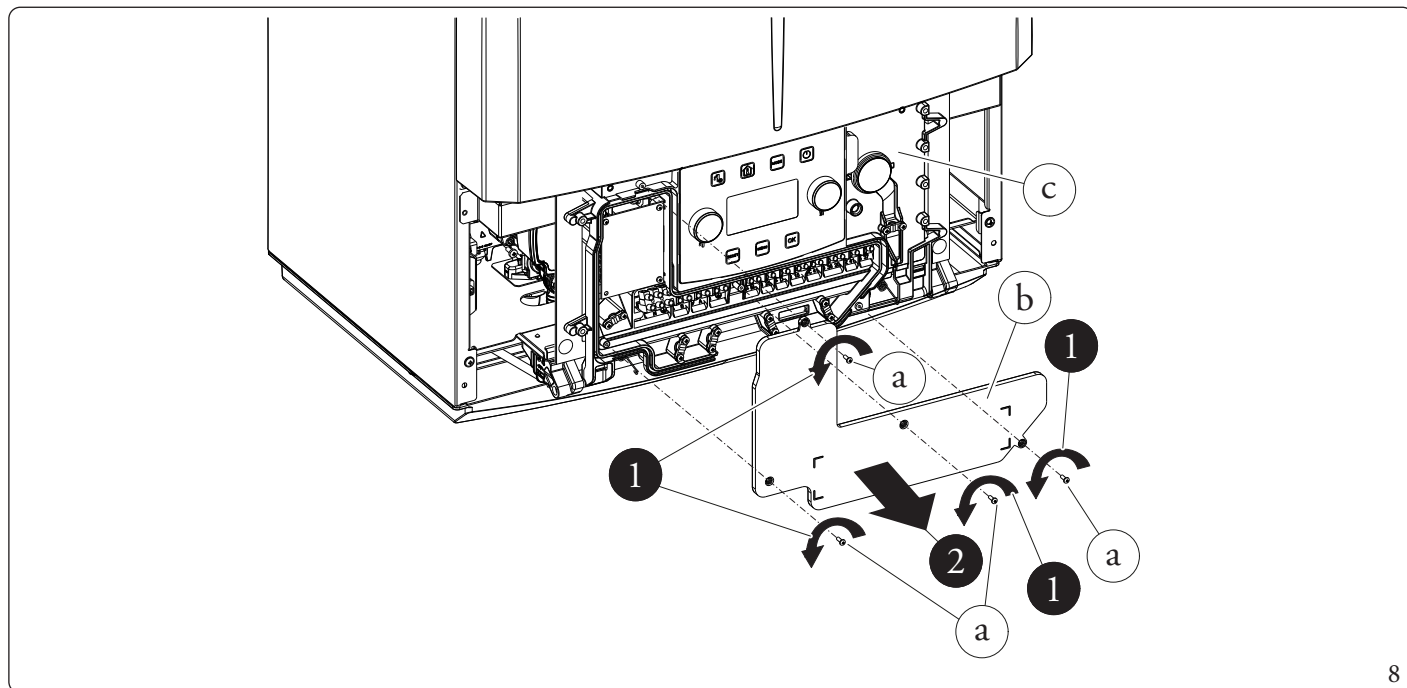
Open the control panel connections compartment (Fig. 8).



The power supply cable must be connected to a 230V $\pm 10\%$ / 50Hz mains supply respecting L-N polarity and earth connection; this network must also have a multi-pole circuit breaker with class III overvoltage category in compliance with installation regulations.

To carry out electrical connections, all you have to do is open the connections compartment as follows.

1. Remove the front panel (Fig. 83 - 84)
2. Loosen the screws (a).
3. Remove the cover (b) from the control panel (c).



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At this point, you can access the terminal board.

Also ensure that the electrical installation corresponds to maximum absorbed power specifications as shown on the appliance data nameplate.

The boilers are supplied complete with a "Y" type H 05 VVF 3 x 0.75 mm² power supply cable, without plug.



To protect from possible leakage of DC voltage, it is necessary to provide a type A or type F residual current safety device with 30 mA sensitivity.

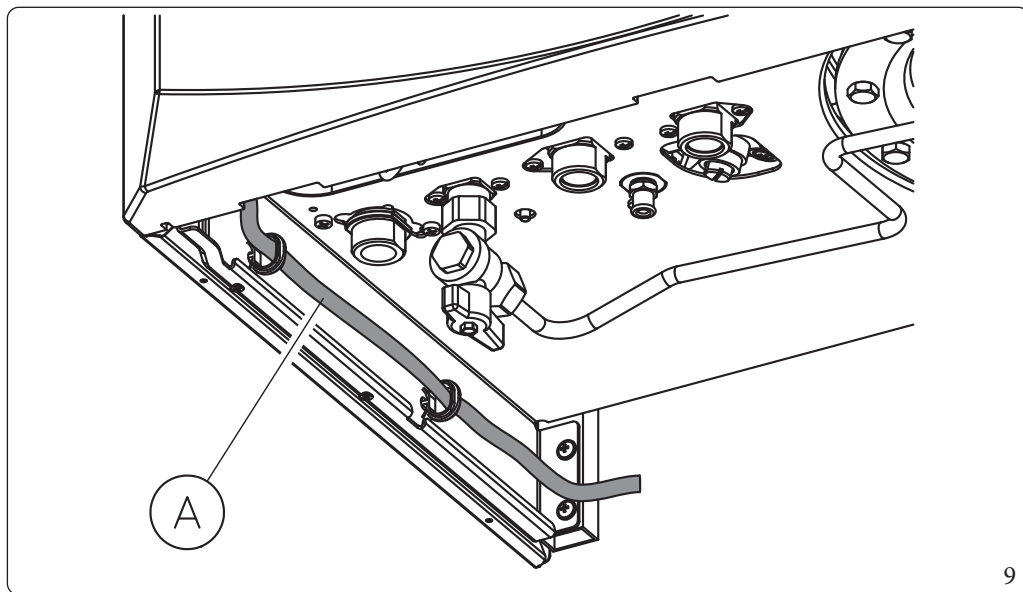


If the power cable is damaged, contact a qualified company (e.g. the Authorised Technical Assistance Centre) for its replacement to avoid a hazard.



The power supply cable must be laid as shown (Fig. 9);

If the network fuse on the P.C.B. needs replacing, this must also be done by qualified personnel: use a 5x20 250V 3.15 A fast fuse.



Key (Fig. 9):

A - Power supply cable

Installation with system operating at direct low temperature

The appliance can directly supply a low temperature system by acting on the parameter "MENU - SUPPORT - C.H." (Par.3.5) and setting the flow temperature adjustment range "CH MAX SET" and "CH MIN SET"; in this situation it is advisable to insert a safety device consisting of a thermostat with a limit temperature of 55°C.

Execute connection to terminal boards 14 and 15, eliminating jumper X70 (Fig.68).

The thermostat must be positioned on the system flow pipe at a distance of at least 2 metres from the appliance.

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1.10 REMOTE CONTROLS AND ROOM CHRONO-THERMOSTATS (OPTIONAL)

The appliance is set up for room chrono-thermostats or remote controls, available as optional kits.

All Immergas chrono-thermostats are connected with 2 wires only.

Carefully read the user and assembly instructions contained in the accessory kit.



Disconnect power to the unit before making any electrical connections.

Immergas digital chrono-thermostat On/Off.

The chrono-thermostat allows:

- set two room temperature value: one for day (comfort temperature) and one for night (reduced temperature);
- set a weekly programme with four daily switch on and switch off times;
- selecting the required function mode from the various possible alternatives:
 - manual mode (with adjustable temperature);
 - automatic mode (with set programme);
 - forced automatic operation (momentarily changing the temperature of the automatic program).

The chrono-thermostat is powered by two 1.5V LR6 type alkaline batteries.

“Comando Amico Remoto” (Remote Control Device) v2 (CARv2) with climate chrono-thermostat function.

In addition to the functions described in the previous point, the CARv2 panel enables the user to control all the important information regarding operation of the appliance and the heating system with the opportunity to easily intervene on the previously set parameters, without having to go to where the appliance is installed.

The panel is equipped with self-diagnosis to show any appliance operating anomalies on the display.

The climate chrono-thermostat incorporated into the remote panel enables the system flow temperature to be adjusted to the actual needs of the room being heated, in order to obtain the desired room temperature with extreme precision and therefore with evident saving in running costs.

The CARv2 is fed directly by the appliance by means of the same 2 wires used for the transmission of data between the appliance and device.



In case the system is divided into more zones, the CARv2 can only manage zone 1.

In multi-zone systems it is possible to manage a “modulating” radiator flow temperature for each zone in case of wireless room probes (optional) presence.



The operations described below must be performed after having removed the voltage from the appliance.



If the Comando Amico Remoto remote control ^{v2} or any other On/Off chrono-thermostat is used arrange two separate lines in compliance with current regulations regarding electrical systems.

All appliance pipes must never be used to earth the electric or telephone system.

Ensure elimination of this risk before making the appliance electrical connections.

Any room thermostat or ON-OFF must be connected to terminals 40 and 41 eliminating link X40.

Any CAR^{v2} must be connected to terminals 44 and 41 complying with the polarity **without eliminating link X40**.

Make sure that the On/Off thermostat contact is of the “clean” type, i.e. independent of the mains voltage, otherwise the P.C.B. would be damaged.

Dialogue to remote devices (Optional)



Any remote devices must be connected to terminals 44-41 **without eliminating link X40**.

On this path it is possible to select different remote control modes:

Support/Inputs/Remote control

- **Remote control = IMG BUS:** is the default condition for correct communication with CAR devices^{v2}. In this condition, the selection of the operating mode, DHW set, C.H. set and the C.H. demand (for zone 1 in case of system divided into several zones) are fully managed by CAR^{v2}. The anti-legionella function can be activated on the appliance in the usual way.
- **Remote control = 1:** it is possible to manage the DHW Mode entirely and solely via the appliance (set, boost, anti-legionella management). This type of dialogue is recommended for commercial remote devices, other than CAR^{v2}. The remote control will remain in control of the "Operating mode", "Set C.H." and "C.H. demand".
- **Remote control = 2:** Not used on this model.



1.11 EXTERNAL TEMPERATURE PROBE (OPTIONAL)

The appliance is prepared for the application of the external probe (Fig. 10), which is available as an optional kit.

Refer to the relative instruction sheet for positioning of the external probe.

The probe can be connected directly to the appliance electrical system and allows the max. system flow temperature to be automatically decreased when the external temperature increases, in order to adjust the heat supplied to the system according to the change in external temperature.

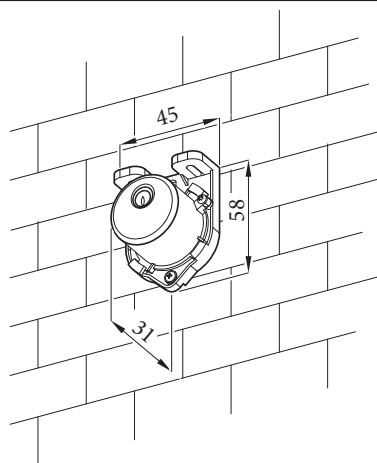
The external probe always operates when connected, regardless of the presence or type of room chrono-thermostat used and can work in combination with Immergas chrono-thermostats and wireless room probes.

It is possible to activate or deactivate the action of the external probe for each individual zone in use, by acting on the parameter in the zone menu.

The electric connection of the external probe must be made on terminals 38 and 39 on the terminal board on the appliance control panel (Fig. 68).



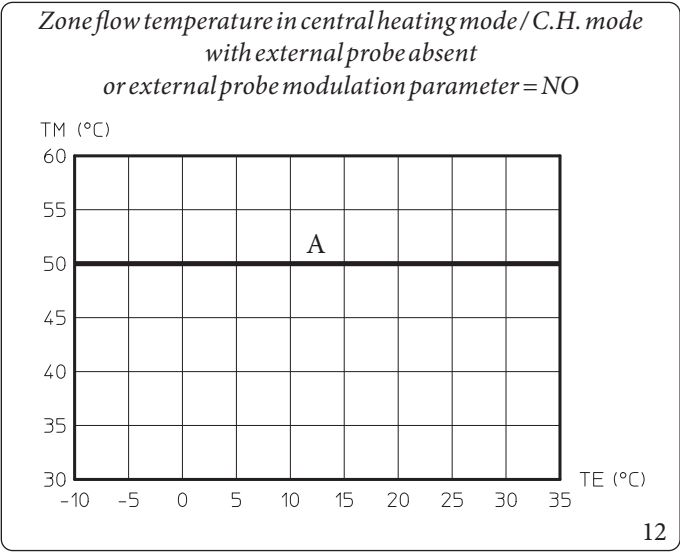
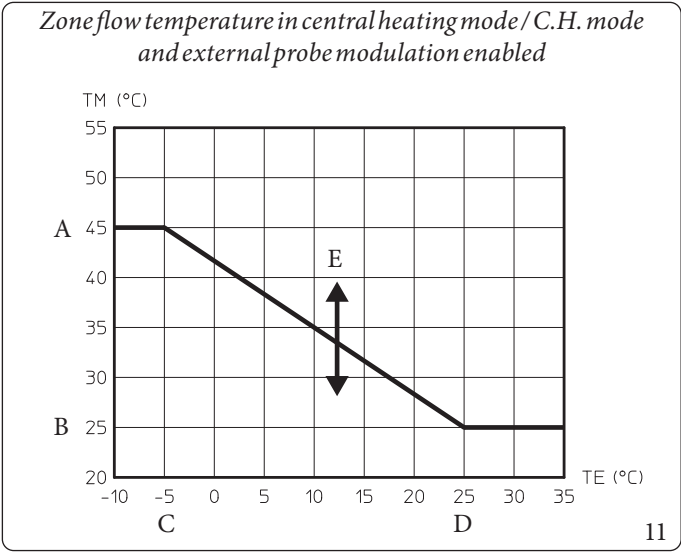
If the probe is used, it is mandatory to set up two separate lines in compliance with current regulations regarding electrical systems.



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1.12 TEMPERATURE CONTROL SETTING

By setting the parameters in the “Zones/Configuration/Regulation” menus (with "Service" access), it is possible to automatically adjust the flow temperature of each zone according to the outdoor temperature. This can be done by enabling the external probe modulation in the menu “Zones/Configuration/Regulation” (Default = Yes). The curves (Fig. 11, 12) show the default settings in the various operating modes available both with external probe and without.



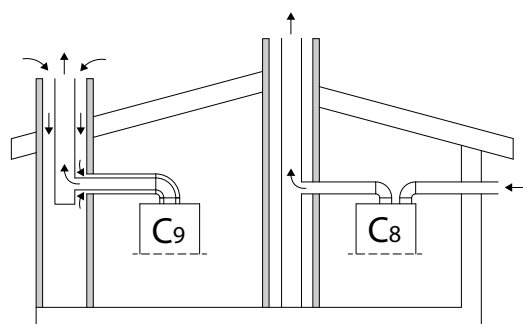
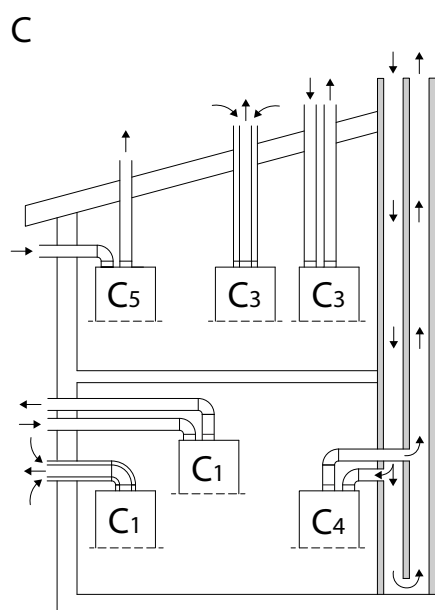
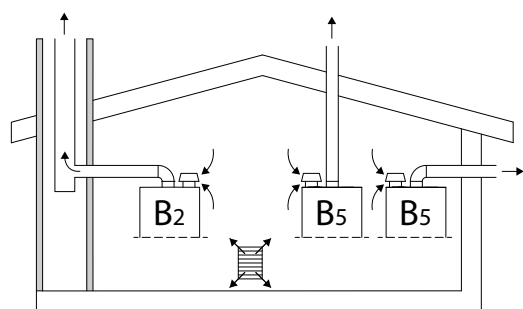
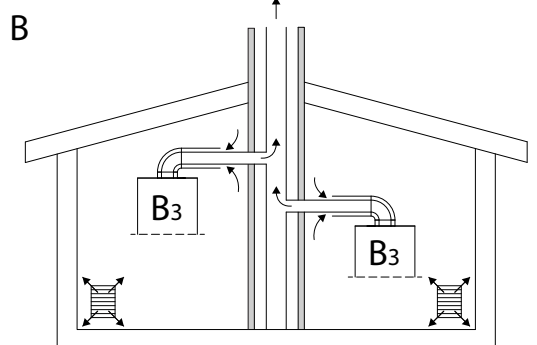
- Key (Fig. 11, 12)
- TE - External temperature
 - TM - Flow temperature
 - A - Maximum flow set
 - B - Minimum flow set*
 - C - Minimum external temperature*
 - D - Maximum external temperature *
 - E - Climatic curve offset
- *Functions reserved for Service



1.13 GENERAL EXAMPLES OF TYPES OF INSTALLATION OF FLUE SYSTEMS



For the types of installation of "Green Series" flue systems approved for this product, strictly follow the table in Parag. 5.3, in the line "Type of flue installation".

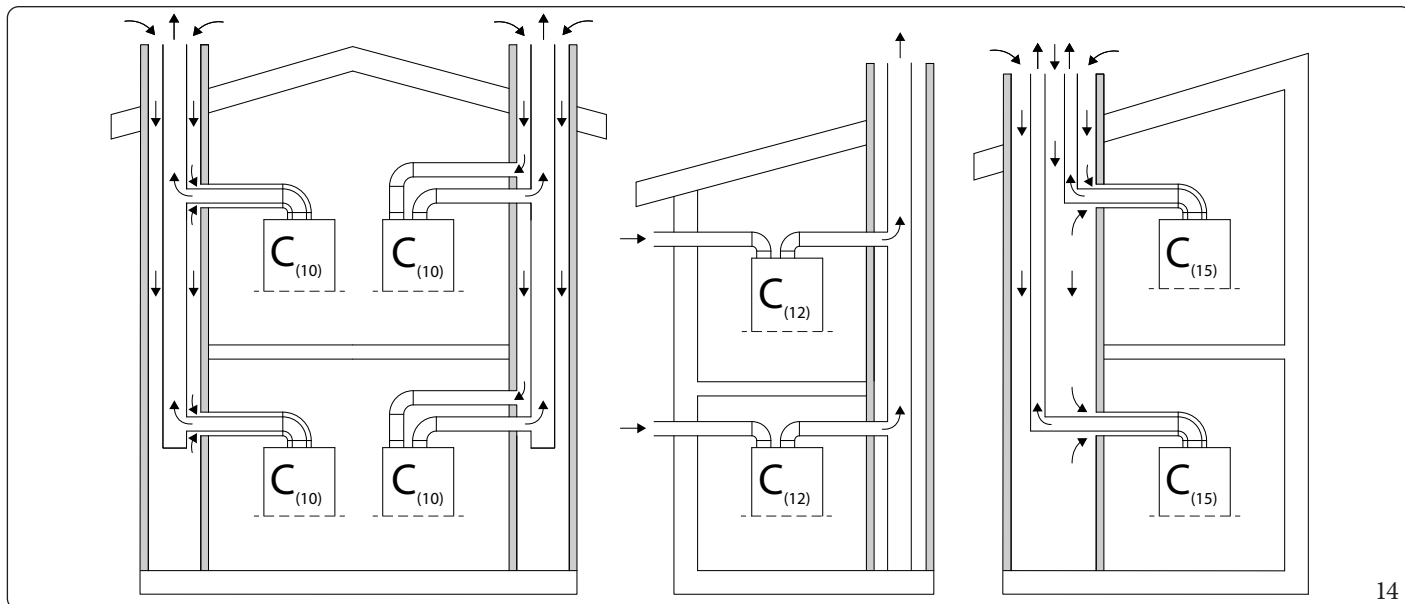


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Installation types summarised table (Fig. 13):

B	Appliance that withdraws air from the environment where it is installed and releases combustion products outside (either directly or through the flue).
B ₂	Appliance that withdraws air from the environment where it is installed and releases combustion products in the flue.
B ₃	Appliance connected to a conventional flue. A concentric pipe connects the flue to the appliance, in which the pressurised exhaust pipe is completely enveloped by combustion air withdrawn from inside the room. The combustion air is withdrawn by calibrated orifices present in the intake pipe.
B ₅	Appliance that withdraws air from the environment where it is installed and directly releases combustion products outside (through wall or roof).
C	Appliance whose combustion circuit (air feed, combustion chamber, heat exchanger and exhaust of combustion products) is sealed with respect to the room where the appliance is installed.
C ₁	Appliance with pipes connecting to a horizontal terminal, which simultaneously allows the inlet of combustion air and the release of flue gas through concentric orifices or close enough to be in similar wind conditions.
C ₃	Appliance with pipes connecting to a vertical terminal, which simultaneously allows the inlet of combustion air and the release of flue gas through concentric orifices or close enough to be in similar wind conditions.
C ₄	Appliance with two separate pipes connecting to a collective conventional flue. The flue consists of two pipes, concentric or separate, with air intake in one and flue gas release in the other and are in similar wind conditions.
C ₅	Appliance that withdraws air from outside and directly releases combustion products outside (through wall or roof). These pipes can end up in different pressure zones.
C ₆	Type C appliance intended to be connected to an approved system and sold separately.
C ₈	Appliance connected, through the exhaust pipe, to an individual or collective conventional flue. A second pipe is provided for the intake of combustion air from outside.
C ₉	Appliance connected, through a ducted exhaust pipe, to a vertical terminal. The exhaust pipe, by means of the cavity, also acts as a combustion air intake pipe.





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Installation types summarised table (Fig. 14):

$C_{(10)}$	Appliance intended for connection, via its ducts, to a collective flue designed for more than one appliance. This flue consists of two ducts connected to a terminal, which simultaneously allows combustion air to enter and flue gas to be exhausted through orifices that are concentric or close enough to be in similar wind conditions.
$C_{(12)}$	Appliance intended for connection, via its exhaust duct, to a collective flue designed for more than one appliance. A second duct, an integral part of the appliance, is provided for the intake of combustion air from outside.
$C_{(15)}$	Appliance connected to a vertical flue exhaust terminal and a common vertical duct, designed for more than one appliance, for air intake. This duct simultaneously allows the inlet of combustion air and the release of flue gas through concentric orifices or close enough to be in similar wind conditions.



The technical combustion parameters (except configurations C_6) are displayed in Paragraph Chapter 5.2 "Combustion parameters"



Note for appliances with flue configuration $C_{..X}$ (e.g. C_{13X} , C_{33X} , C_{43X} C_{93X} , etc...)

In accordance with Standard EN1749-2020, these types of installations foresee that the flue gas exhaust pipes may be pressurised. Therefore, on the basis of regulations in some European countries, exhaust ducts have to be encased in suction ducts connected directly to the outside.



The technical data required for configuration C_6 (commercial flue) are indicated in Paragraph Chapter 1.27 "Configuration for C_6 flue installation".

1.14 IMMERGAS FLUE SYSTEMS

Immergas supplies various solutions separately from the appliances regarding the installation of air intake and flue exhaust terminals, which are fundamental for appliance operation.

These solutions form an integral part of the product.



The appliance must be installed with an original Immergas "Green Range" inspectionable air intake system and flue gas extraction system made of plastic, with the exception of configuration C_6 in the configurations envisaged in Parag. 1.13, as required by the regulations in force and by the product's approval. This flue can be identified by an identification mark and special distinctive marking bearing the note "only for condensation boilers".

For non-original flue system, refer to the technical data of the appliance.



The plastic pipes cannot be installed outdoors, for tracts longer than 40 cm, without suitable protection from UV rays and other atmospheric agents.

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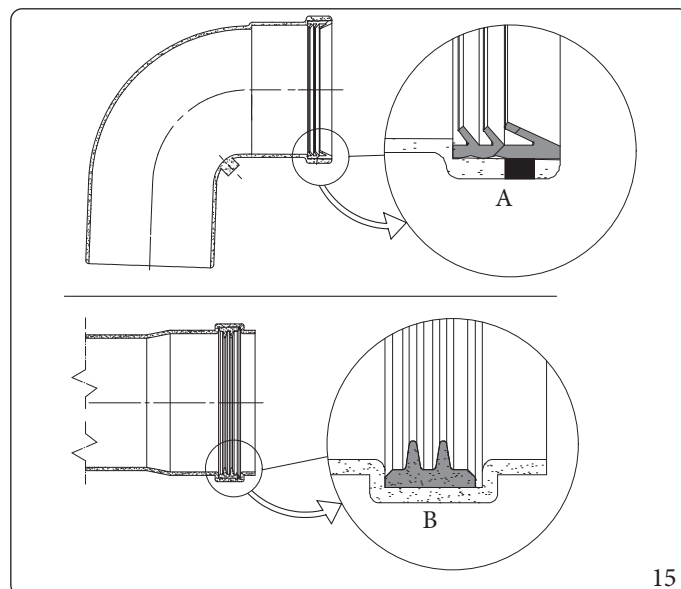


Positioning the gaskets for “green range” flue systems.

Position the gasket correctly (for bends and extensions) (Fig. 15):

- gasket (A) with notches, to use for bends;
- gasket (B) without notches, to use for extensions.

If necessary, to ease the push-fitting, spread the supplied lubricants on the parts.



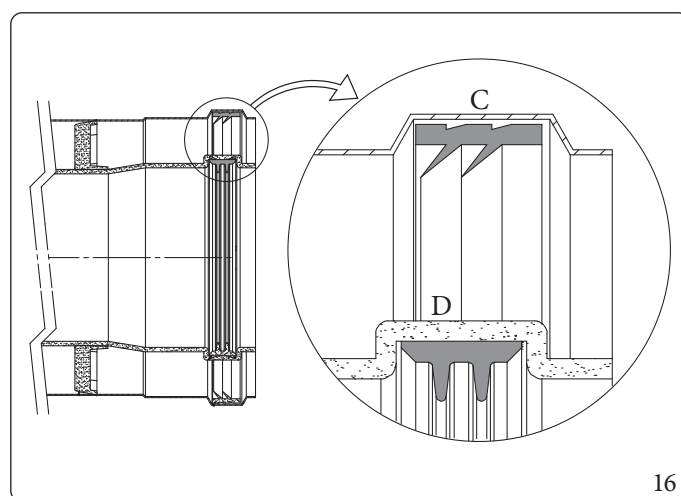
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Positioning of 80/125 “green series” flue gaskets

Position the gasket correctly (for bends and extensions) (Fig. 16):

- external gasket (C);
- internal gasket (D).

If necessary, to ease the push-fitting, spread the supplied lubricants on the parts.



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Extension pipes and concentric elbows push-fittings.

To install push-fitting extensions with other elements of the flue, proceed as follows:

- Install the concentric pipe or elbow with the male side (smooth) on the female side (with lip seal) to the end stop on the previously installed element in order to ensure sealing efficiency of the coupling.



If the exhaust terminal and/or extension concentric pipe needs shortening, consider that the internal duct must always protrude by 5 mm with respect to the external duct.



For safety purposes, do not even temporarily obstruct the appliance intake/exhaust terminal.

The various parts of the flue system must be checked to ensure that they have been laid in such a way as to prevent the coupled parts from detaching, in particular, the flue exhaust duct in the Ø80 separator kit configuration. If the condition described above is not adequately guaranteed, it will be necessary to use the appropriate retaining clamp kit.



When installing horizontal pipes, a minimum inclination of 5% towards the appliance must be maintained, and a section clamp with plug must be installed every 3 metres.



1.15 MAXIMUM FLUE LENGTH



The maximum flue length (L_{max}) is understood to include the terminal.



To calculate the equivalent length of the flue (L), simply add, for each component you intend to use, the corresponding value indicated in the column "Length equivalent to m of pipe" in the table in par. 1.16, and check that the resulting sum is equal to or less than the maximum length (L_{max}) indicated in par. 1.15. ($L \leq L_{max}$).



For further information on functional check calculations of any flue configuration, consult the Immergas website of your country or contact the indicated Customer Service.



Should L be higher than L_{max} , consider using another type of flue.

Type	Installation		VICTRIX ZEUS SUPERIOR 25
			L_{max} = Maximum length (m)
Ø 60/100mm	C_{13} (horizontal+elbow+terminal)		13
	C_{33} (vertical+terminal)		14,5
Ø 80/125mm	C_{13} (horizontal+elbow+terminal) C_{33} (vertical+terminal)		35
	$C_{(10)3} - C_{(15)3}$		9
Ø 80/80mm	$C_{43} - C_{53} - C_{83}$ (split)		35
	$C_{(10)3} - C_{(12)3}$		10
	$B_{23p} - B_{33} - B_{53p}$		30
Ø 50 flexible	C_{53}	Split 80/80 with intake by own terminal and exhaust in exposed or ducted Immergas pipe.	13
Ø 60mm rigid			25
Ø 80mm rigid			35
Ø 80 flexible			30
Ø 50 flexible	$C_{93} C_{(15)3}$	Concentric 60/100 or 80/125 with exhaust in ducted pipe and intake from technical slot.	13
Ø 60mm rigid			25
Ø 80mm rigid			35
Ø 80 flexible			30

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Type	Installation		VICTRIX ZEUS SUPERIOR 30
			L_{max} = Maximum length (m)
Ø 60/100mm	C ₁₃ (horizontal+elbow+terminal)		13
	C ₃₃ (vertical+terminal)		14,5
Ø 80/125mm	C ₁₃ (horizontal+elbow+terminal) C ₃₃ (vertical+terminal)		35
	C ₍₁₀₎₃ - C ₍₁₅₎₃		9
Ø 80/80mm	C ₄₃ - C ₅₃ - C ₈₃ (split)		35
	C ₍₁₀₎₃ - C ₍₁₂₎₃		10
	B _{23p} -B ₃₃ -B _{53p}		30
Ø 50 flexible	C ₅₃	Split 80/80 with intake by own terminal and exhaust in exposed or ducted Immergas pipe.	13
Ø 60mm rigid			25
Ø 80mm rigid			35
Ø 80 flexible			30
Ø 50 flexible	C ₉₃ C ₍₁₅₎₃	Concentric 60/100 or 80/125 with exhaust in ducted pipe and intake from technical slot.	13
Ø 60mm rigid			25
Ø 80mm rigid			35
Ø 80 flexible			30

Type	Installation		VICTRIX ZEUS SUPERIOR 35
			L_{max} = Maximum length (m)
Ø 60/100mm	C ₁₃ (horizontal+elbow+terminal)		13
	C ₃₃ (vertical+terminal)		14,5
Ø 80/125mm	C ₁₃ (horizontal+elbow+terminal) C ₃₃ (vertical+terminal)		35
	C ₍₁₀₎₃ - C ₍₁₅₎₃		9
Ø 80/80mm	C ₄₃ - C ₅₃ - C ₈₃ (split)		35
	C ₍₁₀₎₃ - C ₍₁₂₎₃		10
	B _{23p} -B ₃₃ -B _{53p}		30
Ø 50 flexible	C ₅₃	Split 80/80 with intake by own terminal and exhaust in exposed or ducted Immergas pipe.	13
Ø 60mm rigid			25
Ø 80mm rigid			35
Ø 80 flexible			30
Ø 50 flexible	C ₉₃ C ₍₁₅₎₃	Concentric 60/100 or 80/125 with exhaust in ducted pipe and intake from technical slot.	13
Ø 60mm rigid			25
Ø 80mm rigid			35
Ø 80 flexible			30



The values indicated in the table are the maximum available lengths.
The flue parameter (heat output) must be calibrated by the maintenance technician at initial testing.



The unit of measurement is in "mm" if not specified otherwise.

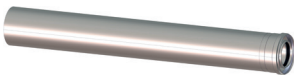


1.16 EQUIVALENT LENGTHS OF "GREEN RANGE" FLUE SYSTEM COMPONENTS.

Equivalent concentric lengths Ø 60/100				
Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of concentric pipe Ø 60/100 mm	
60/100	Pipe Ø 60/100 mm L = 1 m			1,0
	90° bend Ø 60/100 mm			1,3
	45° bend Ø 60/100 mm			1,0
	Horizontal terminal Ø 60/100 mm L = 1 m			
	Horizontal terminal Ø 60/100 mm L = 1 m adjustable		0° spout	
			45° spout	
	Vertical terminal Ø 60/100 mm L = 1,25 m			



The values of the equivalent lengths in metres of concentric pipe of the Ø60/100 terminals are not the actual ones, but are weighted values to be used for the calculation of the flue.

Equivalent concentric lengths Ø 80/125				
Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of concentric pipe Ø 80/125 mm	
80/125	Pipe Ø 80/125 mm L = 1 m			1,0
	90° bend Ø 80/125 mm			1,5
	45° bend Ø 80/125 mm			1,0
	Reduction kit from Ø 60/100 to Ø 80/125 mm			0,4
	Horizontal terminal Ø 80/125 mm L = 1 m			
	Vertical terminal Ø 80/125 mm L = 1 m			

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Equivalent lengths split Ø 80/80 and rigid ducting Ø 80

Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of pipe Ø 80 mm	
			Exhaust	Intake
80/80 and rigid 80	Pipe Ø 80 mm L = 1 m		1,0	0,7
	90° bend Ø 80 mm		2,1	1,6
	45° bend Ø 80 mm		1,3	1,0
	Horizontal terminal Ø 80 mm L = 1 m		3,5	2,5
	Horizontal terminal Ø 80 mm grid part		2,5	1,8
	Vertical terminal Ø 80 mm L = 1 m		3,0	
	Stainless steel vertical terminal Ø 80 mm L = 1 m		3,0	
	Suction kit Ø 80 mm for configuration B		4,3	
	Vertical terminal Ø 80 mm L = 1,25 m		4,6	
	Pipe Ø 80/125 mm L = 1 m			1,8
	90° bend Ø 80/125 mm			2,5
	45° bend Ø 80/125 mm			1,8
	Reduction kit from Ø 60/100 to Ø 80/125 mm			0,9
	Thermoformed kit for type B installation		4,0	

Equivalent lengths Ø 50 flexible ducting				
Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of flexible hose Ø 50 mm	
50 Hose	Corrugated hose Ø 50 mm L = 1 m		Exhaust	1,0
	Kit T Ø 80 mm + reduction to Ø 50 mm		Exhaust	0,6
	Exhaust T-terminal kit Ø 80 mm + reduction to Ø 50 mm		Exhaust	1,0
	Ø 80 mm bend kit + reduction to Ø 50 mm		Exhaust	1,2
	Vertical terminal Ø 80 mm + reduction to Ø 50 mm		Exhaust	0,5
	Female/female kit Ø 50 mm		Exhaust	0,4
	Pipe Ø 80 mm L = 1 m		Exhaust	0,1
			Intake	0,1
	90° bend Ø 80 mm		Exhaust	0,3
			Intake	0,2
	45° bend Ø 80 mm		Exhaust	0,2
			Intake	0,1
	Horizontal terminal Ø 80 mm L = 1 m			
			Intake	0,3
	Horizontal terminal Ø 80 mm grid part			
			Intake	0,2
	Pipe Ø 60/100 mm L = 1 m			0,6
	90° bend Ø 60/100 mm			0,8
	45° bend Ø 60/100 mm			0,6
	Pipe Ø 80/125 mm L = 1 m			0,2
	90° bend Ø 80/125 mm			0,3
	45° bend Ø 80/125 mm			0,2
	Reduction kit from Ø 60/100 to Ø 80/125 mm			0,1
	Suction kit Ø 80 mm for configuration B		Intake	0,5

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Equivalent ducting lengths Ø 60 rigid

Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of rigid pipe Ø 60 mm	
60 rigid	Pipe Ø 60 mm L = 1 m		Exhaust	1,0
	90° bend Ø 60 mm		Exhaust	1,1
	45° bend Ø 60 mm		Exhaust	0,6
	Vertical terminal Ø 60 mm L = 1 m		Exhaust	3,7
	Reduction Ø 80 to Ø 60 mm		Exhaust	0,8
	Pipe Ø 80 mm L = 1 m		Exhaust	0,4
			Intake	0,3
	90° bend Ø 80 mm		Exhaust	0,8
			Intake	0,6
	45° bend Ø 80 mm		Exhaust	0,5
			Intake	0,4
	Horizontal terminal Ø 80 mm L = 1 m			
			Intake	0,9
	Horizontal terminal Ø 80 mm grid part			
			Intake	0,7
	Pipe Ø 60/100 mm L = 1 m		Exhaust	2,0
	90° bend Ø 60/100 mm		Exhaust	2,5
	45° bend Ø 60/100 mm		Exhaust	2,0
	Suction kit Ø 80 mm for configuration B		Intake	1,6

Equivalent lengths Ø 80 flexible ducting				
Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of flexible hose Ø 80 mm	
80 Hose	Corrugated hose Ø 80 mm L = 1 m		Exhaust	1,0
	70° bend Ø 80 mm		Exhaust	1,0
	T-kit Ø 80 mm		Exhaust	1,1
	T-shaped exhaust terminal Ø 80 mm		Exhaust	1,6
	Vertical terminal Ø 80 mm		Exhaust	0,7
	Adapter Ø 80 mm flexible/male		Exhaust	0,2
	Adapter Ø 80 mm flexible/flexible		Exhaust	0,2
	Adapter Ø 80 mm flexible/flexible		Exhaust	0,3
	Vertical terminal Ø 80mm L = 1,25 m		Exhaust	1,7
	Pipe Ø 80 mm L = 1 m		Exhaust	0,4
			Intake	0,3
	90° bend Ø 80 mm		Exhaust	0,8
			Intake	0,6
	45° bend Ø 80 mm		Exhaust	0,5
			Intake	0,4
	Horizontal terminal Ø 80 mm L = 1 m		Intake	0,9
			Intake	0,7
	Horizontal terminal Ø 80 mm grid part		Intake	0,7
	Pipe Ø 80/125 mm L = 1 m			0,7
	90° bend Ø 80/125 mm			0,9
	45° bend Ø 80/125 mm			0,7
	Reduction kit from Ø 60/100 to Ø 80/125 mm			0,3
	Suction kit Ø 80 mm for configuration B		Intake	1,6

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Equivalent lengths $C_{(10)3} - C_{(12)3}$ concentric Ø 80/125 mm

Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of pipe $C_{(10)3} - C_{(12)3}$ concentric Ø 80/125 mm	
$C_{(10)3} - C_{(12)3}$ 80/125	Clapet Ø 80 mm		Exhaust	
	Pipe Ø 80/125 mm L = 1 m			1,0
	90° bend Ø 80/125 mm			1,4
	45° bend Ø 80/125 mm			1,0
	Reduction kit from Ø 60/100 to Ø 80/125 mm			0,5
	Pipe Ø 80 mm L = 1 m		Exhaust	0,6
	90° bend Ø 80 mm		Exhaust	1,2
	45° bend Ø 80 mm		Exhaust	0,7

Equivalent lengths $C_{(10)3} - C_{(12)3}$ split Ø 80/80 mm

Ø duct [mm]	Type of duct	Picture	Equivalent length in [m] of pipe $C_{(10)3} - C_{(12)3}$ split Ø 80/80 mm	
$C_{(10)3} - C_{(12)3}$ 80/80	Clapet Ø 80 mm		Exhaust	
	Pipe Ø 80 mm L = 1 m		Exhaust	1,0
	90° bend Ø 80 mm		Intake	0,7
			Exhaust	2,1
	45° bend Ø 80 mm		Intake	1,6
			Exhaust	1,3
	Horizontal terminal Ø 80 mm L = 1 m		Intake	1,0
	Horizontal terminal Ø 80 mm grid part		Intake	2,5
			Intake	1,8

1.17 OUTDOOR INSTALLATION OR IN A PARTIALLY PROTECTED AREA



This appliance can be installed outdoors in a partially protected area.

By partially protected area, we mean one in which the unit is not directly exposed to the elements (rain, snow, hail, etc.).



If the appliance is installed in a location where the ambient temperature falls below 0°C, use the optional antifreeze kit, checking the ambient temperature range for operation in the technical data table in this instruction manual (Section 'Technical Data').



This type of installation is possible when permitted by the laws in force in the appliance's country of destination.

Configuration of open chamber appliances (type B) with fan on the combustion circuit.

Using the relevant cover kit, direct air intake is possible and flue gas is exhausted into a single flue or directly to the outside. In this configuration it is possible to install the appliance in a partially protected place. In this configuration the appliance is classified as type B.

With this configuration:

- air intake takes place directly from the environment in which the appliance is installed (external);
- the flue gas exhaust must be connected to its own single chimney or ducted directly outside via a vertical terminal for direct exhaust or via a Immergas ducting system.

The technical regulations in force must be respected.

Cover kit assembly (Fig.17).

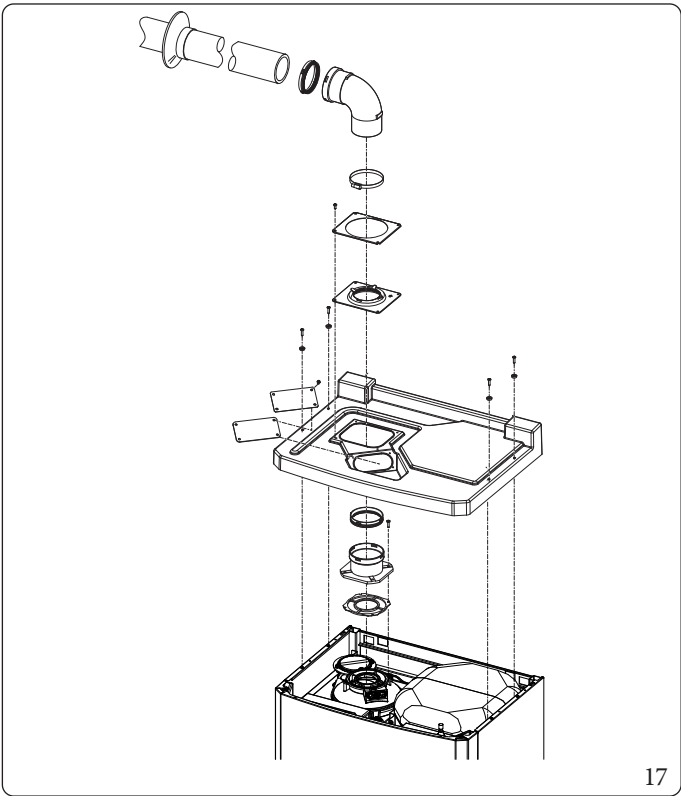
Remove the cap and gasket from the intake hole.

Install the Ø 80 outlet flange on the hole in correspondence with the flange with sample points of the appliance, taking care to insert the gasket supplied with the kit and tighten by means of the screws provided.

Install the upper cover, fixing it using the 4 screws present in the kit, positioning the relevant gaskets.

Engage the 90° Ø 80 bend with the male end (smooth) in the female end (with lip seal) of the Ø 80 flange unit to the end stop. Introduce the gasket, making it run along the bend. Fix it using the metal sheet plate and tighten by means of the clips present in the kit, making sure to block the 4 gasket flaps.

Fit the male end (smooth) of the exhaust pipe into the female end of the 90° bend or Ø 80 extension, making sure that the relevant wall sealing plate is already fitted; this will ensure hold and joining of the elements making up the kit.



The cover kit includes (Fig. 17):

- N°1 Thermoformed cover
- N°1 Gasket clamping plate
- N°1 Gasket
- N°1 Gasket tightening clip
- N°1 Flange plate with sample points

The terminal kit includes (Fig. 17):

- N°1 Gasket
- N°1 Exhaust flange Ø 80
- N°1 Ø 80 90° bend
- N°1 Exhaust pipe Ø 80
- N°1 Wall sealing plate

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INSTALLER

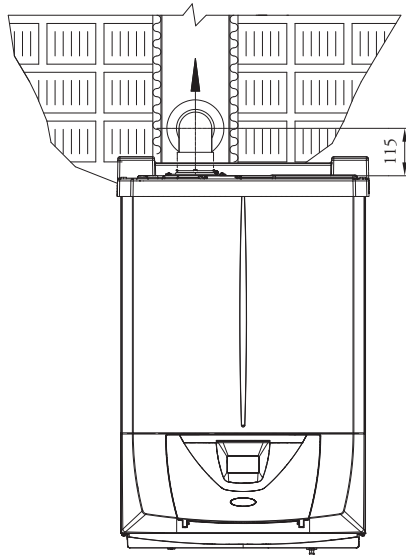
USER

CONTROL PANEL

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TECHNICAL DATA





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Coupling of extension pipes.

To install push-fitting extensions with other elements of the flue, proceed as follows: Couple the pipe or elbow with the male side (smooth) in the female side (with lip seal) to the end stop on the previously installed element. This will ensure sealing efficiency of the coupling.

Configuration without cover kit in a partially protected location (type C appliance).

By leaving the side plugs fitted it is possible to install the appliance externally without the cover kit.

Installation takes place using the Ø 60/100 and Ø 80/125 concentric intake/ exhaust kits. Refer to the paragraph on indoor installation.



The top cover kit, which provides additional protection for the boiler, CANNOT be used with Ø 80/80 separator configuration, Ø 60/100 concentric and Ø 80/125.

1.18 CONCENTRIC HORIZONTAL KIT INSTALLATION

Type C configuration, sealed chamber and fan assisted

The position of the terminal (in terms of distances from openings, overlooking buildings, floor, etc.) must be in compliance with the regulations in force.

This terminal is connected directly to the outside of the building for air intake and flue gas exhaust.

The horizontal kit can be installed with the rear, right side, left side or front outlet.

For installation with frontal outlet, one must use the fixing plate and a concentric bend coupling in order to ensure sufficient space to carry out the tests required by law upon commissioning.

External grid

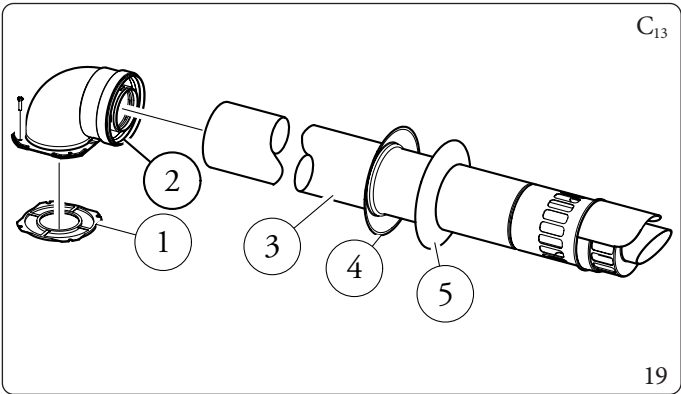
Make sure that the external silicone wall sealing plate is properly inserted in the wall.



For correct functioning of the system the terminal with grid must be installed correctly ensuring that, the "high" indication present on the terminal is respected on installation.

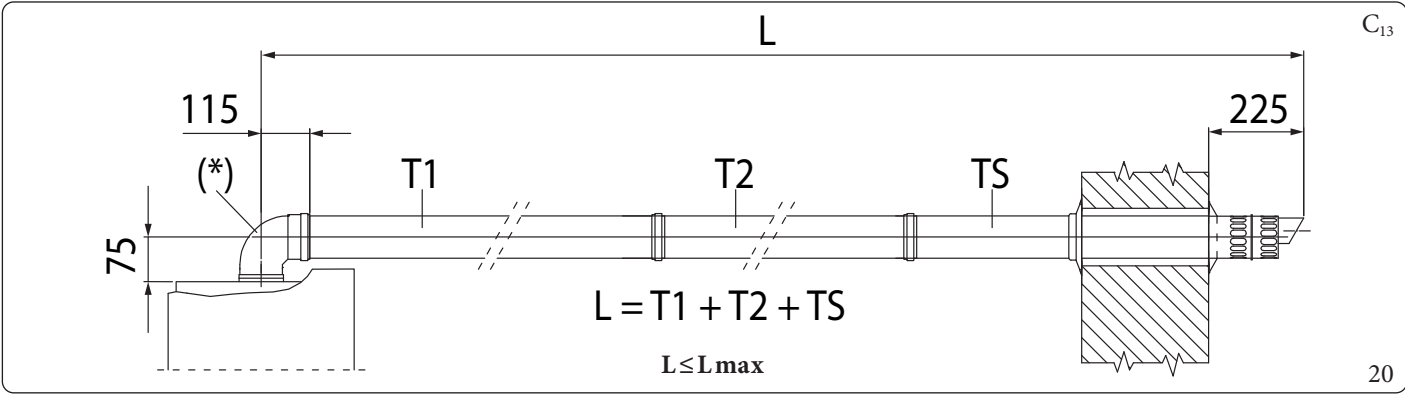
Horizontal intake/exhaust assembly kits Ø 60/100 (Fig. 19)

1. Install the curve with flange (2) on the central hole of the appliance, positioning gasket (1) with the circular projections downwards in contact with the appliance flange, and tighten using the screws contained in the kit.
2. Fit the Ø 60/100 (3) concentric terminal pipe with the male side (smooth) to the female side of the bend (2) up to the end stop, making sure that the internal and external wall sealing plates have been fitted; this will ensure sealing and joining of the elements making up the kit.



- The kit includes (Fig. 19):
- N°1 Gasket (1)
 - N°1 Concentric bend Ø 60/100 (2)
 - N°1 Int./exhaust concentric terminal Ø 60/100 (3)
 - N°1 Internal wall sealing plate (4)
 - N°1 External wall sealing plate (5)

Extensions for horizontal kit Ø 60/100 (L = Equivalent length - L_{max} = Maximum length) (Fig. 20).



- Key Fig. 20:
- T1 - Concentric pipe Ø 60/100
 - T2 - Concentric pipe Ø 60/100
 - TS - Concentric intake/exhaust terminal Ø 60/100
 - (*) - Flanged 90° concentric elbow Ø 60/100 (do not consider when calculating the equivalent length)
 - L - Equivalent length
 - L_{max} - Maximum length

 The maximum lengths ((L_{max}) of the various flues that can be installed are given in the summary table in parag. 1.15.



Installation examples

$L = T1 + TS$

$L = T1 + C2 + T2 + C3 + TS$

$L = T1 + C4 + TS$

Calculation example (VICTRIX ZEUS SUPERIOR 25):

$L = 1 + 1 + 1 + 1 + 1 = 5\text{ m}$

$5\text{ m} \leq 13\text{ m}$

$L \leq L_{\text{max}}$

Key Fig. 21:

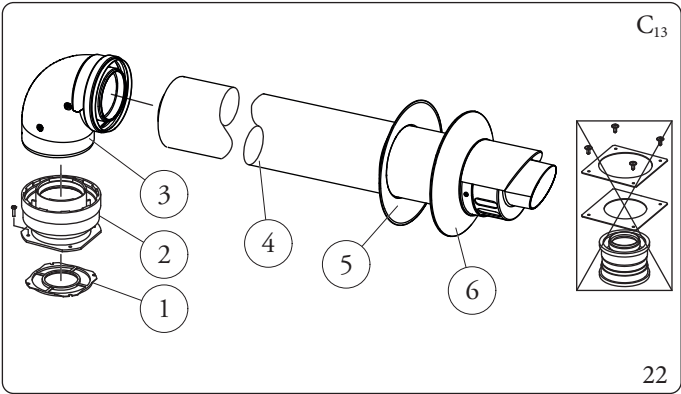
T1	-	Concentric pipe Ø60/100	C3	-	Ø60/100 45° concentric elbow
(*)	-	Flanged 90° concentric elbow Ø60/100 (do not consider when calculating the equivalent length)	C4	-	Ø60/100 90° concentric elbow
T2	-	Concentric pipe Ø60/100	TS	-	Concentric intake/exhaust terminal Ø60/100
C2	-	Ø60/100 45° concentric elbow	L	-	Equivalent length
			Lmax	-	Maximum length

 To calculate the equivalent length of the flue (L), simply add, for each component you intend to use, the corresponding value indicated in the column "Length equivalent to m of pipe" in the table in par. 1.16, and check that the resulting sum is equal to or less than the maximum length (L max) indicated in par. 1.15. ($L \leq L_{\text{max}}$).

Assembly of horizontal intake - exhaust kit Ø 80/125 (Fig.22)

To install the Ø 80/125 kit, you need to use the flanged adapter kit (pos.2, Fig.22).

1. Install the flanged adaptor (2) on the central hole of the appliance, positioning gasket (1) with the circular projections downwards in contact with the appliance flange, and tighten using the screws contained in the kit.
2. Engage the bend (3) with the male side (smooth) to the end stop on the adapter (2).
3. Fit the Ø 80/125 (4) concentric terminal pipe with the male side (smooth) to the female side of the bend (3) (with lip seals) up to the end stop, making sure that the internal (5) and external wall sealing plates (6) have been fitted; this will ensure sealing and joining of the elements making up the kit.



The flanged adapter kit includes (Fig.22):

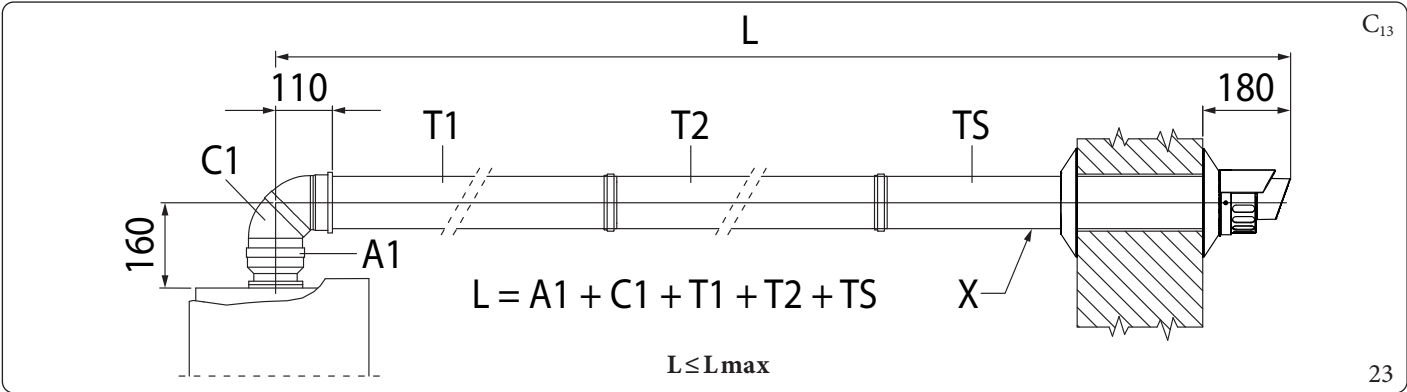
- Nº1 Gasket (1)
- Nº1 Flanged adapter Ø 80/125 (2)

The Ø80/125 kit includes (Fig.22):

- Nº1 Concentric bend Ø 80/125 at 87° (3)
- Nº1 Int./exhaust concentric terminal Ø 80/125 (4)
- Nº1 Internal wall sealing plate (5)
- Nº1 External wall sealing plate (6)

The remaining kit components must not be used

Extensions for horizontal kit Ø 80/125 (L = Equivalent length; L max = Maximum length) (Fig.23).



Key (Fig. 23)

- | | | | | | |
|----|---|------------------------------|------|---|--|
| A1 | - | Flanged adapter Ø80/125 | TS | - | Concentric intake / exhaust terminal Ø80/125 |
| C1 | - | 87° concentric curve Ø80/125 | X | - | Minimum slope 5% |
| T1 | - | Concentric pipe Ø80/125 | L | - | Equivalent length |
| T2 | - | Concentric pipe Ø80/125 | Lmax | - | Maximum length |

The maximum lengths ((L max) of the various flues that can be installed are given in the summary table in parag. 1.15.

INSTALLER

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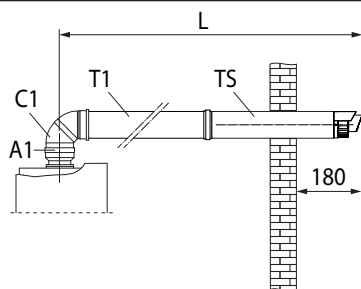
CONTROL PANEL

MAINTENANCE TECHNICIAN

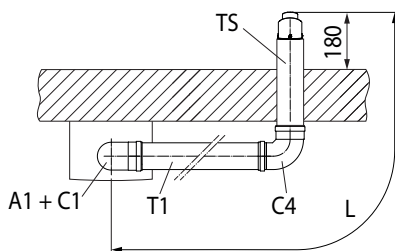
TECHNICAL DATA



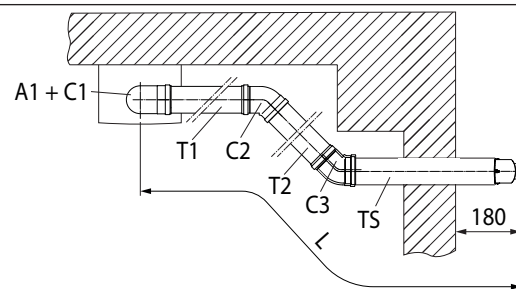
Installation examples



$$L = A1 + C1 + T1 + TS$$



$$L = A1 + C1 + T1 + C4 + TS$$



$$L = A1 + C1 + T1 + C2 + T2 + C3 + TS$$

Calculation example (VICTRIX ZEUS SUPERIOR 25):

$$L = 0,5 + 1,4 + 1 + 1,4 + 1 = 5,3 \text{ m}$$

$$5,3 \text{ m} \leq 35 \text{ m}$$

$$L \leq L_{\text{max}}$$

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Key (Fig. 24)

- A1 - Flanged adapter Ø80/125
- C1 - Ø80/125 90° concentric elbow
- T1 - Concentric pipe Ø80/125
- T2 - Concentric pipe Ø80/125
- C2 - Ø80/125 45° concentric elbow

- C3 - Ø80/125 45° concentric elbow
- C4 - Ø80/125 90° concentric elbow
- TS - Concentric intake / exhaust terminal Ø80/125
- L - Equivalent length
- L_{max} - Maximum length



To calculate the equivalent length of the flue (L), simply add, for each component you intend to use, the corresponding value indicated in the column "Length equivalent to m of pipe" in the table in par. 1.16, and check that the resulting sum is equal to or less than the maximum length (L_{max}) indicated in par. 1.15. ($L \leq L_{\text{max}}$).

1.19 CONCENTRIC VERTICAL KIT INSTALLATION

Type C configuration, sealed chamber and fan assisted

Concentric vertical intake and exhaust kit.

This vertical terminal is connected directly to the outside of the building for air intake and flue gas exhaust.



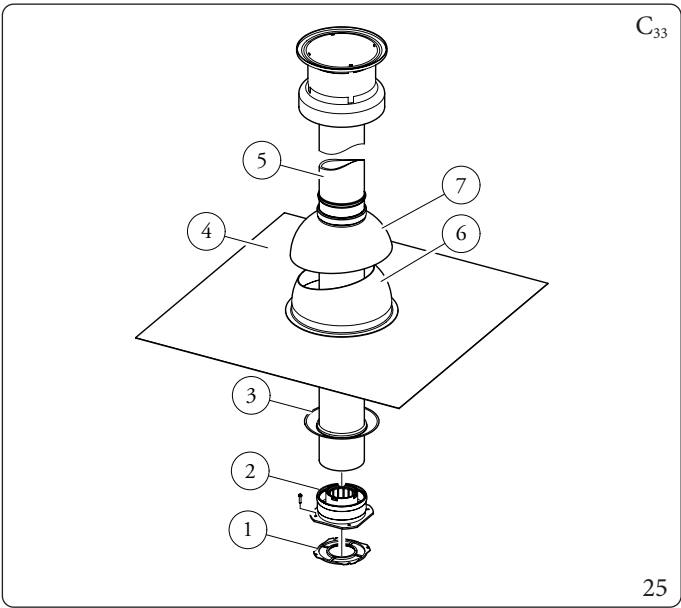
The vertical kit with aluminium slate enables installation on terraces and roofs with a maximum slope of 45% (approx 25°) and the height between the terminal cap and half-shell (374 mm for Ø 60/100 and 260 mm for Ø 80/125) must always be observed.

Vertical kit assembly with aluminium slate Ø60/100 (Fig. 25)

1. Install the concentric flange (2) on the flue exhaust of the appliance, positioning gasket (1) with the circular projections downwards in contact with the appliance flange.
 2. Tighten the concentric flange with the screws in the kit.
- Imitation aluminium slate installation:
3. Replace the slates with the aluminium sheet (4), shaping it to ensure that rainwater runs off.
 4. Position the fixed half-shell (6) on the aluminium slate.
 5. Insert the intake-exhaust pipe (5).
 6. Fit the Ø 60/100 concentric terminal pipe with the male side (5) (smooth) into the flange (2) up to the end stop, making sure that the wall sealing plate has been fitted (3); this will ensure sealing and joining of the elements making up the kit.



When the appliance is installed in areas where very rigid temperatures can be reached, a special anti-freeze kit is available that can be installed as an alternative to the standard kit.



The kit includes (Fig. 25):

- N°1 Gasket (1)
- N°1 Female concentric flange (2)
- N°1 Wall sealing plate (3)
- N°1 Aluminium slate (4)
- N°1 Concentric intake/exhaust pipe Ø 60/100 (5)
- N°1 Fixed half-shell (6)
- N°1 Mobile half-shell (7)

INSTALLER

USER

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TECHNICAL DATA



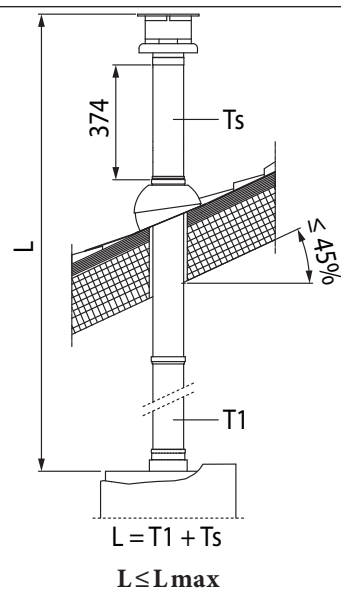
Extensions for vertical kit Ø 60/100 (L = Equivalent length - L max = Maximum length) (Fig. 26).



The maximum lengths ((L max) of the various flues that can be installed are given in the summary table in parag. 1.15.

Key Fig. 26:

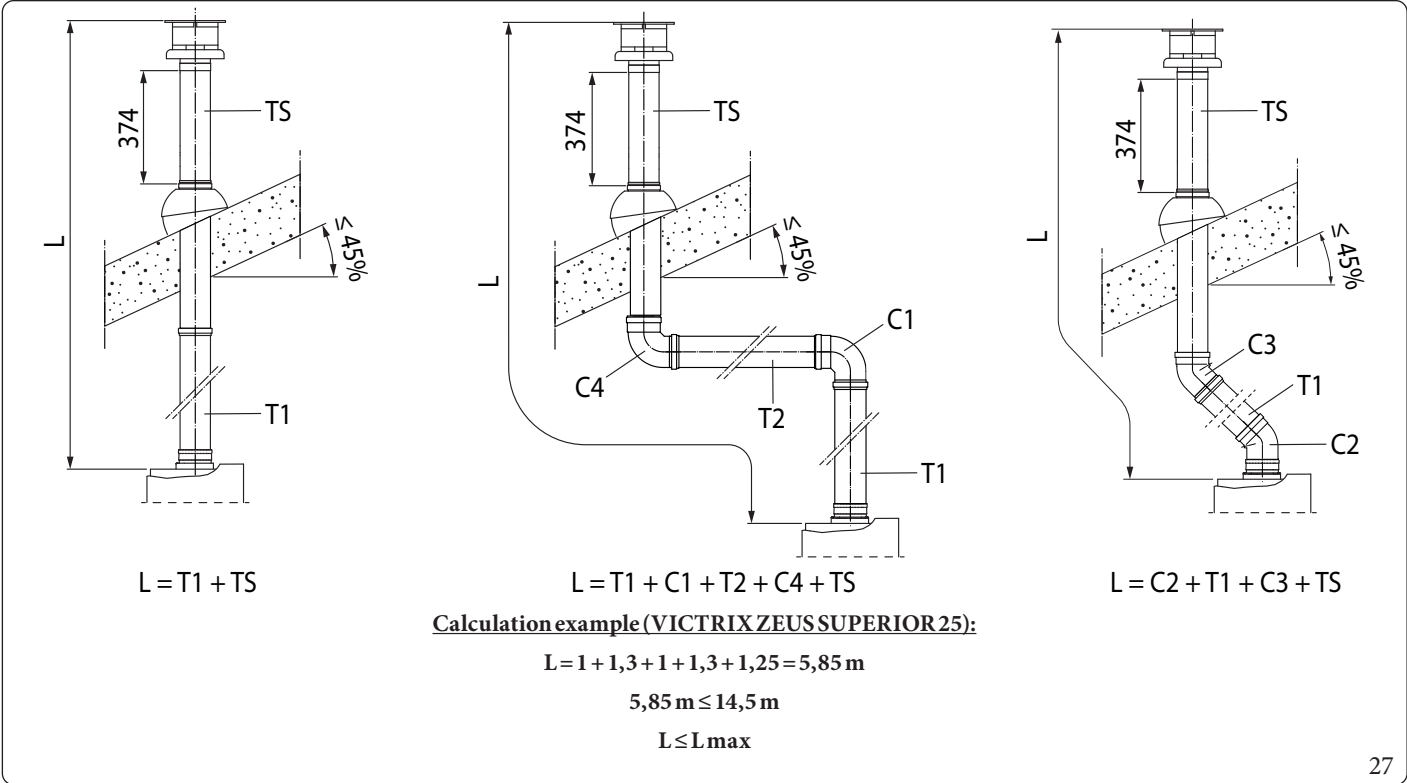
- T1* - Concentric pipe Ø60/100
- TS* - Concentric intake/exhaust terminal Ø60/100
- L* - Equivalent length
- Lmax* - Maximum length

C₃₃

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Installation examples



Key Fig. 27:

- | | | | | | |
|----|---|------------------------------|------|---|--|
| T1 | - | Concentric pipe Ø60/100 | C3 | - | Ø60/100 45° concentric elbow |
| C1 | - | Ø60/100 90° concentric elbow | C4 | - | Ø60/100 90° concentric elbow |
| T2 | - | Concentric pipe Ø60/100 | TS | - | Concentric intake/exhaust terminal Ø60/100 |
| C2 | - | Ø60/100 45° concentric elbow | L | - | Equivalent length |
| | | | Lmax | - | Maximum length |

i To calculate the equivalent length of the flue (L), simply add, for each component you intend to use, the corresponding value indicated in the column "Length equivalent to m of pipe" in the table in par. 1.16, and check that the resulting sum is equal to or less than the maximum length (L max) indicated in par. 1.15. ($L \leq L_{\text{max}}$).

INSTALLER

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MAINTENANCE TECHNICIAN

TECHNICAL DATA



Assembly of vertical kit with Ø 80/125 aluminium tile (Fig.28)

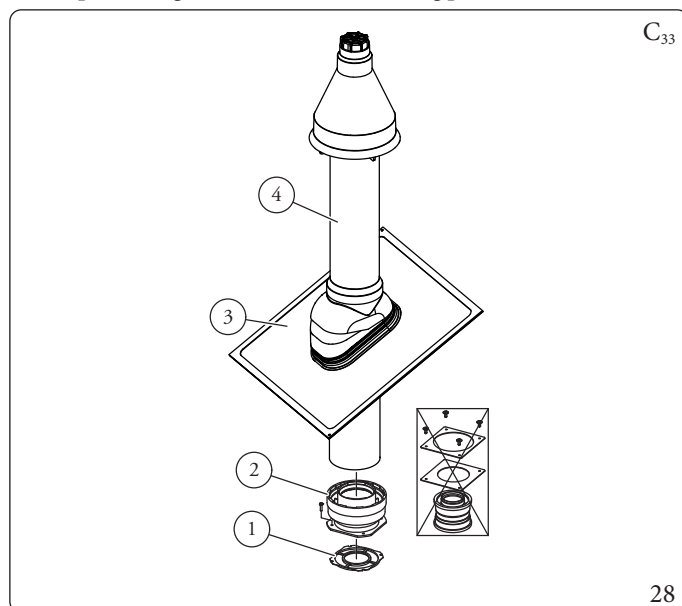


To install the Ø 80/125 kit, you need to use the flanged adapter kit (pos.2, Fig.28).

1. Install the concentric flange (2) on the flue exhaust of the appliance, positioning gasket (1) with the circular projections downwards in contact with the appliance flange.

Imitation aluminium slate installation:

2. Tighten the concentric flange with the screws in the kit.
3. Replace the slates with the aluminium sheet (4), shaping it to ensure that rainwater runs off.
4. Position the fixed half-shell (5) on the aluminium slate;
5. Insert the intake-exhaust terminal (7);
6. Fit the Ø 80/125 concentric terminal pipe with the male side (smooth) to the female side of the adapter (1) (with lip seals) up to the end stop, making sure that the wall sealing plate (3) has been fitted; this will ensure sealing and joining of the elements making up the kit.



The flanged adapter kit includes (Fig.28):

N°1 Gasket (1)

N°1 Flanged adapter Ø 80/125 (2)

The kit Ø 80/125 includes (Fig.28):

N°1 Aluminum converse (3)

N°1 Concentric intake/exhaust terminal Ø 80/125 (4)

The remaining kit components must not be used

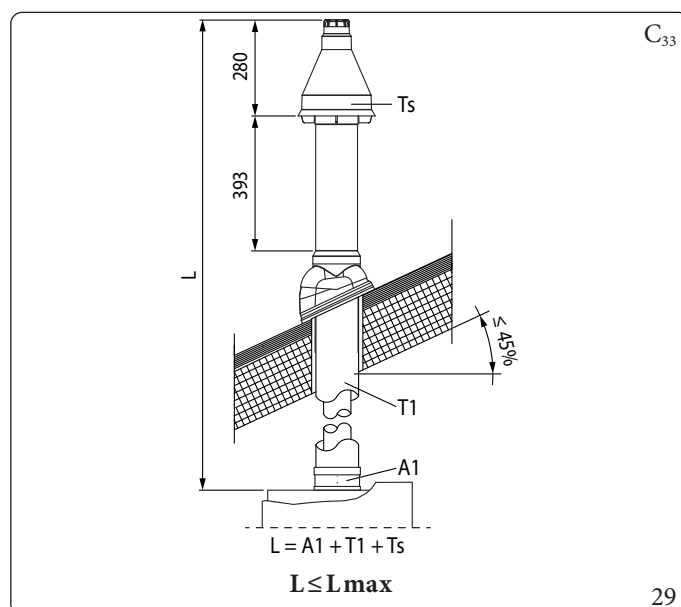
Extensions for vertical kit Ø 80/125 (L = Equivalent length; L max = Maximum length) (Fig.29).



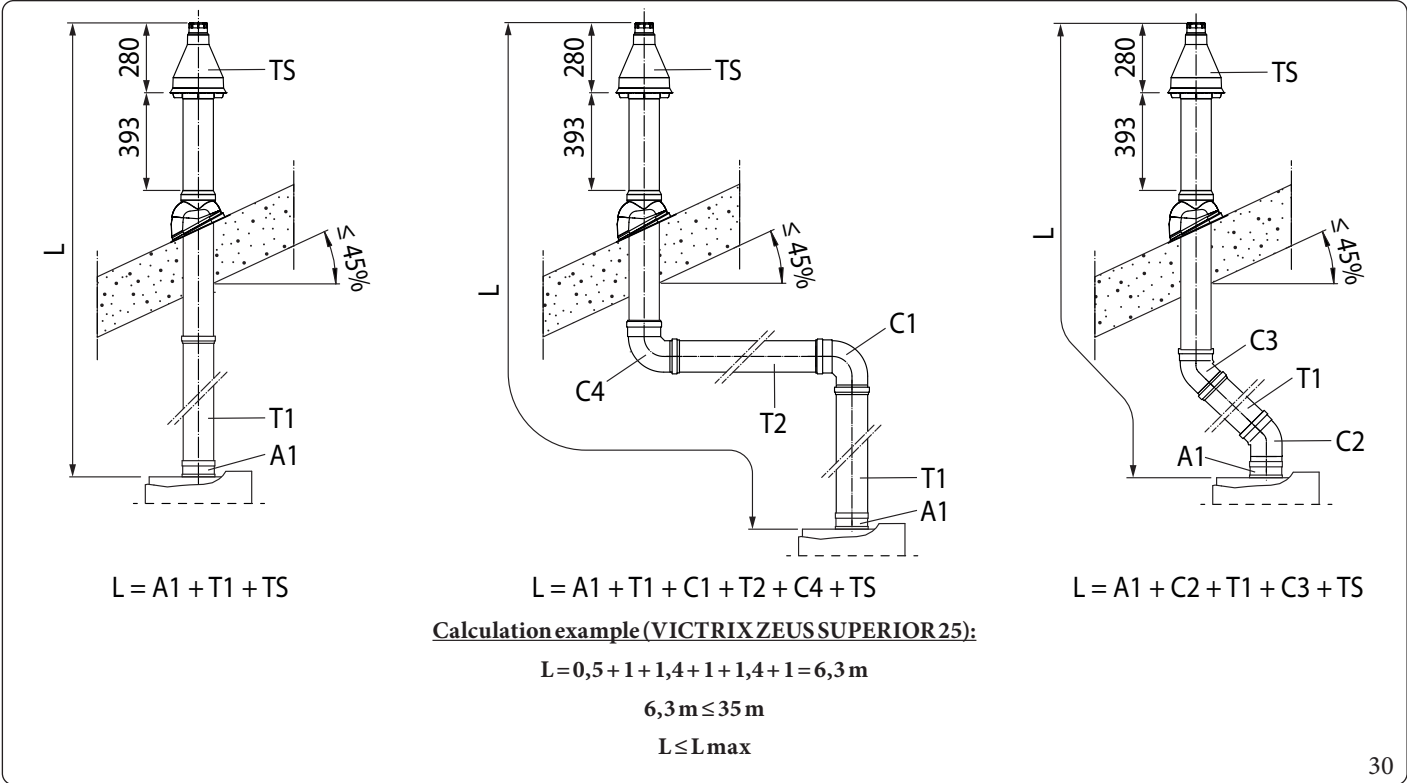
The maximum lengths ((L max) of the various flues that can be installed are given in the summary table in parag. 1.15.

Key (Fig. 29)

- A1 - Flanged adapter Ø80/125
- T1 - Concentric pipe Ø80/125
- TS - Concentric intake / exhaust terminal Ø80/125
- L - Equivalent length
- Lmax - Maximum length



Installation examples



Key (Fig. 30)

- | | | | | | |
|----|---|------------------------------|------|---|--|
| A1 | - | Flanged adapter Ø80/125 | C3 | - | Ø80/125 45° concentric elbow |
| T1 | - | Concentric pipe Ø80/125 | C4 | - | 87° concentric curve Ø80/125 |
| C1 | - | Ø80/125 90° concentric elbow | TS | - | Concentric intake/exhaust terminal Ø80/125 |
| T2 | - | Concentric pipe Ø80/125 | L | - | Equivalent length |
| C2 | - | Ø80/125 45° concentric elbow | Lmax | - | Maximum length |



To calculate the equivalent length of the flue (L), simply add, for each component you intend to use, the corresponding value indicated in the column "Length equivalent to m of pipe" in the table in par. 1.16, and check that the resulting sum is equal to or less than the maximum length (L max) indicated in par. 1.15. ($L \leq L_{\text{max}}$).

INSTALLER

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TECHNICAL DATA

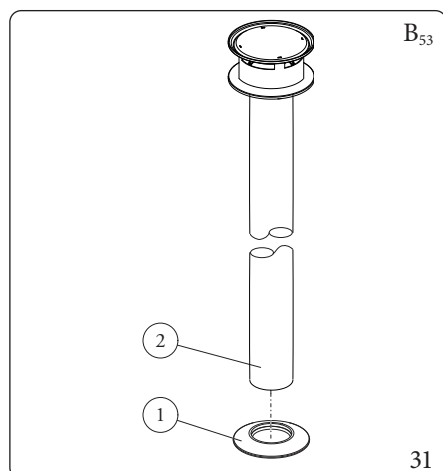


1.20 INSTALLATION OF VERTICAL TERMINALS Ø 80

Configuration type B, open chamber and fan assisted

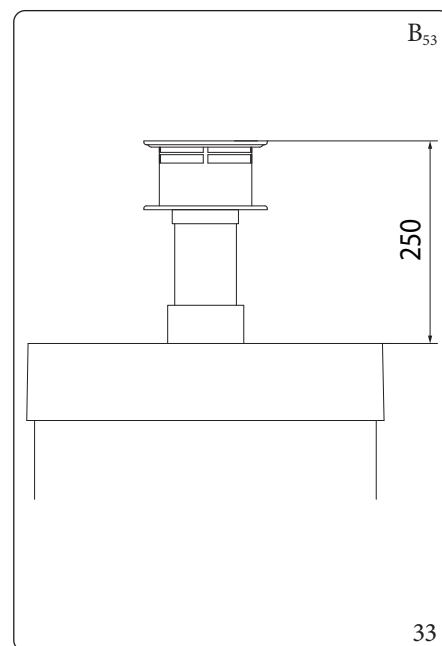
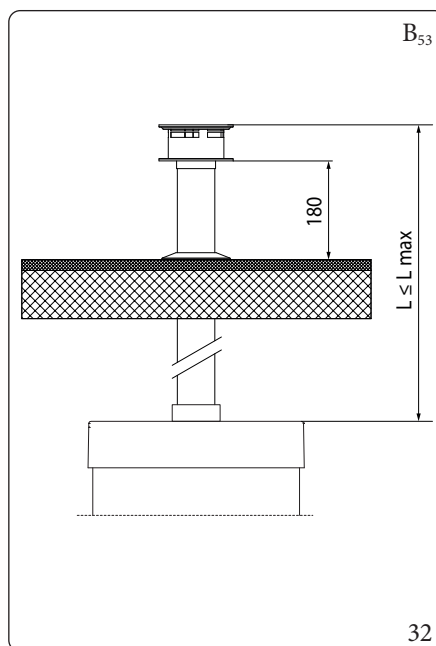
Mounting the vertical kit Ø 80 (Fig. 31)

1. Install the Ø 80 terminal (2) on the central hole on the appliance up to the end stop, making sure that the wall sealing plate (1) has been fitted. This will ensure the sealing efficiency of the kit components.



The Kit includes (Fig. 31):

- N°1 Wall sealing plate (1)
- N°1 Exhaust terminal Ø 80 (2)



Maximum length ($L = \text{Length} - L_{\text{max}} = \text{Maximum length}$) (Fig. 32).

Using the Ø 80 vertical terminal for direct discharge of the combustion products, the terminal must be shortened (see quotas fig. 133). The wall sealing plate (1) must also be inserted in this case going up to stop on the appliance cover.



The maximum lengths (L_{max}) of the various flues that can be installed are given in the summary table in parag. 1.15.

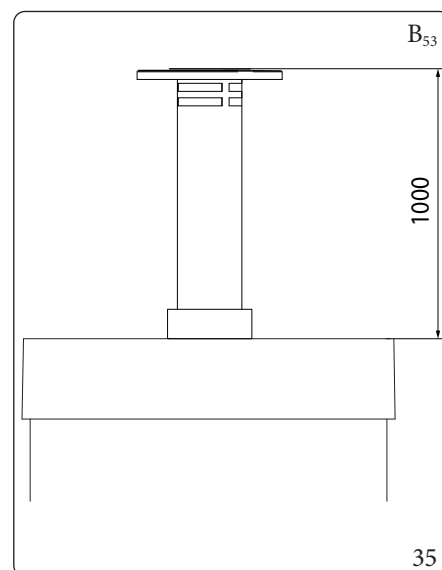
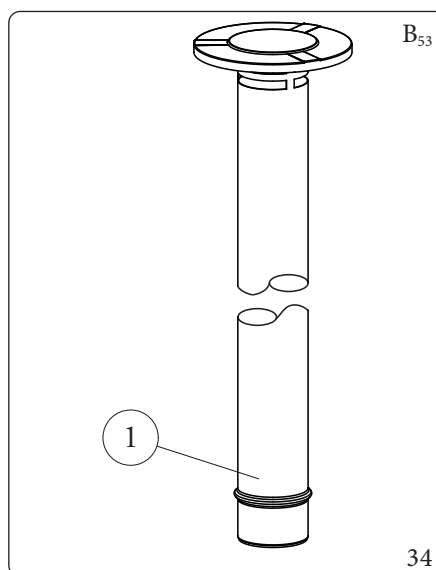
Ø80 vertical kit installation (in stainless steel) (Fig. 34)

1. Install the Ø 80 terminal (1) on the central hole on the appliance up to the end stop, ensuring the sealing efficiency of the kit components.

The 80 Ø steel terminal is used to install the boiler outdoors with a direct exhaust. The terminal cannot be shortened and once it is installed it will extend out by 1000 mm (Fig. 35).

The Kit includes (Fig. 34):

- N°1 Steel exhaust terminal Ø 80 (1)



1.21 SEPARATOR KIT INSTALLATION

Type C configuration, sealed chamber and fan assisted separator kit Ø 80/80

This kit allows air to come in from outside the building and the exhaust to exit from the chimney, flue or intubated duct through divided flue exhaust and air intake pipes.

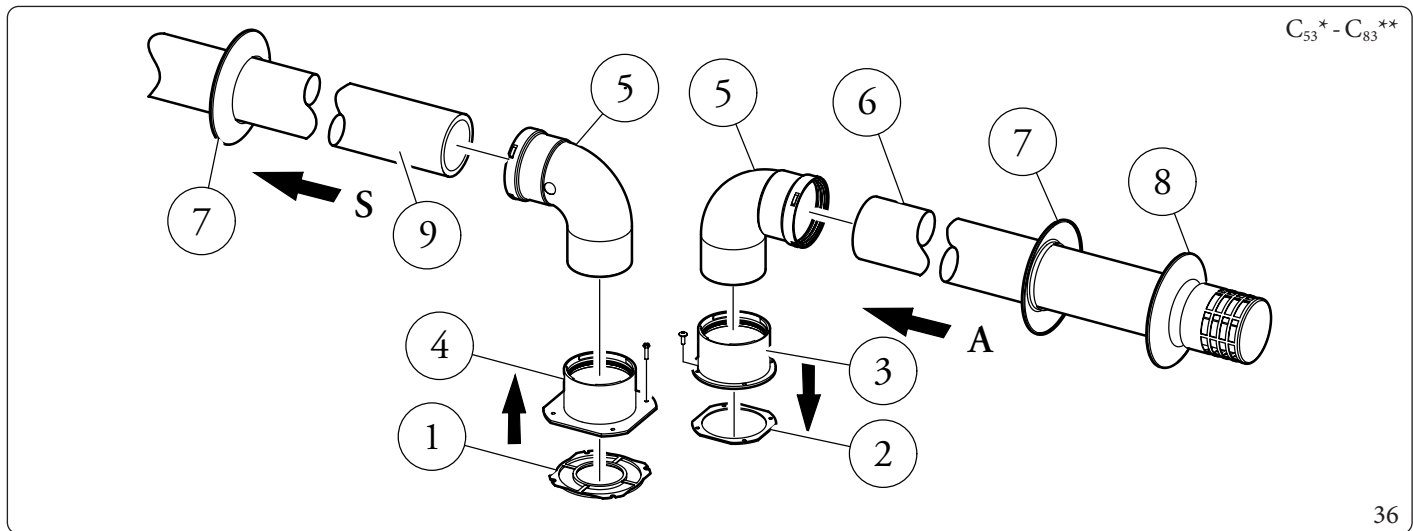
Combustion products are expelled from pipe (S) (in plastic, so as to resist acid condensate).

Air is taken in through duct (A) for combustion (this is also in plastic).

Both ducts can be routed in any direction.

Assembly of separator kit Ø 80/80 (Fig. 36):

1. Install the flange (4) on the central hole of the appliance, positioning gasket (1) with the circular projections downwards in contact with the appliance flange.
2. Tighten with the hexagonal head and flat point screws provided in the kit.
3. Replace the flat flange present in the lateral hole with respect to the central one (according to needs) with the flange (3), positioning the gasket (2) in between.
4. Tighten with the supplied self-tapping screws with drill bit.
5. Fit the bends with male side (smooth) (5) in the female side of the flanges (3 and 4).
6. Fit the intake terminal (6) with the male side (smooth) in the female side of the bend (5) up to the end stop, ensuring that the internal and external wall sealing plates are fitted
7. Fit the exhaust pipe (9) with the male end (smooth) to the female end of the bend (5) up to the end stop; making sure that the internal wall sealing plate has been fitted, this will ensure sealing and joining of the elements making up the kit.



The kit includes (Fig. 36):

- N°1 Exhaust gasket (1)
- N°1 Flange gasket (2)
- N°1 Female intake flange (3)
- N°1 Female exhaust flange (4)
- N°2 Ø 80 90° bend (5)
- N°1 Intake terminal Ø 80 (6)
- N°2 Internal wall sealing plates (7)
- N°1 External wall sealing plate (8)
- N°1 Exhaust pipe Ø 80 (9)

* to complete C₅₃ configuration, also provide for a "green range" roof discharge terminal. The configuration on walls opposite the building is not allowed.

** configuration C₈ envisages connection to flues working with natural draught.



For technical data concerning the C₈ configuration, please refer to the table in par. 5.2.



Installation clearances (Fig. 37)

The minimum installation clearance measurements of the Ø 80/80 separator terminal kit have been stated in some limit conditions.

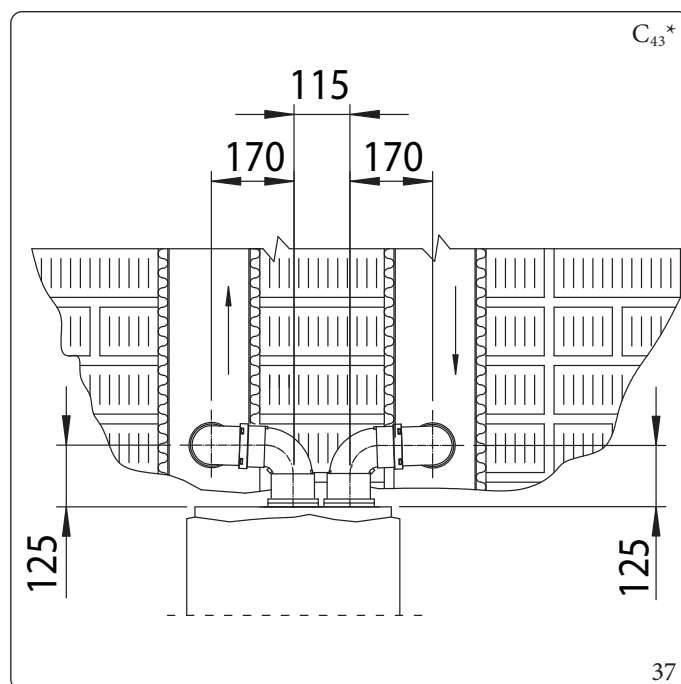
*Configuration C₄ envisages connection to flues working with natural draught.



To preserve proper operation of the appliance and in particular of its condensate drain system in the configurations C₄ - C₈, **it is not allowed** to drain the condensate coming from the existing exhaust duct in the building through the boiler.



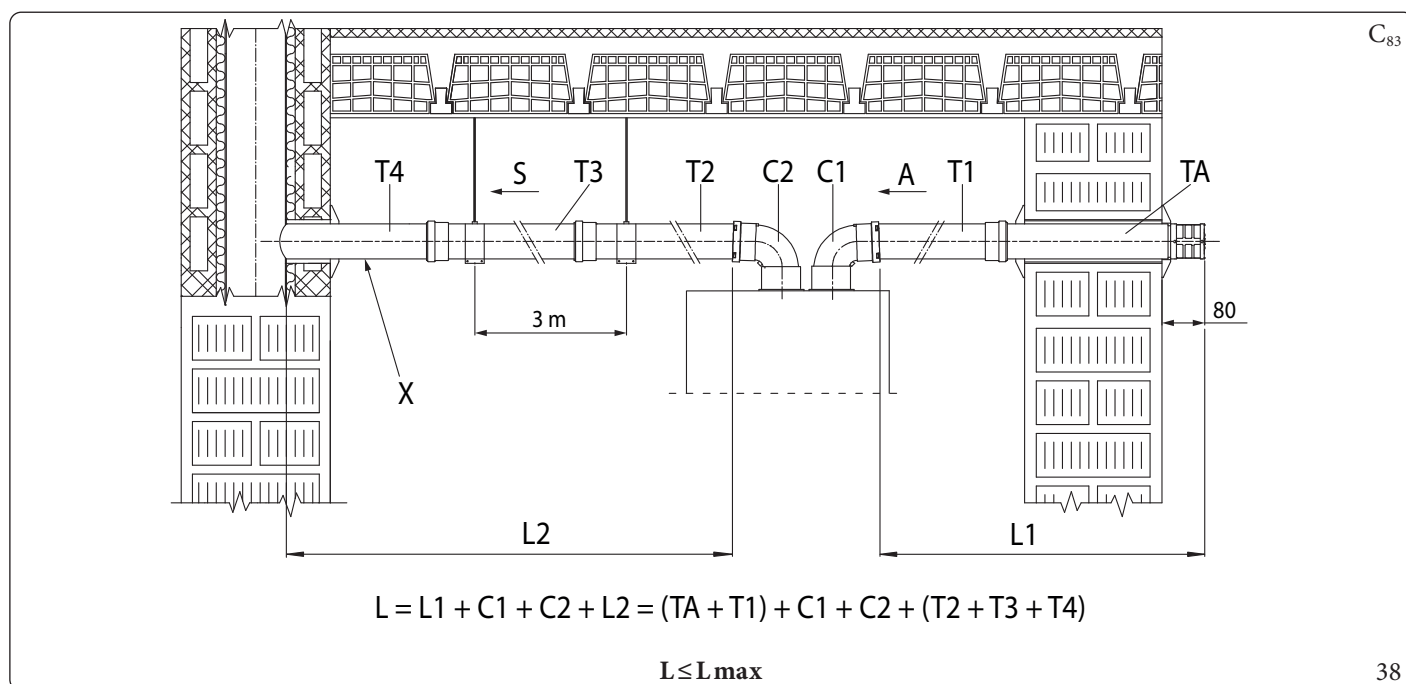
For technical data concerning the C₄ configuration, please refer to the table in par. 5.2.



Extensions for separator kit Ø 80/80 (L = Equivalent length - L max = Maximum length).



To aid in the removal of possible condensate forming in the exhaust pipe, tilt the pipes towards the appliance with a minimum slope of 5% (Fig. 38).



Key (Fig. 38):

- A - Intake
- X - Minimum slope 5%
- S - Exhaust
- TA - Intake terminal Ø80
- T1 - Pipe Ø80
- T2 - Pipe Ø80

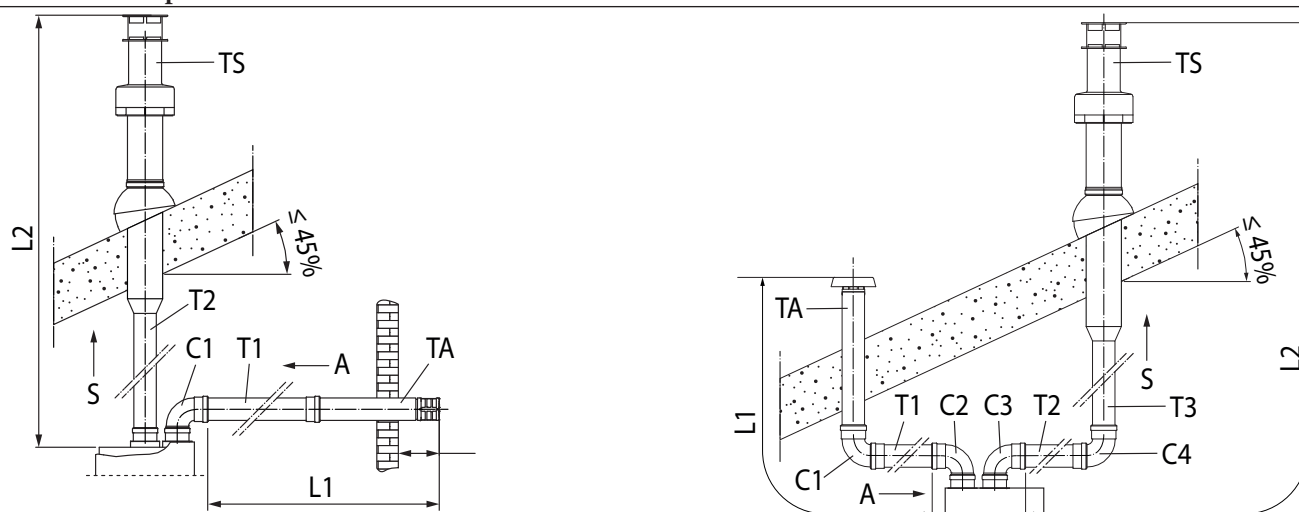
- T3 - Pipe Ø80
- T4 - Pipe Ø80
- C1 - Ø80 90° elbow
- C2 - Ø80 90° elbow
- L - Equivalent length
- L max - Maximum length



The maximum lengths ((L max) of the various flues that can be installed are given in the summary table in parag. 1.15.

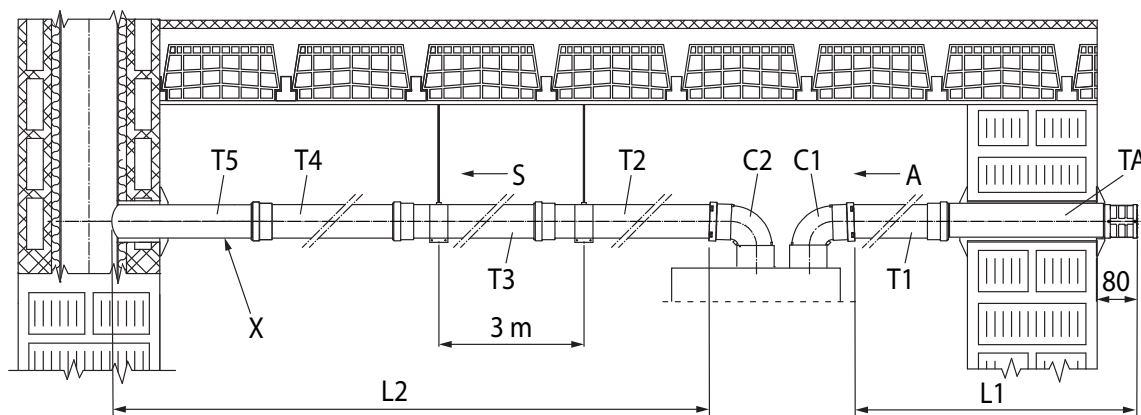


Installation examples



$$L = L1 + C1 + L2 = (TA + T1) + C1 + (T2 + TS)$$

$$L = L1 + C2 + C3 + L2 = (TA + C1 + T1) + C2 + C3 + (T2 + C4 + T3 + TS)$$



$$L = L1 + C1 + C2 + L2 = (TA + T1) + C1 + C2 + (T2 + T3 + T4 + T5)$$

Calculation example (VICTRIX ZEUS SUPERIOR 25):

$$L = (2,5 + 0,7) + 1,6 + 2,1 + (1 + 1 + 1 + 1) = 10,9 \text{ m}$$

$$10,9 \text{ m} \leq 35 \text{ m}$$

$$L \leq L_{\text{max}}$$

Key Fig. 39:

- TA - Intake terminal Ø80
- TS - Exhaust terminal Ø80
- T1 - Pipe Ø80
- T2 - Pipe Ø80
- T3 - Pipe Ø80
- T4 - Pipe Ø80
- T5 - Pipe Ø80
- C1 - Ø80 90° elbow

- C2 - Ø80 90° elbow
- C3 - Ø80 90° elbow
- C4 - Ø80 90° elbow
- X - Minimum slope 5%
- A - Intake
- S - Exhaust
- L - Equivalent length
- L_{max} - Maximum length



To calculate the equivalent length of the flue (L), simply add, for each component you intend to use, the corresponding value indicated in the column "Length equivalent to m of pipe" in the table in par. 1.16, and check that the resulting sum is equal to or less than the maximum length (L_{max}) indicated in par. 1.15. ($L \leq L_{\text{max}}$).

INSTALLER

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1.22 ADAPTORKIT INSTALLATION C₉

This kit allows an Immergas appliance to be installed in C₉₃ configuration, with combustion air intake directly from the shaft where the flue gas exhaust is, obtained by means of a ducting system.

System composition

The system must be combined with the following components (sold separately) to be functional and complete:

- kit C₉₃ " Ø 100 or Ø 125 version;
- ducting kit rigid Ø 60 and Ø 80 and flexible Ø 50 and Ø 80;
- flue exhaust kit Ø 60/100 or Ø 80/125 configured according to the installation and type of appliance.

Mounting adapter kit C₉ (Fig. 40)



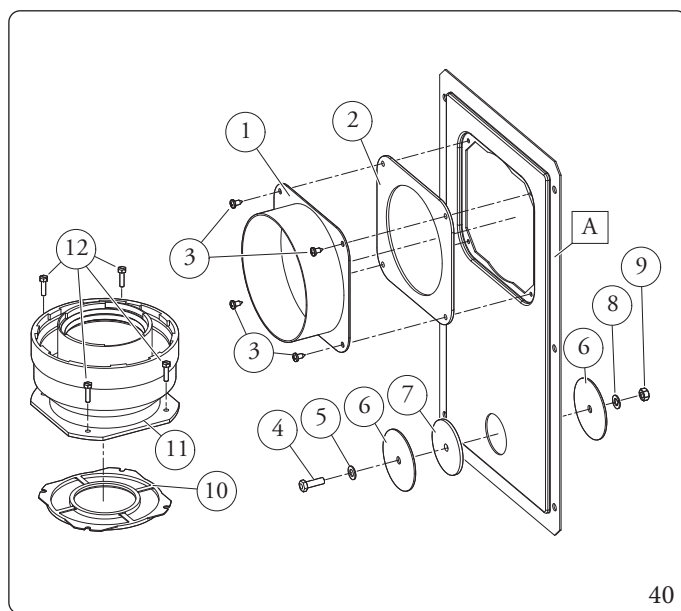
(Version Ø 125 only) before assembly check the gaskets are in the right position.
To ease the push-fitting, spread the supplied lubricants on the parts.



To aid in the removal of possible condensate forming in the exhaust pipe, tilt the pipes towards the appliance with a minimum slope of 5% (Fig. 38).

1. Mount the components of kit C₉ on the door (A) of the ducting system (Fig. 40).
2. (Version Ø 125 only) mount the flanged adaptor (11) interposing the concentric gasket (10) on the appliance, fitting it with the screws (12).
3. Mount the ducting system as described in the relative instructions sheet.
4. Calculate the distances between the appliance drain and the bend of the ducting system.
5. Prepare the appliance flue system, making sure that the internal pipe of the concentric kit is fitted up to the end stop in the ducting system curve (Quota "X" Fig. 42), whereas the external pipe must reach the end stop of the adapter (1).
6. Mount the cover (A) complete with adaptor (1) and caps (6) on the wall.
7. Assemble the flue system to the ducting system.

Once all components have been assembled properly, the exhaust fumes will be expelled via the ducting system; the combustion air for normal boiler operation will be aspirated directly by the shaft (Fig. 42).



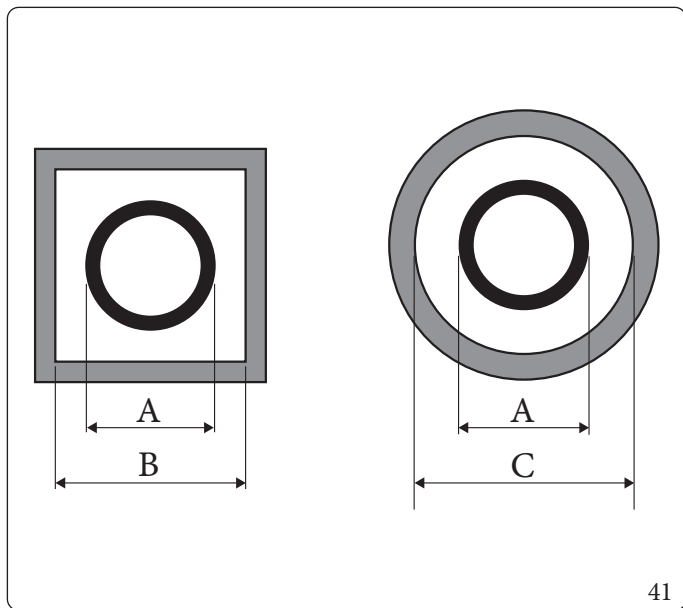
The adapter kit includes (Fig. 40):

- N°1 Door adaptor Ø 100 or Ø 125 (1)
- N°1 Door gasket made of neoprene (2)
- N°4 Screws 4.2 x 9 AF (3)
- N°1 Hex headed screw M6 x 20 (4)
- N°1 Flat nylon washer M6 (5)
- N°2 Door hole closure metal-sheet plate plug (6)
- N°1 Plug gasket made of neoprene (7)
- N°1 Toothed washer M6 (8)
- N°1 Nut M6 (9)
- N°1 (Ø 80/125 kit) Concentric gasket Ø 60/100 (10)
- N°1 (Ø 80/125 kit) Flanged adaptor Ø 80/125 (11)
- N°4 (Ø 80/125 kit) M4 hex headed screws x 16 slotted screwdriver (12)
- N°1 (Ø 80/125 kit) Lubricant bag

Supplied separately (Fig. 40):

- N°1 Ducting kit door (A)



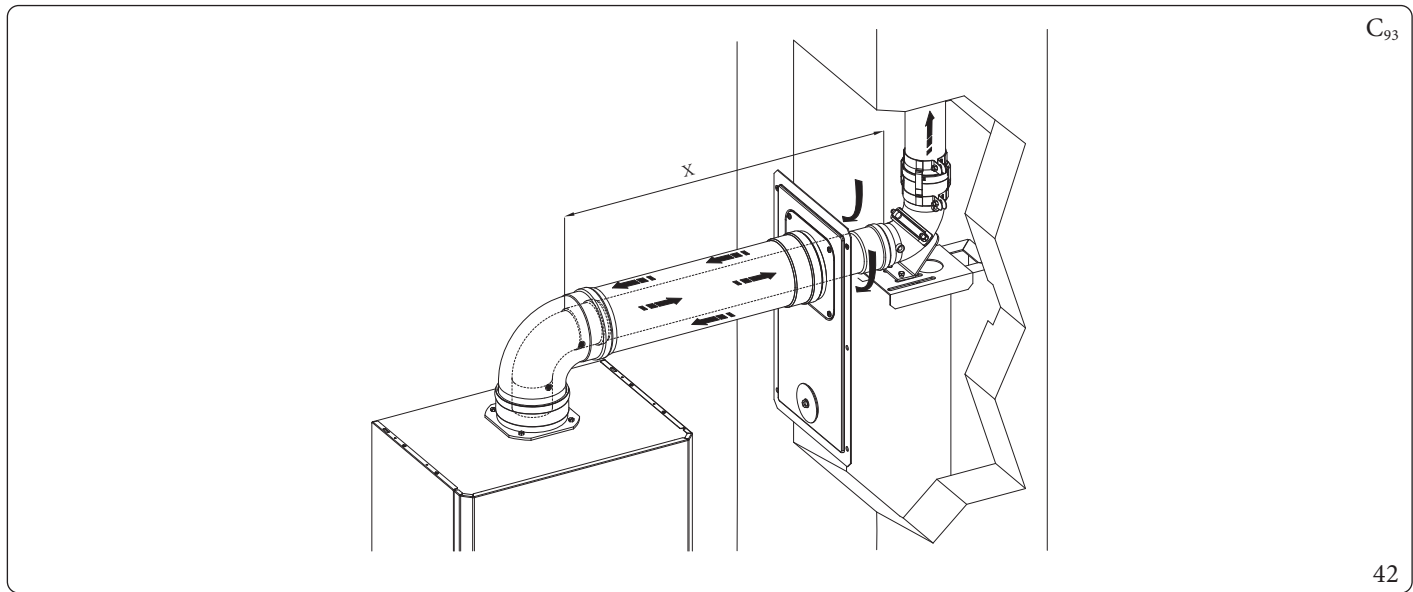


Ducting	ADAPTOR (A) mm	SHAFT (B) mm	SHAFT (C) mm
Ø60 Rigid	66	106	126
Ø50 Flexible	66	106	126
Ø80 Rigid	86	126	146
Ø80 Flexible	103	143	163

Technical data

The dimensions of the shafts must ensure a minimum gap between the outer wall of the smoke duct and the inner wall of the shaft: 30 mm for circular section shafts and 20 mm in the event of a square section shaft (Fig. 41).

Maximum 2 changes of direction are allowed on the vertical section of the flue system with a maximum clearance angle of 30° with respect to the vertical.



The maximum lengths ((L max) of the various flues that can be installed are given in the summary table in parag. 1.15.

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1.23 DUCTING OF FLUES OR TECHNICAL SLOTS

Ducting is an operation through which, via the introduction of one or more relevant pipes, one achieves a system for the evacuation of the combustion products of a gas appliance, made up from the coupling of an existing or new ducting pipe with a chimney, flue or technical slot (also in new buildings) (Fig. 43).

Ducting requires ducts declared to be suitable for the purpose by the manufacturer, following the installation and user instructions, provided by the manufacturer and the requirements of the regulations in force.

Immergas ducting systems



The Ø 60 rigid, Ø 50 and Ø 80 flexible and Ø 80 rigid "Green Range" ducting systems must only be used for domestic use and with Immergas condensing boilers.

In any case, ducting operations must respect the provisions contained in the standard and in current technical regulations; in particular, the declaration of conformity must be compiled at the end of work and on commissioning of the ducted system.

The instructions in the project or technical report must likewise be followed, in cases provided for by the standard and current technical regulations.

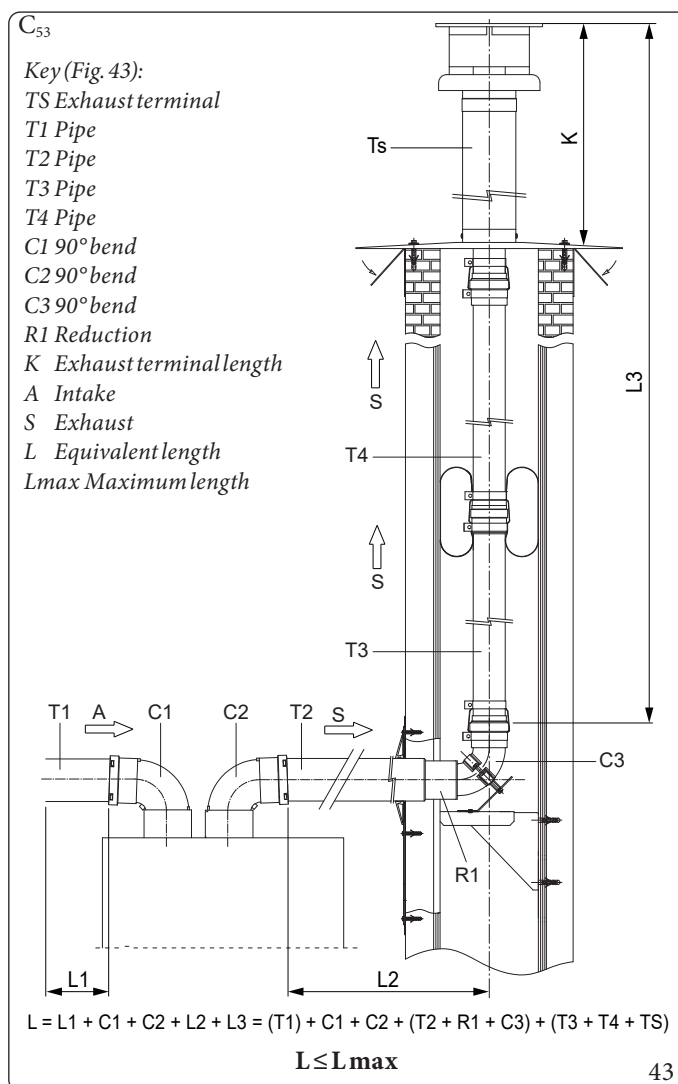
To guarantee reliability and operation over time of the ducting system, make sure:

- it is used in average atmospheric and environmental conditions, according to current regulations (absence of combustion products, dusts or gases that can alter the normal thermophysical or chemical conditions; existence of temperatures coming within the standard range of daily variation, etc.).
- Installation and maintenance must be performed according to the indications supplied by the manufacturer included with the "green range" ducting system chosen and in compliance with the regulations in force.
- To guarantee long-time reliability and functionality of the ducting system, the maximum length specified by the manufacturer (Par. 1.15) must be complied with.

In flexible and rigid ducting configurations C_{53} , the maximum length (L_{max}) does not include the 3 elbows and the exhaust terminal. They must therefore be considered when calculating the equivalent length (L).



The maximum lengths (L_{max}) of the various flues that can be installed are given in the summary table in parag. 1.15.

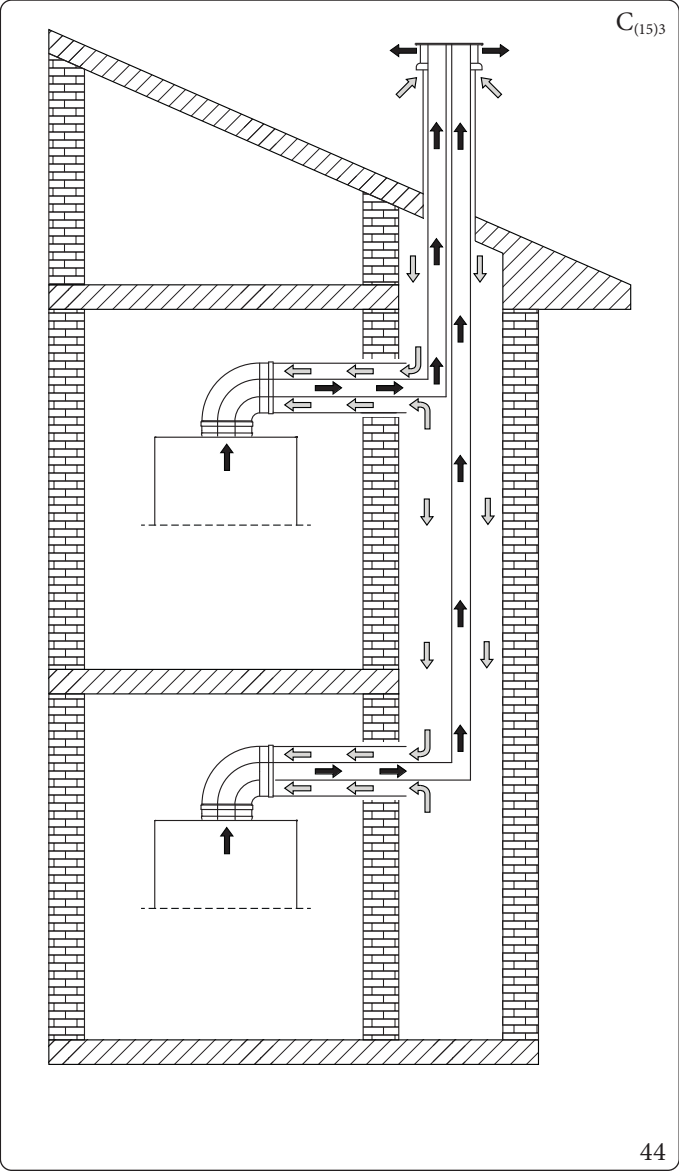


Exhaust terminal lengths table

Ducting type	Terminal	K(m)
Ø 50 Flexible	Terminal with 90° bend kit	0,27
	T terminal kit	0,16
	Ø80/125 vertical terminal kit	0,48
Ø60 Rigid	Concentric vertical terminal kit Ø60	0,49
Ø 80 flexible	Ø80/125 vertical terminal kit	0,48
Ø80 rigid	Concentric vertical terminal kit Ø80	0,65



1.24 CONFIGURATION C₍₁₅₎₃ CONCENTRIC KIT



Installation in C₍₁₅₎₃ configuration of an Immergas appliance, makes it possible to extract combustion air directly from the shaft where the flue gas exhaust is present in the dedicated flue.

Information for C₍₁₅₎₃ installations

The appliance is suitable for operating in a C₍₁₅₎₃ or C_{(15)3X} system, correctly sized by a thermotechnical designer.

The roof terminal, which is an integral part of the project, must also meet the legislative and regulatory obligations prescribed for this component. In particular, it must ensure that the degree of recirculation of the flue gas is always below 10%.

The common supply shaft must be sized so that, in combination with the intake part of the roof terminal, a vacuum greater than 5 Pa is not generated at the point of the shaft where the appliance draws the combustion air from the shaft itself, when the appliance works at maximum heat output and the entire multiple ducting system works at maximum design power.

If the single terminal complies with the following head losses conditions at the maximum appliance heat input:

Model	Pa
Victrix Zeus Superior 25	5
Victrix Zeus Superior 30	10
Victrix Zeus Superior 35	10

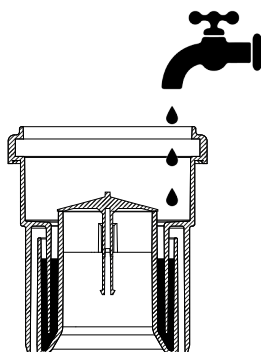
in compliance with the conditions described above, the maximum extensions that can be achieved in the shaft are those defined in this manual with C₉₃ configuration, using the same appliance settings.



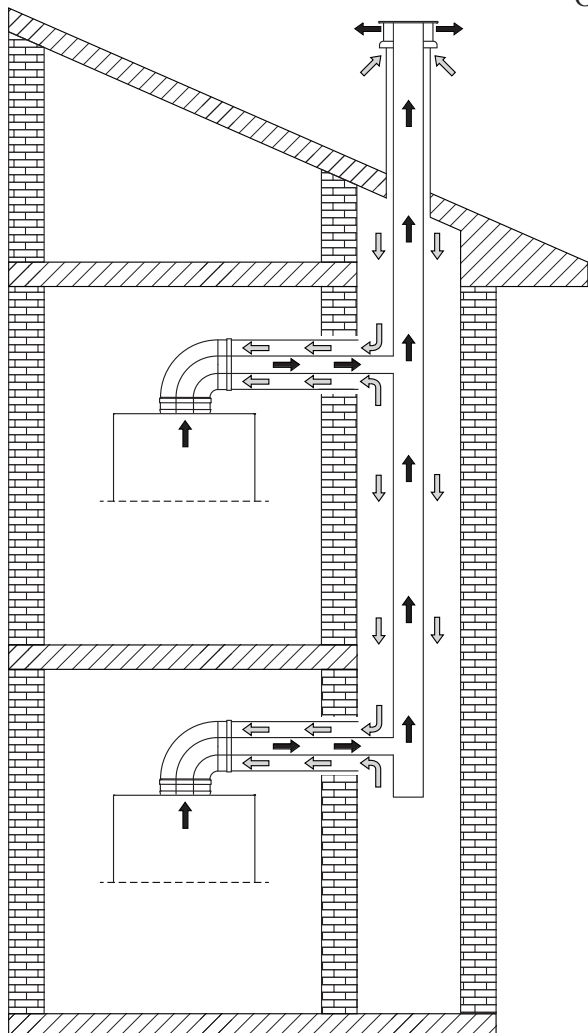
1.25 CONFIGURATION C₍₁₀₎₃ CONCENTRIC KIT (Ø 80/125)



In the C₍₁₀₎₃ installations, the appliance flue exhaust must mandatorily be fitted with a flue gas non-return valve kit, consisting of the valve itself with instructions, specification and relative sticker with additional safety information (Fig.45).



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Installation in C₍₁₀₎₃ configuration of an Immergas appliance (only permitted with type-approved original flue, including the specific non-return valve), makes it possible to extract combustion air directly from the shaft where the flue gas exhaust is present in the collective flue.



Coupling to the shaft for intake is possible with male flue Ø 125 or Ø 125 cut female.

The collective flue coupling for the exhaust is possible with female Ø 80 flue with gasket (Fig. 48).

Concentrickit assembly in C₍₁₀₎₃ configuration (Fig. 48)

 To aid in the removal of possible condensate forming in the exhaust pipe, tilt the pipes towards the appliance with a minimum slope of 5% (Fig.47)

 Before installation, in the absence of a shut-off flue adjusting device at the coupling point of the flue in the pressurised collective flue, it will be necessary to turn off all the boilers connected to the pressurised collective flue itself, or make sure to intercept the connection point to avoid the dispersion of combustion products into the environment.

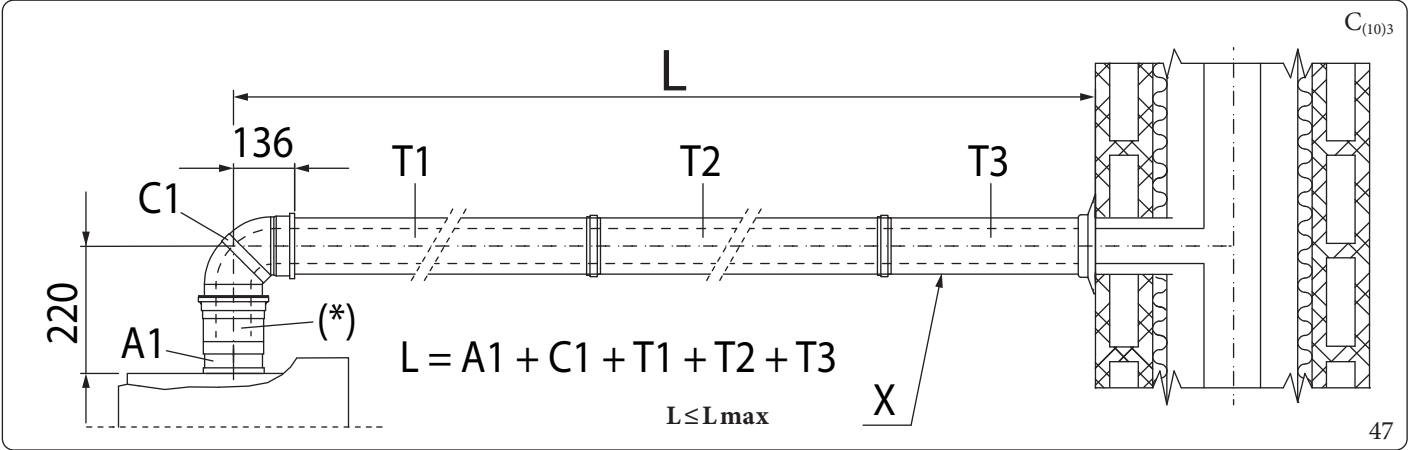
1. Position the flanged adaptor (14) interposing the concentric gasket (15) on the appliance, fitting it with the screws (13) (see Fig. 48).
2. Insert the non-return valve kit on flue gas Ø80 in the flanged adapter, taking care to remove the spacer Ø 80 th. 5 mm (see Fig. 48).

 **Make sure to fill the flue gas non-return valve siphon with water (Fig. 45):**

3. Fit the Ø 125 extension in the flanged adapter.
4. Insert the Ø 80/125 bend on the non-return valve.
5. Calculate the distances between the bend and the connection to the collective flue and the shaft.
6. Adapt the extension (10), calculating that the inner pipe of the concentric kit must fit as far as it will go into the collective flue. The outer pipe must engage up to the door.

 Before mounting it, ensure that the gaskets are in the correct position.
To ease the push-fitting, spread the supplied lubricants on the parts.

7. Mount the cover (A) complete with adaptor (1) and caps (6) on the wall.
 8. Assemble the flue to the collective flue exhaust system.
 9. Refer to the path Menu/Support/Boiler/Flue
 10. At item -Enable klapet valve-, set "Yes".
 11. Carry out the quick calibration procedure (Par.4.13).
- Once all components have been assembled properly, the exhaust flue gas will be expelled in the collective flue, the combustion air for normal appliance operation will be aspirated directly by the shaft (Fig. 42).



Key (Fig. 47)

X	- Minimum slope 5%	T1	- Pipe Ø80/125
A1	- Flanged adapter Ø80/125	T2	- Pipe Ø80/125
(*)	- Non-return valve on flue gas (do not consider when calculating the equivalent length)	T3	- Pipe Ø80/125
C1	- 90° elbow Ø80/125	L	- Equivalent length
		Lmax	- Maximum length

 The maximum lengths ((L max) of the various flues that can be installed are given in the summary table in parag. 1.15.

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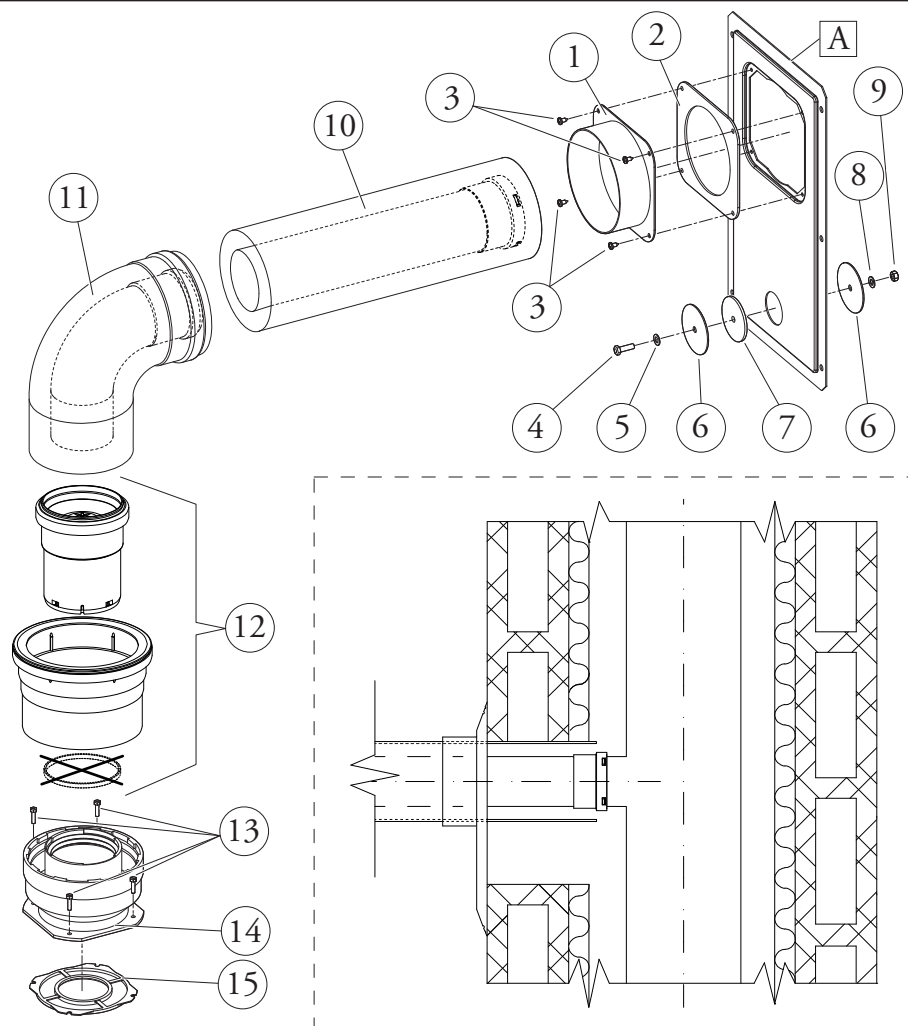
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Key (Fig. 48)

The C_{100} adaptor kit includes:

- 1 Door adaptor $\varnothing 100$ or $\varnothing 125$ (1)
- No.1 Door gasket made of neoprene (2)
- No.4 Screws 4.2x9 ST (3)
- No.1 Hex headed screw M6x20 (4)
- No.1 Flat nylon washer M6 (5)
- No.2 Door hole closure metal-sheet plate plug (6)
- No.1 Plug gasket made of neoprene (7)
- No.1 Toothed washer M6 (8)
- No.1 M6 nut (9)

The $\varnothing 80/125$ extension pipe kit includes:

- 1 Extension pipe unit $\varnothing 80/125$ (10)

The bend kit $\varnothing 80/125$ includes:

- 1 Concentric bend $\varnothing 80/125$ at 87° (11)

The non-return valve kit on the flues $\varnothing 80$ (12) includes:

- 1 Gasket $\varnothing 80$
- 1 Non-return valve on flues $\varnothing 80$
- 1 Extension $\varnothing 125$
- 1 Spacer $\varnothing 80$ th. 5 mm (to be excluded for this configuration)
- No.1 Information sticker

The adaptor kit includes:

- 4 (kit $\varnothing 80/125$) M4 hex headed screws x 16 slotted screwdriver (13)
- 1 (kit $\varnothing 80/125$) Flanged adapter $\varnothing 80/125$ (14)
- 1 (kit $\varnothing 80/125$) Concentric gasket (15)

Supplied separately (Fig. 48):

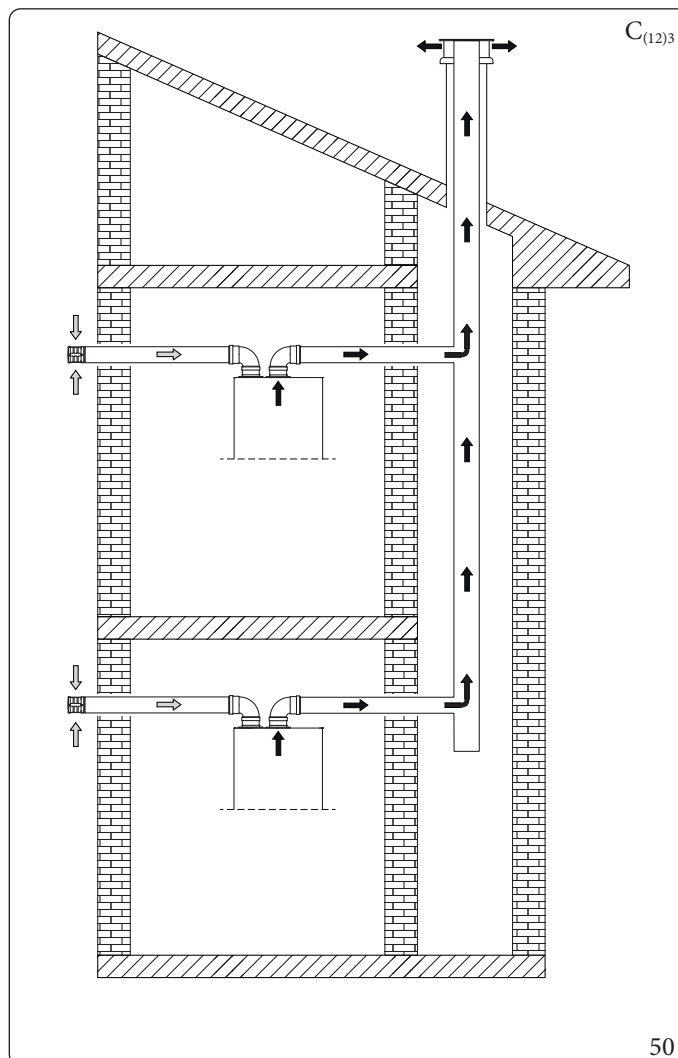
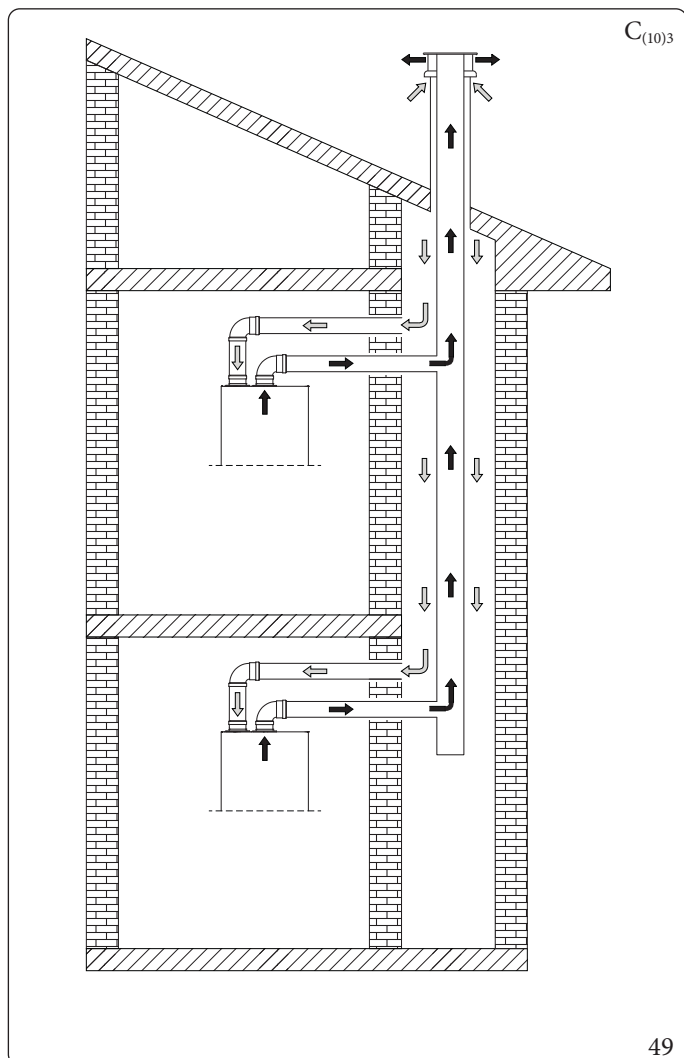
- No.1 Ducting kit door (A)



1.26 CONFIGURATION C₍₁₀₎₃ - C₍₁₂₎₃ SEPARATOR KIT (Ø 80/80)



In the C₍₁₀₎₃ and C₍₁₂₎₃ installations, the appliance flue exhaust must be fitted with a flue gas non-return valve kit, supplied by Immergas as an optional, consisting of the valve itself with instructions and relative sticker with additional safety information (Fig.45).



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This configuration (allowed only with the approved original flue, including the specific non-return valve), makes it possible to suck the air outside the home or directly from the shaft where the flue gas exhaust is present and the evacuation of the flue gas itself inside a collective flue.



$C_{(10)3}$ (Fig. 49):

Coupling to the shaft for intake is possible with male flue Ø 80 or Ø 80 cut female.

$C_{(10)3} - C_{(12)3}$ (Fig. 49 - 50)

The collective flue coupling for the exhaust is possible with female Ø 80 flue with gasket.

Assembly of separator kit Ø 80/80 (Fig. 51):



Before installation, in the absence of a shut-off flue adjusting device at the coupling point of the flue in the pressurised collective flue, it will be necessary to turn off all the boilers connected to the pressurised collective flue itself, or make sure to intercept the connection point to avoid the dispersion of combustion products into the environment.

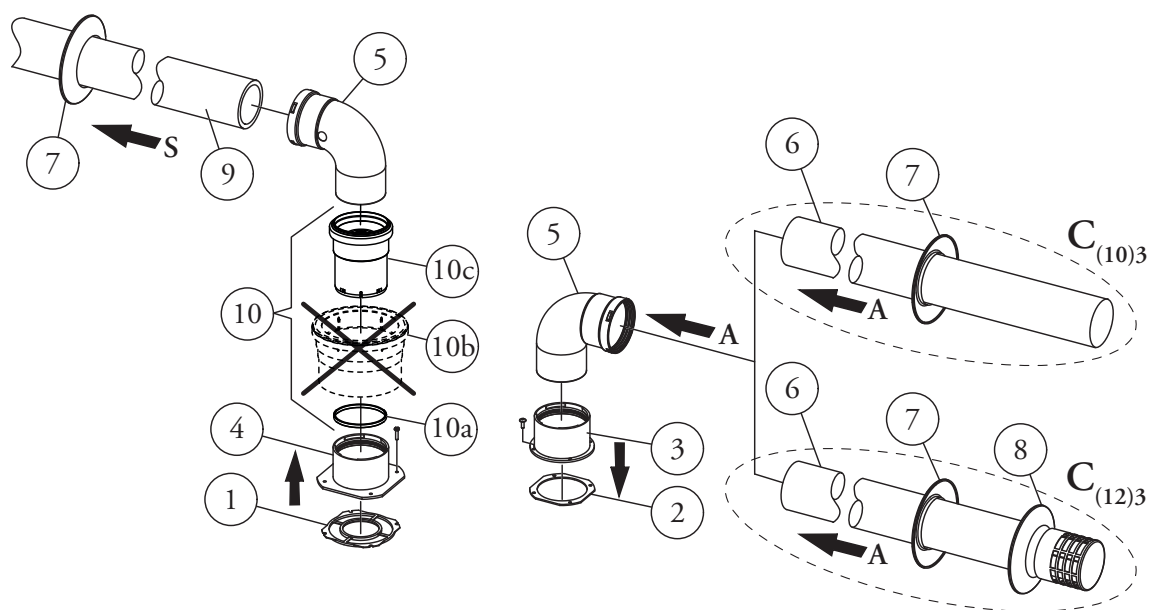
1. Install the discharge flange (4) on the appliance sample point flange, positioning the relative gasket (1) with the circular projections downwards in contact with the appliance flange, and tighten using the hex screws with flat tip contained in the kit.
2. Remove the flat flange present in the intake hole and replace it with the intake flange (3), positioning the gasket (2) contained in the separator kit Ø 80/80 and tighten using the supplied self-threading screws.
3. Eliminate the extension Ø 125 (10b) from the non-return valve kit on the flue gas.
4. **Insert the spacer Ø 80 th. 5 mm (10a) into the flue exhaust flange.**
5. Insert the flue gas non-return valve on the Ø 80 (10c) flues inside the flue exhaust flange.



Make sure to fill the flue gas non-return valve siphon with water (Fig. 45):

6. Fit the bends with male side (smooth) (5) in the female side of the flanges (3 and 4).
7. For intake from shaft ($C_{(10)3}$) i.e. from common intake duct, connect the intake ducts Ø 80 (6) to the bend (5), making sure that the internal wall sealing plate (7) has already been inserted. For wall intake ($C_{(12)3}$), fit the intake terminal (6) with the male side (smooth) in the female side of the bend (5) up to the end stop, ensuring that the internal (7) and external (8) wall sealing plates are fitted.
8. Connect the Ø 80 drain pipe making sure to have already inserted the internal wall sealing plate (7) inside the end section of the pipe.
9. Refer to the path Menu/Support/Boiler/Flue
10. At item -Enable klapet valve-, set "Yes".
11. Carry out the quick calibration procedure (Par.4.13).





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The kit includes (Fig. 51):

No.1 Exhaust gasket (1)

No.1 Flange gasket (2)

No.1 Female intake flange (3)

No.1 Female exhaust flange (4)

No.2 Bend 90° Ø 80 (5)

1 Extension Ø 80 (6) (only C₍₁₀₎₃)

1 Intake terminal Ø 80 (6) (only C₍₁₂₎₃)

No.2 Internal wall sealing plates (7)

1 External wall sealing plate (8) (only C₍₁₂₎₃)

No.1 Exhaust pipe Ø 80 (9)

1 Non-return valve kit on flue gas Ø 80 (10)

- 1 Spacer Ø 80 (10a)

- 1 Extension Ø 125 (10b)

- 1 Non-return valve on flue gas Ø 80 (10c)

N.B.: remove extension Ø 125

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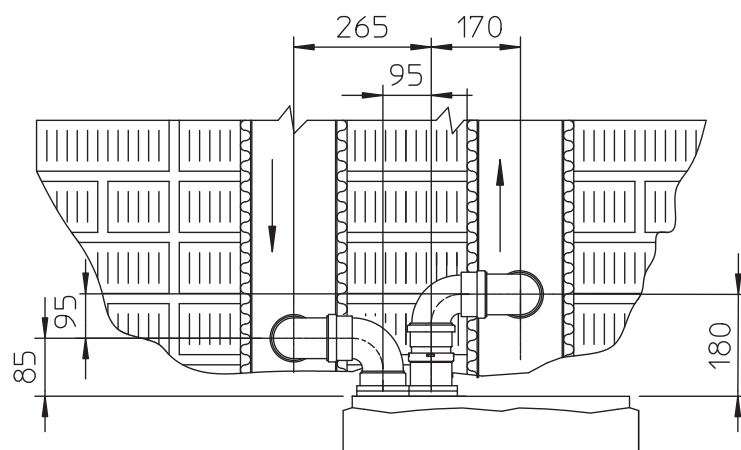
USER

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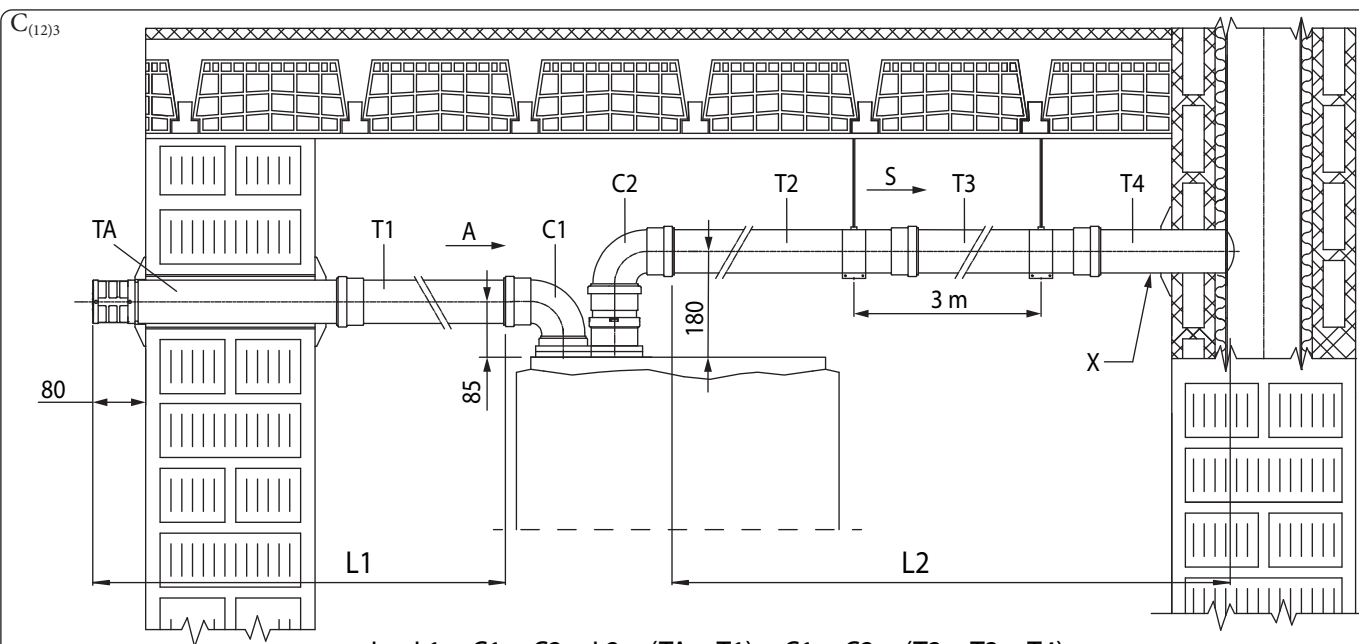
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C₍₁₀₎₃

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$$L = L1 + C1 + C2 + L2 = (TA + T1) + C1 + C2 + (T2 + T3 + T4)$$

$$L \leq L_{max}$$

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Key (Fig. 53)

- A - Intake
- X - Minimum slope 5%
- S - Exhaust
- TA - Intake terminal Ø80
- T1 - Pipe Ø80
- T2 - Pipe Ø80

- T3 - Pipe Ø80
- T4 - Pipe Ø80
- C1 - Ø80 90° elbow
- C2 - Ø80 90° elbow
- L - Equivalent length
- L_{max} - Maximum length



The maximum lengths ((L_{max}) of the various flues that can be installed are given in the summary table in parag. 1.15.



Information for installations $C_{(10)3}$ and $C_{(12)3}$



The appliance is suitable for operation in a $C_{(10)3}$ or $C_{(12)3}$ system only with the supply of methane gas (2H and 2E categories).

The appliances are developed to operate on collective pressurised flues with a safety pressure at the minimum heat input of 25 Pa and a safety pressure at the maximum heat input of 100 Pa.



In boilers installed in type $C_{(10)}$ or $C_{(12)}$ flue systems, the parameter "Enable clapet valve" must be enabled, which will require quick calibration. This is the only calibration operation permitted as CO_2 emission levels are affected by the operating pressures induced in the collective flue, with particular reference to the minimum heat input or any recirculation phenomena induced by the flue system.

The appliance must be connected to a flue system designed by a heating engineer in compliance with the local regulation in force. The collective flue system must be suitably sized to allow the appliance to operate with the following specifications with which it was designed:

- the maximum pressure, when n-1 appliance is working at maximum heat input (with n= number of total appliances connected or that can be connected to the same collective duct), and a boiler works at minimum heat input, is 25 Pa;
- the minimum pressure difference allowed between the combustion product outlet and the combustion air inlet is -200 Pa (- 400 Pa for $C_{(12)3}$ including 100 Pa (-300 Pa $C_{(12)3}$) of pressure generated by wind;
- the duct must have been sized with a nominal temperature of the combustion products of 25°C.
- the maximum allowed recirculation rate for wind action is 10%;
- the common flue must be certified to admit an overpressure of at least 200 Pa (minimum pressure class P1);
- no draught-breaker devices must be provided in the duct system.

In particular, at the coupling point to the pressurised collective flue, a plate must be visible showing at least the following technical information:

- the name and trademark of the common flue gas pipe manufacturer;
- suitability for operation with certified boilers $C_{(10)3}$ or $C_{(12)3}$;
- the maximum flue gas mass value allowed in kg/h;
- the dimensions of the common duct (collective pipe) for each push fit point;



The openings for combustion air and the inlet of combustion products of the pressurised collective flue must be closed and their tightness must be checked when the appliance is disconnected.

The appliance connection to the pressurised collective flue must be made as instructed, without exceeding the specific maximum extensions stated.

The flue pipe must be inclined (5% slope) towards the appliance to facilitate the evacuation of condensate.



The appliance flue gas outlet must be installed with the flue gas non-return valve kit, which ensures correct operation of the appliance and facilitates its maintenance operations.

Furthermore, the safety sticker must be affixed on the front casing. This sticker is contained in the appropriate Kit $C_{(10)3}$ $C_{(12)3}$, which contains the additional exhaust flue gas non-return valve, necessary for the pressurised collective flues.



It is advisable to affix the sticker in a clearly visible position on the front casing.



Summary table of information for C₍₁₀₎₃ installations (Only Methane 2E - 2H)

		VICTRIX ZEUS SUPERIOR 25	
		Q _{min}	Q _{n max}
Heat input	kW	2,3	25,7
CO ₂ % of reference [%]	%	8,8	8,8
Maximum boiler outlet pressure	Pa	25	93
Minimum boiler outlet pressure C ₍₁₀₎₃	Pa	-200	-200
Minimum boiler outlet pressure C ₍₁₂₎₃	Pa	-400	-400
Maximum flue gas flow rate	kg\h	4	43
Flue gas temperature 80°C\60°C	°C	65	72
Available head with maximum duct length	Pa	0,3	32,0
Maximum flue duct length 80\125	m	9	
Maximum flue duct length 80\80	m	10	
Boiler settings (as indicated in the instruction booklet)	-	See Par. 1.26 from point 9 on.	

		VICTRIX ZEUS SUPERIOR 30	
		Q _{min}	Q _{n max}
Heat input	kW	3,0	30,9
CO ₂ % of reference [%]	%	8,8	8,8
Maximum boiler outlet pressure	Pa	25	93
Minimum boiler outlet pressure C ₍₁₀₎₃	Pa	-200	-200
Minimum boiler outlet pressure C ₍₁₂₎₃	Pa	-400	-400
Maximum flue gas flow rate	kg\h	5	52
Flue gas temperature 80°C\60°C	°C	66	68
Available head with maximum duct length	Pa	0,4	46,3
Maximum flue duct length 80\125	m	9	
Maximum flue duct length 80\80	m	10	
Boiler settings (as indicated in the instruction booklet)	-	See Par. 1.26 from point 9 on.	

		VICTRIX ZEUS SUPERIOR 35	
		Q _{min}	Q _{n max}
Heat input	kW	3,0	34,9
CO ₂ % of reference [%]	%	8,8	8,8
Maximum boiler outlet pressure	Pa	25	93
Minimum boiler outlet pressure C ₍₁₀₎₃	Pa	-200	-200
Minimum boiler outlet pressure C ₍₁₂₎₃	Pa	-400	-400
Maximum flue gas flow rate	kg\h	5	59
Flue gas temperature 80°C\60°C	°C	66	71
Available head with maximum duct length	Pa	0,4	59,0
Maximum flue duct length 80\125	m	9	
Maximum flue duct length 80\80	m	10	
Boiler settings (as indicated in the instruction booklet)	-	See Par. 1.26 from point 9 on.	



1.27 CONFIGURATION FOR C₆ FLUE INSTALLATION



Appliance designed to be connected to a commercial exhaust/intake system.

Victrix Zeus Superior 25

Gastype		G20	G20Y20	G31
Flue temperature at maximum output	°C	72	68	72
Flue gas mass at maximum power	kg/h	43	44	42
Flue temperature at minimum output	°C	65	61	65
Flue gas mass at minimum power	kg/h	4		4
CO ₂ at Q. max.	%	8,8 (8,3 ÷ 9,3)	7,8 (- ÷ -)	10,7 (9,8 ÷ 10,8)
CO ₂ a Q. minimum	%	8,8 (8,3 ÷ 9,3)	8,2 (- ÷ -)	10,0 (9,4 ÷ 10,4)
Maximum head available at maximum power (maximum resistance value of the commercial flue system)	Pa	145		
Maximum head available at minimum power	Pa	1		
Maximum flue gas circuit temperature	°C	120		

Victrix Zeus Superior 30

Gastype		G20	G20Y20	G31
Flue temperature at maximum output	°C	68		67
Flue gas mass at maximum power	kg/h	52	54	50
Flue temperature at minimum output	°C	66		66
Flue gas mass at minimum power	kg/h	5		5
CO ₂ at Q. max.	%	8,8 (8,3 ÷ 9,3)	7,7 (- ÷ -)	10,5 (10,0 ÷ 11,0)
CO ₂ a Q. minimum	%	8,8 (8,3 ÷ 9,3)	8,4 (- ÷ -)	10,3 (9,8 ÷ 10,8)
Maximum head available at maximum power (maximum resistance value of the commercial flue system)	Pa	210		
Maximum head available at minimum power	Pa	2		
Maximum flue gas circuit temperature	°C	120		

Victrix Zeus Superior 35

Gastype		G20	G20Y20	G31
Flue temperature at maximum output	°C	71	70	70
Flue gas mass at maximum power	kg/h	59	62	58
Flue temperature at minimum output	°C	66		66
Flue gas mass at minimum power	kg/h	5		5
CO ₂ at Q. max.	%	8,8 (8,3 ÷ 9,3)	7,7 (- ÷ -)	10,5 (9,8 ÷ 10,8)
CO ₂ a Q. minimum	%	8,8 (8,3 ÷ 9,3)	8,4 (- ÷ -)	10,3 (9,8 ÷ 10,8)
Maximum head available at maximum power (maximum resistance value of the commercial flue system)	Pa	268		
Maximum head available at minimum power	Pa	2		
Maximum flue gas circuit temperature	°C	120		



- Ducts must withstand condensation (only for condensing models);
- Air intake ducts must withstand working air temperatures of up to 60°C;
- The maximum permissible percentage of flue gas recirculation in windy conditions is 10%;
- Suction and exhaust pipes cannot be installed on opposing walls;
- With flues in configuration C₆ discharge into pressurised flues is not permitted.

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1.28 OPEN CHAMBER APPLIANCE CONFIGURATION (TYPE B) WITH FAN ON THE COMBUSTION CIRCUIT

The open chamber appliance (type B) can be installed inside buildings; in this case, all technical rules and national and local regulations in force, must be complied with.

For installation the cover kit must be used, referred to in Parag. 1.17.

1.29 FLUE EXHAUST TO FLUE/CHIMNEY.

Flue exhaust does not necessarily have to be connected to a branched type traditional flue for type B appliances with natural draught (CCR).

The flue exhaust, for boiler clots installed in C configuration, can be connected to a single flue or to a multiple flue.

For open chamber appliances (type B), exhaust is only allowed into individual chimney or directly into the external atmosphere via a relevant terminal, unless otherwise provided by local regulations.

The multiple flues must also only be connected to type C appliances of the same type (condensation), having nominal heat inputs that do not differ by more than 30% less with respect to the maximum that can be attached and powered by the same fuel.

The thermo-fluid dynamic features (flue flow rate, % of carbon dioxide, % humidity etc.) of the appliances attached to the same multiple flues, must not differ by more than 10% with respect to the average appliance attached.

Multiple flues must be specially designed according to the calculation method and requirements of the standards (such as UNI 13384), by professionally qualified technical staff.

Chimney or flue sections for connection of the flue exhaust pipe must comply with requisites of technical standards in force.

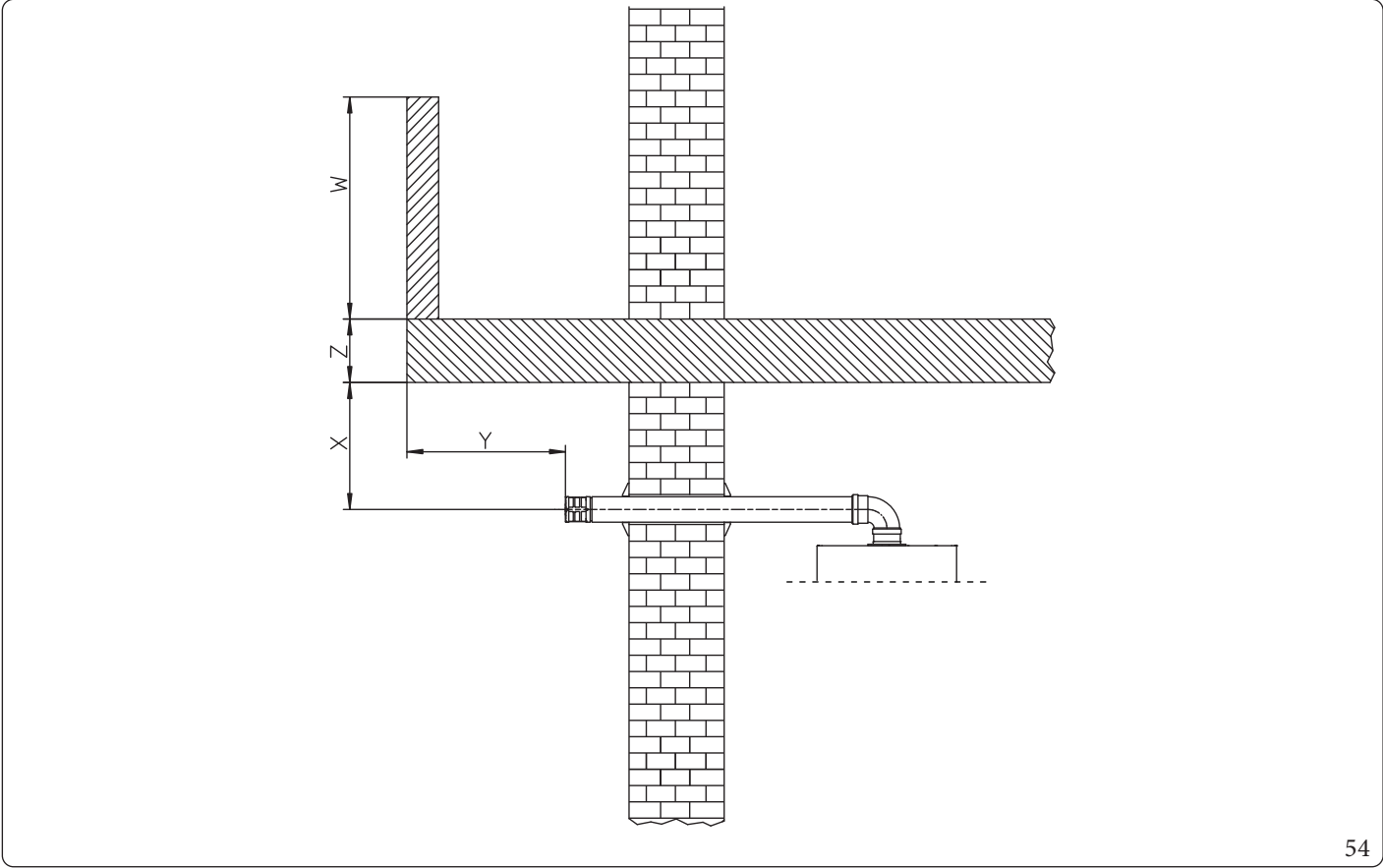
It is possible to replace a type C conventional device with one provided with condensation, connected to multiple flues, only if the derogation conditions established by the regulations in force have been met.

The flues, chimneys and chimney caps for the evacuation of combustion products must be in compliance with applicable standards.



1.30 FLUES, CHIMNEYS AND CHIMNEY CAPS.

The flues, chimneys and chimney caps for the evacuation of combustion products must be in compliance with applicable standards.



Positioning the wall flue exhaust terminals.

The wall flue exhaust terminals must:

- be installed on external perimeter walls of the building (Fig. 54);
- be positioned according to the minimum distances specified in current technical standards.

Combustion products exhaust of natural draught or fan assisted appliances in open-top closed environments.

In spaces closed on all sides with open tops (ventilation pits, courtyards etc.), direct combustion product exhaust is allowed for natural draught or fan assisted gas appliances with a heat input range from 4 to 35 kW, provided the conditions as per the current technical standards are respected.



1.31 WATER TREATMENT PLANT FILLING

The technical standard in force requires washing and treatment of the system water of the water and DHW thermal system, following the indicated methods and provisions of local standards in force.

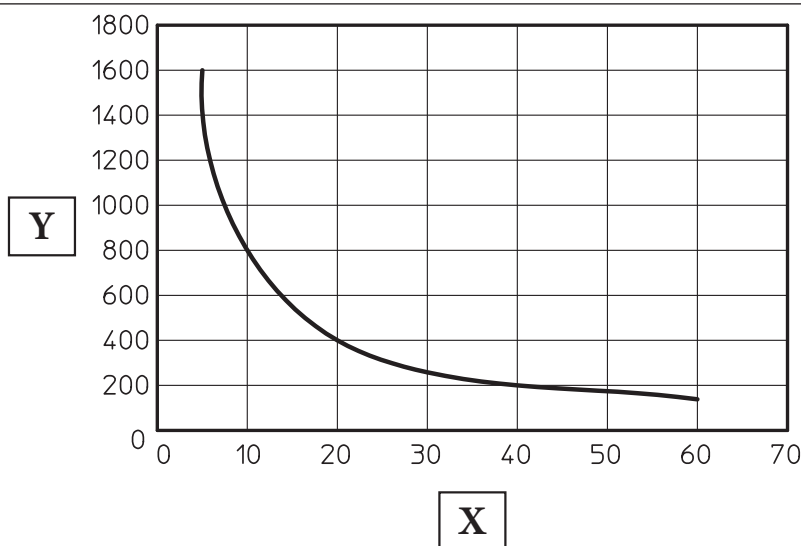
The parameters that influence the duration and proper operation of the heat exchanger are the water's PH, total hardness, conductivity, and oxygen, together with the system's processing residues (any welding residues), any oil present and corrosion products that can, in turn, cause damage to the heat exchanger.

In order to prevent this from happening, you are recommended to:

- Before installation on new systems as well as old ones, clean the system with clean water to eliminate solid residues.
- clean the system with a chemical treatment:
 - clean the new system with a suitable cleaning device (for example Sentinel X300, Fernox Cleaner F3 or Jenaqua 300) combined with thorough washing;
 - clean the old system with a suitable cleaning device (for example Sentinel X400 or X800, Fernox Cleaner F3 or Jenaqua 400) combined with thorough washing;
- Check the maximum total hardness and amount of filling water with reference to the graph (Fig. 55), if the contents and hardness of the water are below the indicated curve, no specific treatment is required; otherwise, to limit the content of calcium carbonate, you must provide for water-filling treatment.
- If it is necessary to provide for water treatment, it should be done through complete desalination of the filling water. As opposed to the complete softening process, desalinating the water completely not only removes hardening agents (Ca, Mg), but also eliminates all other minerals to reduce water-filling conductivity up to 10 microsiemens/cm. Given its low conductivity, desalinated water does not only prevent the formation of lime scale, but also serves as protection against corrosion.
- Insert a suitable inhibitor / passivator (for example Sentinel X100, Fernox Protector F1, or Jenaqua 100); if required, also insert appropriate antifreeze (such as for example Sentinel X500, Fernox Alpha 11 or Jenaqua 500).
- Check electrical conduction of the water, which should be higher than 2000 $\mu\text{S}/\text{cm}$ in the case of treated water and lower than 600 $\mu\text{S}/\text{cm}$ in the case of non-treated water.
- To prevent corrosion, the water system's PH should be between 7.5 and 9.5.
- Check the maximum content of chlorides, which should be less than 250 mg/l.



For quantities and methods of use of water-treatment products, refer to the instructions provided by their manufacturer.



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Key (Fig. 55):

- X - Total water hardness
°F
- Y - Litres of system water



The graph refers to the entire life cycle of the system. Therefore, also consider scheduled and unscheduled maintenance, which involves emptying and filling the said system.

1.32 SYSTEM FILLING

Once the appliance is connected, proceed with system filling via the filling cock (Part. 26, Fig. 59).
Filling is performed at low speed to ensure release of air bubbles in the water via the appliance and central heating system vents.
The appliance has a built-in automatic vent valve on the pump.
Then open the radiator vent valves.
Close radiator vent valves when only water escapes from them.
The filling valve must be closed when the appliance pressure gauge indicates approximately 1.2 bar cold.



During these operations, enable the automatic vent functions on the appliance (Parag. 4.18).



For proper and safe operation of the appliance, it is essential to check that the water pressure of the feed system (mains water) is at least 2.5 bar, before opening the filling cock. When filling the central heating system (CH), it is essential to comply with standard EN 1717, which indicates the requirements for the protection against pollution of potable water caused by backflow. If the feed water pressure is insufficient, DO NOT OPEN the filling cock. Otherwise there is the risk of dangerous contamination of the DHW storage tank integrated with the central heating water, which could endanger the user's comfort and cause health issues. The operator must make sure that the feed water pressure is adequate before filling the central heating system to prevent any possible contamination.

1.33 FILLING THE CONDENSATE DRAIN TRAP



When the appliance is switched on for the first time, combustion products come out of the condensate drain. After a few minutes of operation, check that combustion flue gases are no longer coming out of the condensate drain; this means that the drain trap has filled to a correct condensate height that the flue gases cannot pass through.

1.34 GAS SYSTEM START-UP

To start up the system, refer to the technical standards in force.
This divides the systems and, therefore, the commissioning operations, into three categories: new systems, modified systems, reactivated systems.
In particular, for new gas systems:

- open windows and doors;
- avoid presence of sparks or naked flames;
- bleed all air from pipelines;
- ensure the internal system is properly sealed according to the specifications set forth by technical regulations in force.



1.35 APPLIANCE START-UP (IGNITION)



Whenever the appliance is powered back up, it starts by default with an 8-minute deaeration function; to stop this function before it has finished, press "Reset" and confirm by pressing "Ok".



The display leaves the factory set in Italian. To change the display language, see Par. 3.5 present in the "USER" chapter under "Menu\General settings\Language".

To commission the appliance (the operations listed below must only be performed by qualified personnel and in the presence of staff only):

1. check that the internal system is properly sealed according to the specifications set forth by regulations in force;
2. Ensure that the type of gas used corresponds to the appliance settings (the type of gas appears on the display on first electrical power supply);
3. check that there is no air in the gas pipe;
4. Check connection to a 230V~50Hz power mains, correct L-N polarity and the earthing connection;
5. check that the intake/exhaust terminals are not obstructed and that they are installed properly;
6. **Check that the drain trap is full and that it prevents any passage of flue gas into the room;**
7. check that there are no external factors that may cause the formation of fuel pockets;
8. Carry out the flue test (Par.4.14);
9. **Activate the Quick calibration function (if in the previous check it was necessary to change the flue parameters):** (Par. 4.13);
10. Switch the appliance on and check correct ignition;
11. Make sure that the gas flow rate and relevant pressure values comply with those given in the manual (Par.5.1);
12. ensure that the safety device intervenes in the event of gas supply failure and check the relative intervention time;
13. Check the activation of the main switch located upstream of the appliance and in the appliance.



Even if just one single safety check provides a negative result, do not commission the system.

1.36 UPM3 CIRCULATION PUMP

During central heating mode, the Auto and Fixed operating modes are available.

- **Delta t = 0:** automatic pump speed and proportional head: the pump speed varies according to the power supplied by the burner, the greater the power the greater the speed. Moreover, within the parameter, it is possible to adjust the pump operating range by setting the maximum speed parameter "Max pump speed" (adjustable from 6 to 9) and the minimum speed parameter "Min pump speed" (adjustable from 6 to max set speed).
- **Delta t = 5 ÷ 25 K:** the pump speed varies to maintain the ΔT constant between the system flow and return according to set value K ($\Delta T = 15$ Default).
- **Fixed (6 - 9):** by setting parameters "Max pump speed" and "Min pump speed" at the same value, the pump operates at constant speed.



For the appliance to work properly, it is not advised to drop below the minimum speed value = 6.



In domestic hot water mode, the circulator pump always runs at full speed.

Pump LED

The LED flashes green when the pump is powered and the pwm control signal is connected.



The LED lights up steady green when the pump is powered and the signal cable disconnected. In these conditions the pump works at maximum and without control.

If the pump detects an alarm, the LED switches from green to red; this can mean one of the following failures:

- low supply voltage;
- rotor seized;
- electrical error.

For a detailed description of the meaning of the red LED, refer to Paragraph 4.7.



The LED, in addition to being green or red, can also remain off.

It is normal for the LED to be off when the pump is not powered, whereas with the pump powered, the LED must be lit: if switched off, it means there is a fault.

Pump release.

If after a long period of inactivity, the circulator is blocked, adjust the screw in the centre of the head in order to manually release the motor shaft.

Take great care during this operation to avoid damage to the motor.

Bypass Adjustment (Parag.1.39).

The appliance leaves the factory with the bypass open.

If necessary, the by-pass can be regulated to system requirements from minimum (by-pass closed) to maximum (by-pass open).

Adjust using a flat head screwdriver, turn clockwise and open the by-pass, anticlockwise it is closed.



The bypass ensures minimum circulation of the water in the appliance and its correct operation in case of systems with shut-off components or external hydraulic adjustments.



1.37 UPM4 CIRCULATION PUMP

During central heating mode, the Auto and Fixed operating modes are available.

- **Delta t = 0:** automatic pump speed and proportional head: the pump speed varies according to the power supplied by the burner, the greater the power the greater the speed. Moreover, within the parameter, it is possible to adjust the pump operating range by setting the maximum speed parameter "Max pump speed" (adjustable from 6 to 9) and the minimum speed parameter "Min pump speed" (adjustable from 6 to max set speed).
- **Delta t = 5 ÷ 25 K:** the pump speed varies to maintain the ΔT constant between the system flow and return according to set value K ($\Delta T = 15$ Default).
- **Fixed (6-9):** by setting parameters "Max pump speed" and "Min pump speed" at the same value, the pump operates at constant speed.



For the appliance to work properly, it is not advised to drop below the minimum speed value = 6.



In domestic hot water mode, the circulator pump always runs at full speed.

Pump symbols (Fig. 56):

With the pump powered and the pwm control signal connected and operating (pump ON or in stand-by), the symbol 2 flashes green ().

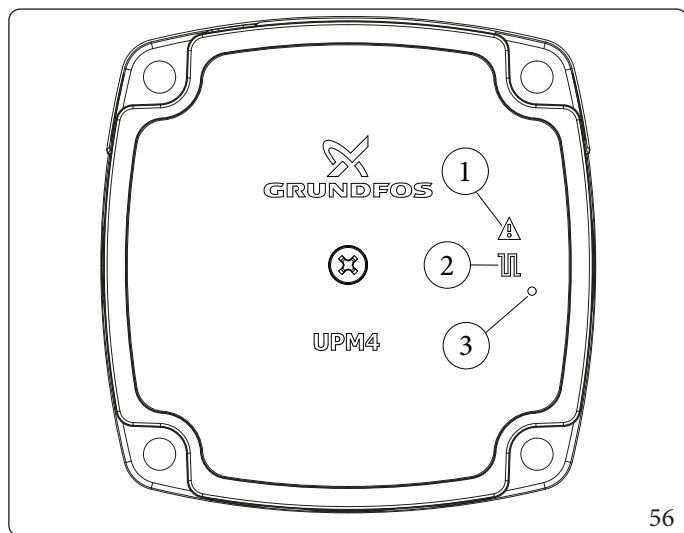
If the symbol 2 turns steady green (), the pump detects no command on the pwm signal and always runs at maximum speed.

If the pump detects an alarm, symbol 1 lights up red (). This can mean that there is one of the following faults:

- Low power supply voltage.
- Rotor seized (Cautiously turn the screw in the centre of the head to manually release the motor shaft).
- Electrical error.



These anomalies will be signalled on the boiler display as errors "60" or "61" as indicated in par. 3.6.



Key (Fig. 56):

- 1 - Alarm signal (Red)
- 2 - Functioning status signal (Steady green/Flashing green)
- 3 - Led (Not used on this model)

Pump release.

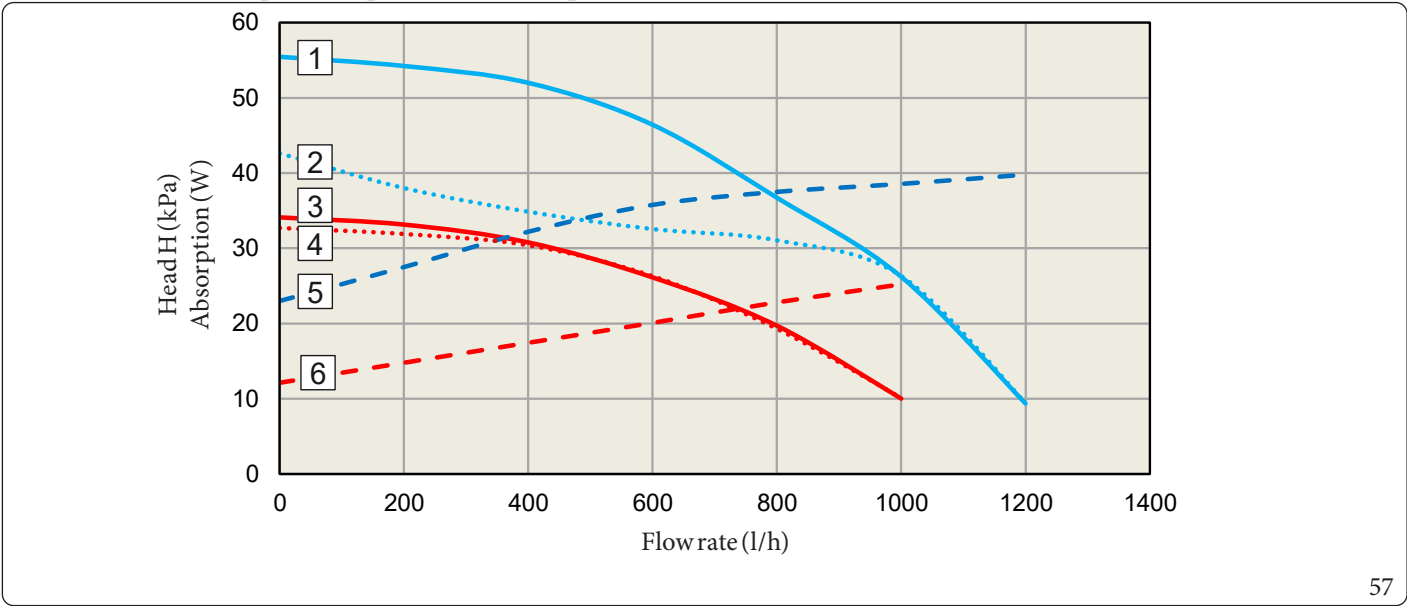
If after a long period of inactivity, the circulator is blocked, adjust the screw in the centre of the head in order to manually release the motor shaft.
Take great care during this operation to avoid damage to the motor.

Bypass Adjustment (Parag.1.39).

The appliance leaves the factory with the bypass open.
If necessary, the by-pass can be regulated to system requirements from minimum (by-pass closed) to maximum (by-pass open).
Adjust using a flat head screwdriver, turn clockwise and open the by-pass, anticlockwise it is closed.

 The bypass ensures minimum circulation of the water in the appliance and its correct operation in case of systems with shut-off components or external hydraulic adjustments.

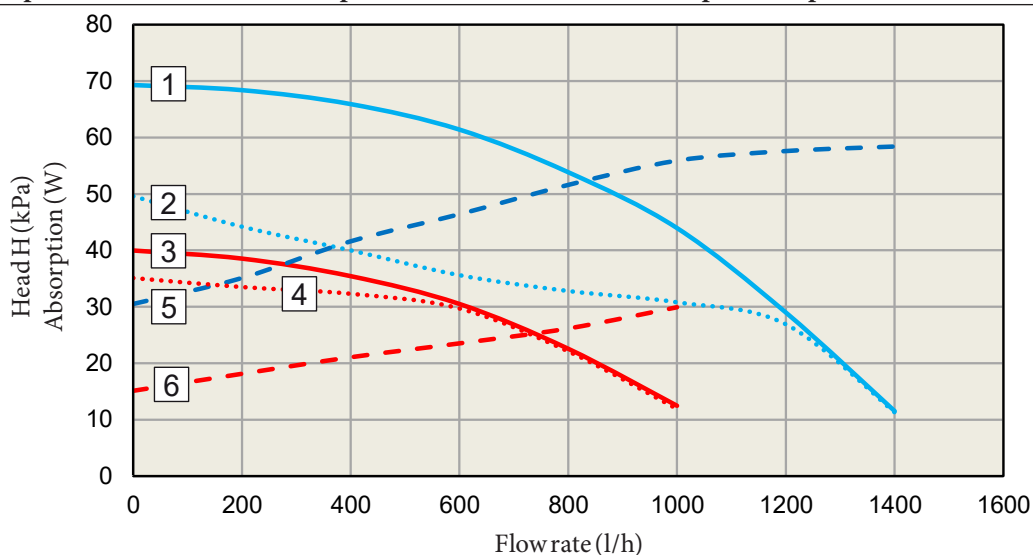
Flow rate - Head - Absorption Graph Victrix Zeus Superior 25



Key (Fig. 57):
1 = Head available to the system at Speed 9 with by-pass closed
2 = Head available to the system at Speed 9 with by-pass open
3 = Head available to the system at Speed 6 with by-pass closed
4 = Head available to the system at Speed 6 with by-pass open
5 = Circulator power input at Speed 9 with closed by-pass
6 = Circulator power input at Speed 6 with closed by-pass
Area between curves 1 and 3 = Head available to the system with by-pass closed
Area between curves 2 and 4 = Head available to the system with by-pass open
Area between curves 5 and 6 = Circulator absorbed power with bypass closed



Victrix Zeus Superior 30 and Victrix Zeus Superior 35 Flow rate - Head - Absorption Graph



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Key (Fig. 58):

- 1 = Head available to the system at Speed 9 with by-pass closed
- 2 = Head available to the system at Speed 9 with by-pass open
- 3 = Head available to the system at Speed 6 with by-pass closed
- 4 = Head available to the system at Speed 6 with by-pass open
- 5 = Circulator power input at Speed 9 with closed by-pass
- 6 = Circulator power input at Speed 6 with closed by-pass

Area between curves 1 and 3 = Head available to the system with by-pass closed

Area between curves 2 and 4 = Head available to the system with by-pass open

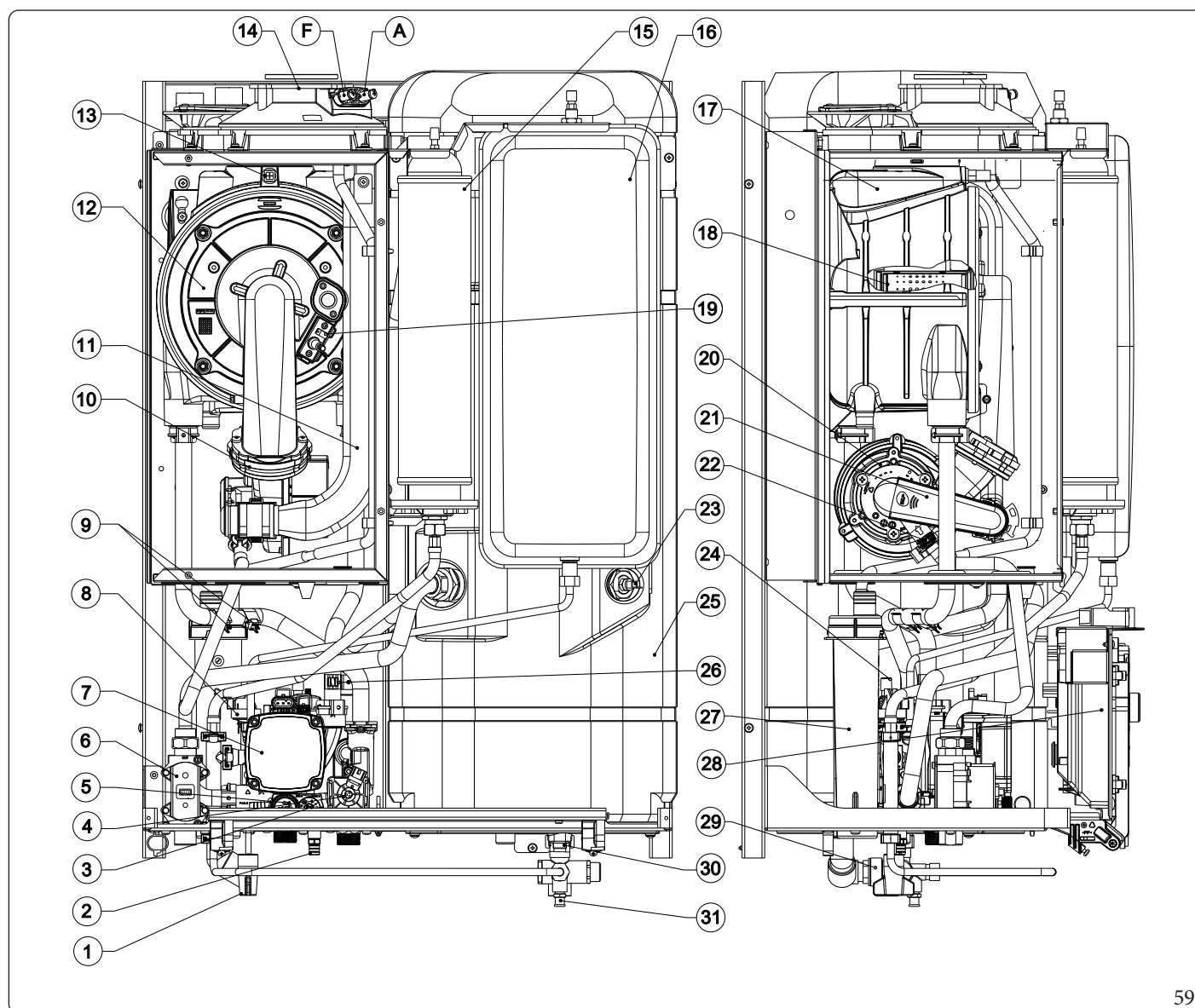
Area between curves 5 and 6 = Circulator absorbed power with bypass closed

1.38 KITS AVAILABLE ON REQUEST



Check the complete list of kits available and which can be combined with the product, consult the Immergas website, the Immergas Price List or the technical-commercial documentation (catalogues and data sheets).

1.39 MAIN COMPONENTS



Key (Fig. 59):

- 1 - Filling valve / tap
- 2 - Draining valve / tap
- 3 - By-pass
- 4 - 3-way valve (motorised)
- 5 - 3 bar safety valve
- 6 - Gas valve
- 7 - Boiler circulating pump
- 8 - Absolute pressure switch
- 9 - Double flow probe
- 10 - Non-return valve on flue gas
- 11 - Air intake pipe
- 12 - Gas manifold
- 13 - Double flue probe sensor
- 14 - Flue hood with sample points (air A) - (flue gas F)
- 15 - Domestic hot water expansion vessel

- 16 - System expansion vessel
- 17 - Heat exchanger
- 18 - Burner
- 19 - Ignition / detection electrode
- 20 - Fan
- 21 - Gas mixer
- 22 - Gas diaphragm
- 23 - D.H.W. probe
- 24 - Air vent valve
- 25 - Stainless steel storage tank
- 26 - Return probe
- 27 - Condensate drain trap
- 28 - Control panel
- 29 - 8 bar safety valve
- 30 - Flow limiter
- 31 - Storage tank draining valve

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INSTALLER

USER

CONTROL PANEL

MAINTENANCE TECHNICIAN

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2 INSTRUCTIONS FOR USE AND MAINTENANCE

2.1 GENERAL RECOMMENDATIONS



Never expose the wall-mounted appliance to direct vapours from a hob.



The device can be used by children at least 8 years old as well as by persons with reduced physical, sensory or mental capabilities, or lack of experience or required knowledge, provided that they are under surveillance, or after they have been instructed relating to the safe use and have understood the potential dangers.

Children must not play with the appliance.

Cleaning and maintenance destined to be performed by the user can not be carried out by unsupervised children.



For safety purposes, check that the air intake/flue exhaust terminals (if fitted) are not blocked.



If temporary shutdown of the appliance is required, proceed as follows:

- drain the heating system if antifreeze is not used;
- shut-off all electrical, water and gas supplies.



In the case of work or maintenance to structures located in the vicinity of ducting or devices for flue extraction and relative accessories, switch off the appliance and on completion of operations ensure that a qualified technician checks efficiency of the ducting or other devices.



Never clean the appliance or connected parts with easily flammable substances.



Do not open or tamper with the appliance.



Never leave containers or flammable substances in the same environment as the appliance.



Do not take apart or tamper with the intake and exhaust pipes.



Only use the user interface devices listed in this section of the booklet.



Do not climb on the appliance, do not use the appliance as a support base.



In the event of malfunctions, faults or incorrect operation, turn the appliance off and contact an authorised company (e.g. the Authorised Technical Assistance Centre, which has specifically trained staff and original spare parts).

Do not attempt to modify or repair the appliance alone.



The use of components involving use of electrical power requires some fundamental rules to be observed such as:

- do not touch the appliance with wet or moist parts of the body; do not touch when barefoot;
- never pull electrical cables or leave the appliance exposed to atmospheric agents (rain, sunlight, etc.);
- the appliance power cable must not be replaced by the user;
- in the event of damage to the power supply cable, switch off the appliance and contact exclusively qualified staff for replacement;
- if the appliance is not to be used for a certain period, disconnect the main appliance external switch.



Water at a temperature of more than 50 °C can cause serious burns.
Always check the water temperature before any use.



The temperatures indicated by the display have a tolerance of +/- 3 °C due to environmental conditions that cannot be blamed on the appliance.



If you smell gas in the building:

- close the gas meter interception device or the main interception device;
- if possible, close the gas interception valve on the product;
- if possible, open doors and windows wide and create an air current;
- do not use open flames (e.g. lighters, matches);
- do not smoke;
- do not use electrical switches, plugs, door bells, telephones or intercom devices in the building;
- call an authorised company (e.g. Authorised Technical Assistance Centre).



if you smell burning or see smoke coming out of the appliance, switch it off, disconnect power, close the main gas isolation valve, open the windows and call an authorised company (e.g. Authorised Technical Assistance Centre).



At the end of its service life, the appliance must not be disposed of like normal household waste nor abandoned in the environment, but must be removed by a professionally authorised company as required by current legislation.
Contact the manufacturer for disposal instructions.



2.2 CLEANING AND MAINTENANCE



To preserve the appliance's integrity and keep the safety features, performance and reliability, which distinguish it, unchanged over time, you must execute maintenance operations on a yearly basis in compliance with what is stated in the relative point at “annual check and maintenance of the appliance”, in compliance with national, regional, or local standards in force.



2.3 APPLIANCE SWITCH-OFF

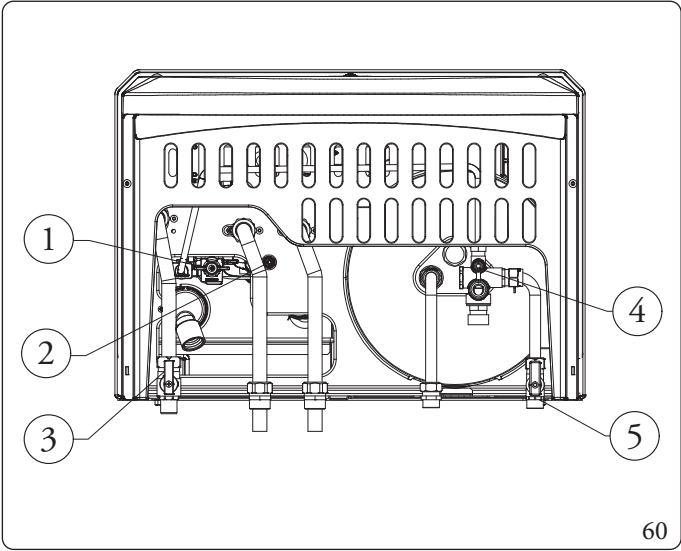
Switch the appliance off by putting it in “off” mode, disconnect the main switch outside of the appliance and close the gas isolation valve upstream of the appliance.
Never leave the appliance switched on if left unused for prolonged periods.

2.4 RESTORE CENTRAL HEATING SYSTEM PRESSURE

 For proper and safe operation of the appliance, it is essential to check that the water pressure of the feed system (mains water) is at least 2.5 bar, before opening the filling cock. When filling the central heating system (CH), it is essential to comply with standard EN 1717, which indicates the requirements for the protection against pollution of potable water caused by backflow. If the feed water pressure is insufficient, DO NOT OPEN the filling cock. Otherwise there is the risk of dangerous contamination of the DHW storage tank integrated with the central heating water, which could endanger the user’s comfort and cause health issues. The operator must make sure that the feed water pressure is adequate before filling the central heating system to prevent any possible contamination.

- 1. Periodically check the system water pressure (the appliance’s pressure gauge hand must indicate a cold value between 1 and 1.2 bar).
- 2. If the pressure falls below 1 bar (with the system cold) restore normal pressure via the valve located at the bottom of the appliance (Fig. 60).
- 3. Close the valve after the operation.
- 4. If the pressure reaches values around 3 bar, there is a risk of tripping the safety valve (in this case, remove water from a radiator air vent valve until a pressure of 1 bar is achieved, or ask for assistance from professionally qualified personnel).
- 5. In the event of frequent pressure drops, contact qualified staff for assistance to eliminate the possible system leakage.

Bottom view:



- Key (Fig. 60):
- 1 - System filling valve
 - 2 - System draining valve
 - 3 - GAS isolation valve
 - 4 - Storage tank draining valve
 - 5 - Cold water inlet valve



2.5 DRAINING THE SYSTEM

To drain the boiler, use the special draining valve (Fig. 60).
Before draining, ensure that the filling valve is closed.



If fluid containing glycol was added to the system circuit, make sure it is recovered and disposed of in accordance with standard EN 1717.

2.6 EMPTYING THE D.H.W. CIRCUIT

To do this, always close the domestic cold water inlet upstream of the appliance.
Open any domestic hot water tap to discharge the pressure from the circuit.

2.7 STORAGE TANK DRAINING

To drain the storage tank, use the relevant storage tank draining valve (Fig. 60).



Before performing this operation, close the boiler cold water inlet valve and open any DHW system hot water valve in order to allow the inlet of air into the storage tank.

2.8 ANTIFREEZE PROTECTION

The appliance has an antifreeze function that switches the burner on automatically when the temperature drops below 4°C (standard protection to minimum temperature of 0°C).

In order to guarantee the integrity of the appliance and the domestic hot water heating system in areas where the temperature drops below zero, we recommend protecting the central heating system using anti-freeze liquid and installing the Immergas Antifreeze Kit in the appliance.

All information on antifreeze protection can be found in the Installer section at Parag. 1.5.

2.9 PROLONGED INACTIVITY

In case of prolonged inactivity (e.g. second home), we recommend:

1. close the gas;
2. to switch off the power supply;
3. completely empty the CH circuit (to be avoided if glycol is present in the system). In systems that are drained frequently, filling must be carried out with suitably treated water to limit hardness that can cause lime-scale.



2.10 CLEANING THE CASE

1. Use damp cloths and neutral detergent to clean the appliance casing.



Never use abrasive or powder detergents.

2.11 PERMANENT SHUTDOWN

In the event of permanent shutdown of the appliance, contact professional staff for the procedures and ensure that the electrical, water and gas supply lines are shut off and disconnected.

2.12 AUTOMATIC VENT MODE

When the function is enabled, every time the boiler is electrically powered, the system automatic Vent function is activated (lasting 8 minutes). This function is displayed on the main screen from text:

"De-aeration underway".

During this period the DHW and CH functions are not active.

The "Automatic vent" function can be annulled by pressing the "RESET" button (19, Fig. 61).

INSTALLER

USER

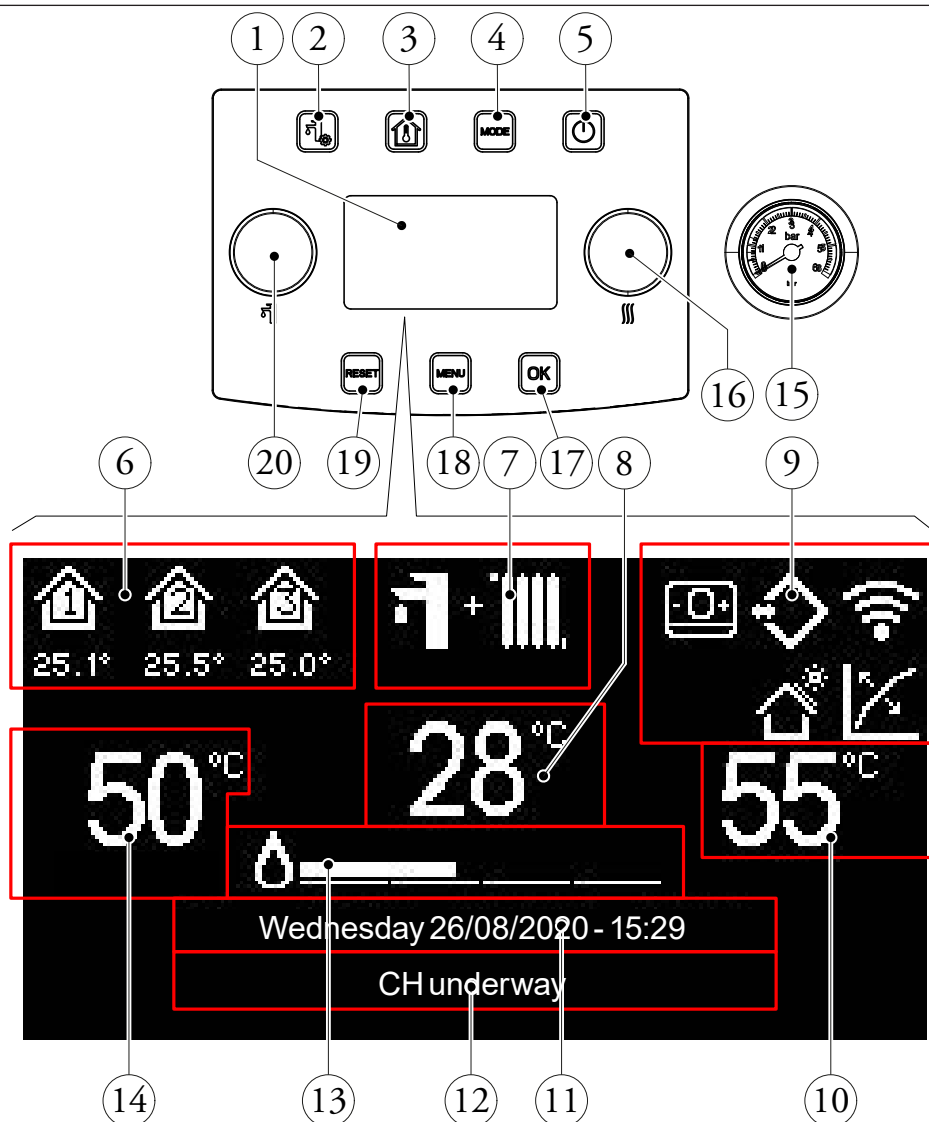
CONTROL PANEL

MAINTENANCE TECHNICIAN

TECHNICAL DATA



3 CONTROL PANEL



Key (Fig. 61):

- | | |
|---|---|
| 1 - Display. | 10 - Central heating / C.H. set display. |
| 2 - Domestic hot water button. | 11 - Current date and time display. |
| 3 - Zone button. | 12 - System state. |
| 4 - Functioning mode button. | 13 - Flame presence symbol and relative output scale. |
| 5 - ON/OFF Button. | 14 - DHW (Domestic hot water) set display. |
| 6 - Zones area (number and information of zone in use). | 15 - Pressure gauge. |
| 7 - Operating mode. | 16 - "Set central heating / C.H." knob. |
| 8 - Anomaly code/flow temperature display. | 17 - Selection confirmation/ok button. |
| 9 - System general icon display. | 18 - Menu button. |
| | 19 - Fault reset/exit/chimneysweep menu access button |
| | 20 - "Set DHW (Domestic hot water)" Knob. |



The menus and related parameters described in this section of the booklet will be displayed/changed depending on the configuration of the device.

3.1 USING THE APPLIANCE



Before ignition make sure the heating system is filled with water and that the pressure gauge (15, Fig. 61) indicates a pressure of 1 - 1.2 bar.

If the value is less than 1, the system must be filled by actuating the filling cock (Par. 1.32) until the indicated value is reached.

Display when the appliance is switched on

The following are displayed upon ignition:

- Type of panel;
- Panel firmware version;
- Board firmware version.
- Type of selected gas

Once the device has been powered, it goes into the status prior to switch-off. Press the “MODE” button to cyclically select the desired operating mode amongst those available.

The operating mode in use is indicated by its icon at the top of the display (Fig. 62) and is unique for all zones. By pressing any button, the pushbutton panel lights up for a few seconds; in this way it is activated and ready to receive the subsequent commands. Depending on the system's configuration, the main screen displays various information regarding the system itself, amongst which:

Symbol	Description and operation
	Zone identification icon. This icon reverses its colour during the C.H. demand. The values below the zone icon, respectively indicate the temperature or any errors in such zone. The temperature and any errors are displayed if the wireless room probe is configured; if CARv2 is connected, the zone 1 icon will indicate the room temperature read by the CARv2. if no probe is connected or CARv2 remains active, only the “home” (zone) icon remains active without any other info below. The word "BMS" appears in case of BMS connection under the zone identification icon.
	Remote management system connection icon (Dominus)(optional).
	Remote control presence icon (CARv2, Smartech Plus)(optional) and control on the appliance panel is excluded.
	External probe connection (optional).
	Connection to wireless room probes (optional).
	Burner on with flame present (the bar at the side indicates a progressive increase of the power supplied by the burner).

Operating mode	Description	DHW	Central heating	Protection function (Antifreeze...)
OFF	Off	Disabled	Disabled	Disabled
	Summer	Enabled	Disabled	Activated
	Winter	Enabled	Enabled	Activated
	Stand-by	Disabled	Disabled	Activated



3.2 OPERATING MODE

When the appliance is connected to the mains, the display and the lighting of the buttons will be activated.

This lighting will turn off after 10 seconds of inactivity.

To activate a command, you must first activate the keyboard (by pressing any button for 0.5-20 seconds), then press the intended button to enter the specific menu.

The keyboard switches off again after 20 seconds of continuous pressure.

The actual functionality of the buttons is obtained 1 second after being pressed. A close double press will not generate any button action.

Pressing for more than 4 seconds will not generate any action on release.

The appliance can work in the following modes:

- OFF;
- STAND-BY (❄️);
- SUMMER (☀️);
- WINTER (❄️ + 🔥).

If the appliance is at "OFF", press the button "⏻" to activate it. If this is not the case, go to the next point.

Then press the "MODE" button in sequence to set the system to stand-by ❄️, summer ☀️ or winter ❄️ + 🔥 position.

• "OFF" mode

By pressing button "⏻" for at least 4", the display will show "OFF" and the system will be disabled. In this mode, the safety functions are not guaranteed and the remote devices are disconnected.

• "Stand-by" Mode

Press the "MODE" button in succession until the ❄️ symbol appears

In this mode, the system is able to ensure protection functions only, such as: appliance antifreeze function, antiblock function and any anomaly signals (Fig. 62).



In "Stand-by" and "Off" mode, the appliance is to be considered still live.

• Summer

Press the "MODE" button in succession until the ☀️ symbol appears.

In this mode the appliance allows the production of domestic hot water and ensures protection (Fig. 62).

• Winter

Press the "MODE" button in succession until the ❄️ + 🔥 symbol appears.

In this mode the system allows the production of domestic hot water and room central heating and ensures protection (Fig. 62).



Display operation

Below is a description of how to use the control panel, including:

- Enter the menus;
- Moving in the menus;
- Set a menu item;
- Confirming a change;
- Exit without saving.

• Enter the menus

The control panel menus can be accessed by pressing the buttons (Fig. 61):

- "DHW" to enter the DHW menu;
- "Zones" to enter the Zone menu;
- "Menu" to enter the general settings menu.

• Moving in the menus

Simply rotate the "Set DHW (Domestic hot water)" knob to scroll the menu items.

The indication "[...]" next to the menu item indicates the availability of a submenu.

Press the "OK" button to access this submenu.

Pressing the "RESET" button goes back to the previous menu page.

• Set menu item

Go to the menu item to be set following the instructions given previously.

Once the menu item to be set is reached, press "OK" or rotate the "Set Central heating / C.H." knob to highlight the value to be changed.

Change the value by turning the "Set central heating / C.H." knob.

• Confirming a change

At the end of the modification, press "OK" to confirm the change and go back to the previously selected menu item.

• Exit without saving

If at the end of the modification you press "RESET", you will return to the previously selected menu item without confirming the modification.

Changing the display language

The display leaves the factory set in Italian, proceed as follows to change the display language:

- Enter **Menu/Impostazioni generali/Lingua (Menu/General setting/Language)** if the menu is in English).
- Select the desired language from those available and press OK.

Clock and programs

From this menu, it is possible to set the system's date and time as well as the time slots for operation in Comfort and Economy mode.

• Date and time.

The date and time can be set by modifying the parameters in the menu

Clock and programs / Set date and time

Set date and time	
TIME	↕ 22:22
DAY	5
MONTH	1
YEAR	2020

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- **Automatic summer time**

Clock and programs / Automatic summer time

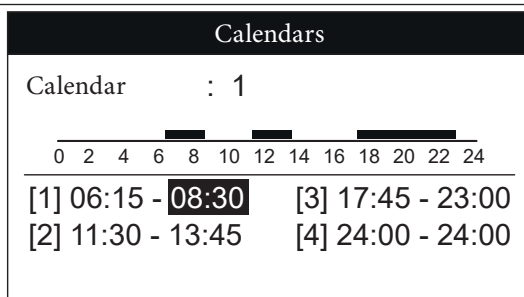
The automatic adaptation of the time can be enabled or disabled when changing from winter to summer time (and vice versa).

- **Calendars**

It is possible to set 4 calendars with 4 time operating slots in system comfort mode. The system will operate in economy mode during out-of-range time fractions of these 4 time slots.

After setting these 4 calendars it is possible to associate them to the various days of the week in the zone programs, DHW (Domestic hot water) according to one's needs.

Set the time slots by modifying the menu

Clock and programs / Calendars


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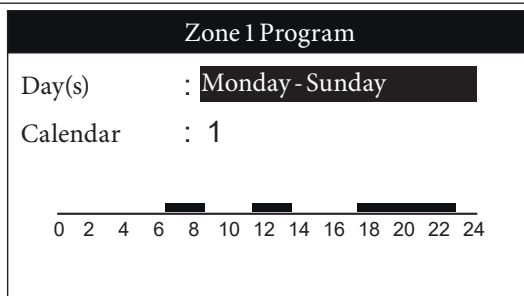
- **Program for Zone 1, Zone 2 (if present), Zone 3 (if present), Central heating and DHW programme.**

In these menus the Central heating and DHW time ranges (calendars from 1 to 4) are assigned to Zone 1, Zone 2 (if present), Zone 3 (if present).

You can assign the calendar to a single day or to a group of days (single day, Monday - Friday, Saturday-Sunday, Monday - Saturday, Monday - Sunday).

Therefore each day may be personalised with 4 different operating programs.

For convenient selection, the bottom part displays the graphics of the relevant calendar being selected (Fig. 65).



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On the menu

Zone / Information

it is possible to identify the status of the various controls managing the central heating / C.H..



• **Holiday program.**

Clock and programs / Holiday Program

If required, it is possible to pause system operation for an established period.



Both the DHW (Domestic hot water) control and central heating / C.H. are stopped.

Set the number of system operation suspension days.



The day on which the holiday program is set is counted as the first day of system suspension.
The program does not take into account the setting time but ends at midnight on the last day set.

The antifreeze function is still ensured during the holiday period.



In case of blackout, the holiday program is cancelled.

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3.3 DHW MODE

During activation, "DHW underway" appears on the display.

It is possible to set the domestic hot water temperature adjustment in two ways: MANUAL or AUTOMATIC.

The selection is made by entering the DHW menu ("DHW" button) and setting the "Set Management" parameter.

Manual adjustment (Man)

Adjustment of the DHW temperature in MAN mode is done via the "DHW Set" knob (Fig. 61) or by changing the value "Manual set" within the "DHW" menu.

Confirmation can take place in two ways: by pressing the OK button or by waiting two minutes after changing the value.

Automatic adjustment (Auto)

The AUTOMATIC domestic hot water temperature adjustment involves setting "Comfort Set" and "Economy Set" parameters in the "DHW" menu and choosing the calendar inside the menu as indicated below.

Clock and programs / DHW Program

In the selected time slots, the DHW set will be automatically set to the "Comfort Set" value; outside these, the set DHW will be set to "Economy Set" value.

It is possible to temporarily modify the DHW (Domestic hot water) set by setting a manual value using the "Set DHW (Domestic hot water)" knob (Fig. 61).

This setting will be lost when the time slot is next changed.

The forced automatic function can be interrupted by simply pressing the "MODE" button.

Boost Function

It is also possible for Domestic hot water / D.H.W. to set the "Boost Function" function.

When the Boost is active, the word "Boost" appears in the display below the "Set DHW" temperature (Fig. 61):

To set this function, press the "DHW" button and select the "Boost Function" which has three modes (ON - OFF - AUTO):

- **Boost ON** (Comfort): with Boost active, the boiler maintains the set domestic hot water temperature constant. This provides maximum comfort but with frequent burner ignitions.
- **Boost OFF** (Economy): the Boost is off and sufficient comfort is had with a few ignitions;
- **Auto**: Boost is managed simultaneously with the time slots set on the boiler DHW (Domestic hot water) program or the CAR V2 if present (active in comfort and deactivated in economy).

Anti-Legionella function

If the anti-legionella function is activated (disabled as a standard), the temperature inside the storage tank is brought to 65°C for 30 minutes.



Water at temperatures above 50°C can cause severe burns. When the anti-legionella function is activated, always check the water temperature before any use.

3.4 CENTRAL HEATING MODE

 To verify if the central heating is actually in operation, look at the Zone area icon: if the identifier icon of the zone is full it means that C.H. is active, otherwise, even when the room thermostat is open, it will be empty.

The central heating / C.H. adjustment can be set in three ways: MANUAL, AUTOMATIC, OFF.
The selection is made by entering the “Zone” menu .

 In case of single-zone system, only Zone 1 will appear.
In case of multi-zone system, Zone 2 and/or Zone 3 will also appear.

After having selected the zone of interest, access the menu:

Settings / Operation mode

Use with Room thermostat TA (Optional)

 If there is no Room thermostat, the link at the ends of terminals 40-41 must be maintained. In this conditions, a continuous request from the Room thermostat is simulated

Man functioning mode

With this setting, the central heating / C.H. (as maximum flow set system flow temperature) is manually enabled and will be valid until the subsequent and different setting.

When the room temperature (if TA present) exceeds that set on the TA, the central heating / C.H. turns off.

Auto functioning mode

By associating a calendar with the relevant zone program, it is possible to determine the time slots for activating the room central heating at a set system temperature.

When the room temperature detected by any Room thermostat is lower than required, the central heating / C.H. is activated (only if requested by the calendar program).

When the room temperature detected by any Room thermostat is higher than required, the room central heating / C.H. is deactivated.

Functioning mode Off

Central heating / C.H. always off.

 With single-zone systems, the maximum flow set is also available on the central heating / C.H. set knob; on multi-zone systems it can be set on the menu Zone \ Configuration \ Adjustment.

Operation with optional external probe (optional).

It is possible to use the thermoregulation functions associated to an external probe.

The appliance is designed for use with an optional external probe.

With the external probe connected, the flow setpoint for room central heating / C.H. is managed by the system depending on the external temperature measured (Par.1.11).

It is possible to enable thermal adjustment for each individual zone. The symbol  is present if the probe is connected and working.

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Use with wireless room probes (Optional)



Using Central heating / C.H. through the wireless room probes is the optimal solution for controlling the room temperature. With room probes configured and enabled, it will be possible to set on the individual zones the room temperature with which to control the central heating / C.H. ignition; the central heating / C.H. flow set at which the appliance will operate will be regulated to the ideal temperature for maintaining room comfort, with maximum energy saving.

Man functioning mode

With this setting, the central heating is always enabled (regardless of the hourly settings) and the value set on Zone\Settings\Set MAN (room temperature demand) will be valid until the subsequent and different setting.

When the room temperature exceeds the set room set, the central heating / C.H. turns off.

Auto functioning mode

There are two room temperature setpoints:

Zone / Settings / Set AUTO comfort

Zone / Settings / Set AUTO reduced

By associating a calendar with the relevant zone program, it is possible to determine the time slots when to activate the room temperature control set as Comfort (Set Auto Comfort); the reduced room temperature control (Set Auto reduced) will be active in the remaining time intervals. The flow set will be automatically calculated according to the room temperature (If the default setting "Room sensor modul." = Yes is maintained).

When the room temperature detected by any Room probe is lower than required, the central heating / C.H. is activated.

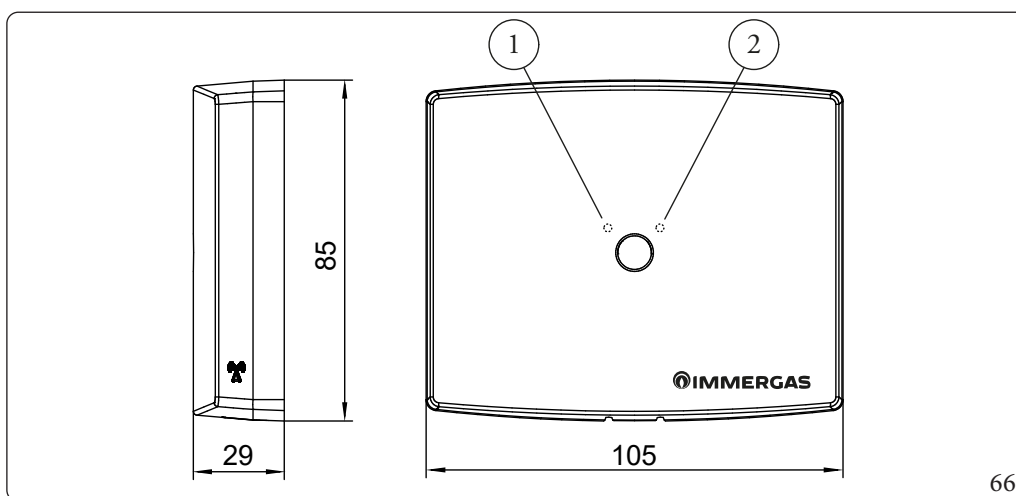
When the room temperature detected by any Room probe is higher than required, the room central heating / C.H. is deactivated.

Functioning mode Off

Central heating / C.H. always off.



The presence of the link on the TA contact is required when the central heating / C.H. demand needs to be checked using only the wireless room probes.



Key (Fig. 66):

- 1 - Left LED
- 2 - Right LED

Wireless probe LED behaviour

On the wireless probe there are two LEDs next to the button. The possible signals on these LEDs are the following:

Status	Situation	Left LED	Right LED
Normal functioning	Normal functioning	1 Flash every 60 seconds	
	No association	1 Flash every 4 seconds	
	RF transmission in progress		1 Flash



Appliance operation with wireless room probes

The wireless room probe (with concentrator) allows the measurement of the room temperature and sending of this value to the appliance control panel where possible, via the display board, set a weekly program for the room temperature control. There is no manual command or adjustment of the room control on the probe.



The key on the probe and concentrator has no function for the end user.
It is recommended not to act on this button, on any of the devices.

Room antifreeze function with wireless room probes

The room antifreeze protection is activated when the zone operating mode is set to Off and the appliance is in Winter mode.

The antifreeze function can be deactivated through the menu with "Service" access.

With zone operation = Off, in case of room sensor fault, the appliance will NEVER receive any room C.H. request (not even in case of antifreeze). Only the boiler antifreeze function will remain active.

If you want to ensure the room is protected from freezing (also in the presence of any faults on the sensors), it is possible to select the zone operating mode = Manual and set the minimum room set; in these conditions, the probe flow produces a C.H. request (permanent 24h) with minimum flow set.

Boiler flow temperature with wireless room probe

By activating the "Room sensor modul." function, the appliance will automatically manage the flow temperature making it correlated to the actual room need. The appliance flow temperature will vary between the maximum and minimum values set on the zone parameters and will proportionally decrease when the desired room temperature is reached.

By deactivating the "Room sensor modul." function, the appliance flow temperature will remain fixed at the maximum value set on the zone parameters for the entire central heating / C.H. request time; if multi-zones present with several probes, the boiler will provide the highest flow temperature among the requests from the various zones. A different maximum and minimum flow temperature value can be defined for each individual zone.

Combined operation of wireless room probe with external probe

If the "Room sensor modul." and "Outdoor sensor modul." functions are kept active, the combined wireless room probe and external probe operation makes it possible to add together the appliance flow temperature calculation actions.

Based on the outdoor temperature, the flow temperature calculation function will determine the maximum flow temperature for the zone (correlated to the temperature outside at that moment). The room probe can further decrease the value based on the rising of the room temperature.

Appliance operation in case of wireless room probe fault

Radio communication lost between room probe and concentrator

Failed data reception by the wireless probe causes the relative error to appear on the display.

Typically the error is reported after 4 minutes; the last reading on the room probe is kept active with consequent central heating mode function referring to this reading.

After 10 minutes of no communication, the appliance determines that the probe is "out of order"; two dashes appear on the display instead of Room T keeping the error signal under the icon of the zone house active.

Operation with room probe "out of order" causes a central heating / C.H. request from the appliance with minimum zone flow set in any selected program condition (permanent 24h).

The only central heating / C.H. off condition is the selection of the OFF status on the zone menu or the Summer selection.

Fault on room sensor NTC

Already at the first communication of an out of range room value (MAX after 4 minutes), the probe assumes the "out of order" condition; then proceed with the operation described above (permanent central heating / C.H. request at minimum set in any operating condition other than the OFF state).

Fault on the concentrator (receiver connected to appliance)

In case of concentrator offline error, the appliance behaves as in probe "out of order" condition.

Adjustments available on display with the presence of wireless room probes

Following correct association, the zones menu is available to manage the central heating / C.H. operation with wireless room probe; if only one zone is associated, the zone 1 menu will be available otherwise, if the appropriate zone actuator boards are connected and set, zone 2 and zone 3 will also be available.

With only 1 zone, the appliance control panel central heating / C.H. adjustment knob will provide the adjustment of the maximum central heating / C.H. temperature (or offset if the external probe is present). The room temperature settings and adjustments are available by accessing the zone menu.

With multiple zones connected, acting on the appliance control panel central heating / C.H. adjustment knob will give direct access to the zone menu where it will be possible to choose the zone of interest and select the size to be varied (both flow temperature and room temperature).

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Adjustment of the central heating system flow temperature

Acting directly on the "Set central heating" knob, you may set the value 'A' (Fig. 11) by setting the flow temperature to the system with active request.

No external probe

Without external probe, following central heating / C.H. adjustment using the knob, the display shows the actual temperature set for central heating / C.H.; if the value is not maintained, it is because the functioning mode of the zone is set on A-ECO or OFF (20°C).

External probe present (optional)

The "Set Central heating" knob will set OFF-set 'E' (Fig. 11).

With the external probe present, the appliance calculates the central heating system temperature according to the outdoor temperature; in these conditions the user is still allowed to set a correction (offset) on the flow temperature using the "Set central heating" knob, in relation to the outdoor temperature detected by the probe.

Operation with Comando Amico Remoto^{v2} (CAR^{v2}) (optional)



In case of single-zone system, this will be managed via CAR^{v2}.

In case of multi-zone system, the CAR^{v2} will only manage zone 1: zone 2 and/or zone 3 will be managed by the TA and/or room probes.

When the Car V2 is connected, the display will no longer show any setting concerning zone 1, while maintaining the main information. The  symbol will appear on the display. The appliance regulation parameters can be set via the CAR^{v2} control panel, all the buttons remain active on the appliance control panel (except the MODE button) and the display where the functioning state is shown.



If the appliance is put into "off" mode, the "ERR>CM" connection error symbol will appear on the CAR^{v2}. The CAR^{v2} is however powered constantly so as not to lose memorised programs.



The presence of the jumper on the TA contact is required when the central heating / C.H. demand needs to be checked using only CAR^{v2}.

3.5 PARAMETERS MENU, INFORMATION AND P.C.B. PROGRAMMING

- There are 3 Settings menus (Fig. 61):
- DHW:** accessible from the DHW button (2);
 - Zones:** accessible by pressing the zone button (3);
 - General settings menu:** accessible by pressing the menu button (18).

 Some menu settings appear only when the options are actually connected and working and if the appliance settings allow it.

"DHW" menu.
Press the "DHW (Domestic hot water)" button to access a list of variables that enable you to customise use of the DHW (Domestic hot water).
The system is set up for possible programming of the operation parameters. By modifying these parameters as described below, the system can be adapted according to specific needs.
To view the advanced operating parameters, press the "Menu" button and enter the "General settings" submenu and select "Access level"; at the "Access code request" enter the relevant code (using the "DHWr set" and "CH set" knobs) and press "Ok", after which, the "Access level" menu will open where you can select the type of access "**Service**". The authentication as "**Service**" Service gives access to the parameters reserved for a qualified Technician.

 As long as you continue navigating the menu, access as "**Service**" remains active.
Returning to the main screen, the "**Service**" access will remain active for 4 minutes, then it will automatically go back to "**User**" level.
To manually go back to "**User**" level, simply type the password following the procedure described above and set "**User**". again.
If the appliance turns off and on again, the menu will automatically go back to "**User**". level.

DHW Settings					
Menu item	Description	Range	Default	Customised value	S
DHW control	Boiler = informs that the DHW control is managed from the boiler panel				
	Remote = informs that the DHW control is managed by CAR v2				
Temperature	Temperature read by the DHW probe				
Boost Function (*)	Sets the DHW (Domestic hot water) boost function management:	Off On Auto	Off		
	Off = always off				
	On = always on				
	Auto = managed as required by the DHW program				
Set Management (*)	Sets the DHW (Domestic hot water) set control mode:	Auto Man	Man		
	Auto = the DHW set will be controlled at two levels, according to the DHW program.				
	Man = the DHW set will always be fixed at the manual value (regardless of the DHW program)				
Comfort Set	Sets comfort set (comfort set will be active during the active time slots of the DHW program if "Set Management = Auto" is selected)	10 ÷ 60 °C	50 °C		
Economy Set	Sets reduced set (economy set will be active during the NON active time slots of the DHW program if "Set Management = Auto" is selected)	10 ÷ 60 °C	30 °C		
Manual set	Sets manual set (manual set will be active 24 hours a day if "Set Management = Man" is selected)	10 ÷ 60 °C	10 °C		

(*) See the DHW paragraph (Parag. 3.3).
S = menu item visible only from "Service" login.

Zones Menu.

Press the "Zones" button  to access a list of variables that enable you to customise use of the zones.

The system is set up for possible programming of the operation parameters. By modifying these parameters as described below, the system can be adapted according to specific needs.

To view the advanced operating parameters, press the "Menu" button and enter the "General settings" submenu and select "Access level"; at the "Access code request" enter the relevant code (using the "DHWr set" and "CH set" knobs) and press "Ok", after which, the "Access level" menu will open where you can select the type of access "**Service**". The authentication as "**Service**" Service gives access to the parameters reserved for a qualified Technician.



As long as you continue navigating the menu, access as "**Service**" remains active.

Returning to the main screen, the "**Service**" access will remain active for 4 minutes, then it will automatically go back to "**User**" level.

To manually go back to "**User**" level, simply type the password following the procedure described above and set "**User**". again. If the appliance turns off and on again, the menu will automatically go back to "**User**". level.



The parameters referring to zone 2 can only be displayed if there is a zone 2 on the system and it is configured correctly. The parameters referring to zone 3 can only be displayed if there is a zone 3 on the system and it is configured correctly.

ZONES		
Menu item	Description	S
Zone 1	Defines the operating parameters to manage zone 1 (or the entire system if single-zone).	
Zone 2 (*)	Defines the operating parameters to manage the zone 2 (if present).	
Zone 3 (*)	Defines the operating parameters to manage the zone 3 (if present).	

(*) if present.

S = menu item visible only from "Service" login.



The following tables will appear the same also for any Zone 2 and Zone 3.

ZONES/Zone 1		
Menu item	Description	S
Information	This displays the system operating data	
Settings	Defines the operating parameters to manage zone 1	
Configuration	Defines any further operating parameters to manage zone 1	

S = menu item visible only from "Service" login.



ZONES/Zone 1/Information			
Menu item	Description	Range	S
Room temperature (**)	Room temperature read on zone 1	0°C ÷ 50°C	
Set room temperature (**) (***)	Room temperature set on zone 1	5°C ÷ 35°C	
Operation status	Mode set on zone 1	Off A-ECO A-COMF Man	
Room Thermostat Stat.	Status of the room thermostat on zone 1	Open Close	
Set CH	This displays the zone 1 flow set	25°C ÷ 85°C	
System	Information related to the type and presence or absence of a room probe		

S = menu item visible only from "Service" login.



Zone 1 Information Menu is always present regardless of whether or not a CAR^{v2} is connected.

(**) not displayed when the "Enable room sensor" parameter is set to No

(***) displayed when the zone of interest is associated with a room probe (RF probe,...)

Description of Zones/Information menu

- **Operation status**

- Off = off;
- A-ECO = means that the zone is in the time slot where the central heating has been programmed to be deactivated;
- A-COMF = means that the zone is in the time slot where the central heating has been programmed to be activated and running if the room thermostat is closed;
- Man = central heating is always active and the relative time program is not considered.

- **Room thermostat status**

- if open, there is no central heating / C.H. request in progress (until it is closed);
- if closed, it will go in combination with the appliance programming.

- **Central heating / C.H. set**

- info on the actual active set in real time (depends on the central heating / C.H. programming or any external probe).

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ZONES/Zone 1/Information/System			
Menu item	Description	Range	S
Room probe	This displays or not the presence of the room probe	Off = No probe	
		WIRED = Not used	
		RF = Probe present	
		OT = CAR V2 presence	
Water circuit	If zone board is present, it informs about the type of system in use in the zone.	DIR = Direct circuit	
		MIX = Mixed circuit	
Flow temperature	Zone board absent: the temperature read is the one to the boiler outlet	0°C ÷ 99°C	
	Zones control unit present + information request relating to mixed zone: the temperature read is that at the mixing valve outlet.		

S = menu item visible only from "Service" login.

ZONES/Zone 1/Settings (1)					
Menu item	Description	Range	Default	Customised value	S
Operation mode (1)	Sets the zone 1 operating mode	Off Man Auto	Man		
Set AUTO comfort (2)	Zone 1 room temperature correlated to the active time slots of the zone 1 calendar	10°C ÷ 35°C	20°C		
Set AUTO reduced (2)	Zone 1 room temperature correlated to the NON active time slots of the zone 1 program	5°C ÷ 30°C	16°C		
Set MAN (3)	Zone 1 room temperature that can be activated by selecting the operating mode = manual	5°C ÷ 35°C	20°C		
Weather comp. offset (4)	Zone 1 flow temperature correction in relation to external probe detection	-9°C ÷ 9°C	0°C		
Maximum flow set (5)	Maximum zone 1 flow temperature	20°C ÷ 85°C	85°C		

S = menu item visible only from "Service" login.

(1) **The zone 1 Settings menu is not displayed** if there is a remote device, but the menu will remain available on other zones not remote-controlled

(2) **Not displayed** when:

- the parameter "Operation mode" is set at "Man" or "Off" lack or unavailability of room probes

(3) **Not displayed** when:

- the parameter "Operation mode" is set at "Auto" or "Off" lack or unavailability of room probes

(4) **Not displayed** when:

- the external probe is missing
- the parameter "Operation mode" is set at "Off"

(5) **Not displayed** when:

- the external probe is present
- a room probe is configured
- the parameter "Enable room sensor" is set at "Yes"



ZONES/Zone 1/Configuration	
Menu item	S
Regulation	
NoFrost function	S
Room probe	S

S = menu item visible only from "Service" login.

ZONES/Zone 1/Configuration/Regulation					
Menu item	Description	Range	Default	Customised value	S
Enable room sensor	With room probe associated, its control can be disabled (No) or enabled again (Yes)	Yes - No	Yes		S
Room sensor modul.	With the room probe associated, it is possible to disable the modulation on the flow temperature (No) or enable it again (Yes)	Yes - No	Yes		S
Outdoor sensor modul.	With the external probe present, it is possible to disable the modulation on the outdoor temperature (No) or enable it again (Yes) for the selected zone	Yes - No	Yes		S
Weather comp. offset (1)	With external probe present, the offset value can be set with respect to the climatic curve.	-9°C ÷ 9°C	0°C		
Reduced	Without any association with room probes, it is possible to set a zone flow temperature reduction during the "reduced" bands of the central heating / C.H. calendars	Off ÷ 40°C	Off		S
Backlash off temp.	With room probe associated, and "Modul. with room probe" function = The hysteresis cannot be set on the room On-Off control	0,1°C ÷ 1°C	0,2°C		S
System inertia	It sets the system reaction speed based on the type of system present; for example: 5: fan-coil system. 10: Radiator system. 20: floor system	1 ÷ 20	10		S
External temperat. max	Defines the maximum outdoor temperature at which to operate the central heating system with minimum flow	-5°C ÷ 45°C	25°C		S
External temperat. min	Defines the minimum outdoor temperature at which to operate the central heating system with maximum flow	-25°C ÷ 15°C	-5°C		S
Maximum flow set	Defines the maximum flow temperature of central heating / C.H. system operation	20°C ÷ 85°C	85°C		
Minimum flow set	Defines the minimum central heating / C.H. system operation flow temperature (if external probe is present, it will be correlated to the maximum outdoor temperature)	20°C ÷ 85°C	20°C		S

S = menu item visible only from "Service" login.

(1) **Not displayed** when:

- the external probe is missing
- the parameter "Operation mode" is set at "Off"

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ZONES/Zone 1/Configuration/NoFrost function					
Menu item	Description	Range	Default	Customised value	S
NoFrost enable	If the wireless room probe is installed, it is possible to activate or not the room antifreeze function when the Zone operating mode is 'Off'	No - Yes	Yes		S
NoFrost temperature	If wireless room probe is installed and the antifreeze function is enabled, it is possible to define the room antifreeze trigger temperature	0,5°C ÷ 10°C	5°C		S

S = menu item visible only from "Service" login.

ZONES/Zone 1/Configuration/Room probe					
Menu item	Description	Range	Default	Customised value	S
Type	Makes it possible to select the type of probe to be associated with the zone in question	Off = No probe	Off		S
		WIRED = Not used			
		RF = Configuration to activate association with a wireless room probe			
Address M3	During the association, it is necessary to enter the concentrator acknowledgement address (see dip-switch on concentrator)	0 ÷ 2			S
Status	This displays the association status with wireless probe (if installed)	Err = Association procedure failed			S
		No-Link = Probe cannot be reached via RF			
		... (in config) = Probe association in progress			
		Ok = Probe correctly associated			

S = menu item visible only from "Service" login.



Main Menu

Press the "Menu"" button to access a list of variables that enable you to customise use of the system. The system is set up for possible programming of the operation parameters. By modifying these parameters as described below, the system can be adapted according to specific needs.

To view the advanced operating parameters, press the "Menu" button and enter the "General settings" submenu and select "Access level"; at the "Access code request" enter the relevant code (using the "DHWr set" and "CH set" knobs) and press "Ok", after which, the "Access level" menu will open where you can select the type of access "**Service**". The authentication as "**Service**" Service gives access to the parameters reserved for a qualified Technician.

 As long as you continue navigating the menu, access as "**Service**" remains active. Returning to the main screen, the "**Service**" access will remain active for 4 minutes, then it will automatically go back to "**User**" level.

To manually go back to "**User**" level, simply type the password following the procedure described above and set "**User**". again. If the appliance turns off and on again, the menu will automatically go back to "**User**". level.

MENU		
Menu item	Description	S
Clock and programs	Defines the date/time and time operating slots	
Information	Display system operating data	
Anomalies log	Displays the list of the last 10 anomalies	
Meters	This displays the number of ignitions and the hours of operation of the burner	S
General settings	Allows selecting the panel operating language, the display operating mode and to access the password-protected menus dedicated to a qualified technician.	
Support	Gives access to the functions exclusive for Service	S

S = menu item visible only from "Service" login.

MENU / Clock and programs					
Menu item	Description	Range	Default	Customised value	S
Set date and time	Current date and time setting				
Automatic summer time	Automatic time setting when changing from winter to summer time (and vice versa).	Yes - No	Yes		
Calendars	Defines the time range for operation in Comfort and Economy mode				
Zone 1 Program	Zone 1 time scheduling		CAL3		
Zone 2 Program	Zone 2 time scheduling (if present)		CAL3		
Zone 3 Program	Zone 3 time scheduling (if present)		CAL3		
DHW Program	DHW operation time programming		CAL3		
Holiday Program	Defines the period during which the system disables both hot water heating and room central heating functions. At the end of the set days, the previously active functions will be reset.	Off 1 ÷ 30 Day(s)	Off		

S = menu item visible only from "Service" login.

MENU / Information		
Menu item	Description	S
Gas type	Gas type display: NG (Methane), LG (L.P.G.), AP (propane air)	
Flame signal	Flame signal display	S
Flow temperature	Flow temperature display	
DHW temperature	Displays the DHW outlet temperature	
Set CH	This displays the set central heating / C.H. temperature set	
Set DHW	Set DHW (Domestic hot water) temperature display	
Outside temperature	View the external temperature, if the external probe is present (optional)	
Input DHW temperature	Not used on this model	
Return temperature	Return temperature display	
CH2 temperature	Safety flow probe display	
System flow temp.	Displays the temperature read on the system flow probe (optional)	
Duty pump command	Displays the pump speed command	
Flow pump	System flow rate display	
Flow rate	Not used on this model	
Fan speed	Fan speed display (rpm)	
Boiler exhaust temp.	Flue gas temperature display	
Solar storage temp.	Not used on this model	
Solar collector temp.	Not used on this model	
Maintenance withing	This displays the number of days within which maintenance must be carried out. After the days or with the function deactivated, the line is not displayed	
Main board rev. SW	Boiler board sw version display	
Firmware version	Display board sw version display	

S = menu item visible only from "Service" login.



MENU/Anomalies log		
Menu item	Description	S
Boiler	Allows the selection of the boiler anomaly history.	
Room probe	Allows the selection of the room probe anomaly history (if present).	

S = menu item visible only from "Service" login.

MENU/Anomalies log/Boiler		
Menu item	Description	S
Show alarm	This displays the boiler anomaly history. The size of the anomaly history is equal to 10 anomalies and they are displayed in decreasing order of appearance (no.1 is the most recent). The displayed anomalies are accompanied by the time and date of the anomaly being generated.	
Reset anomalies	Resets the list of anomalies	S

S = menu item visible only from "Service" login.

MENU/Anomalies log/Room probe		
Menu item	Description	S
Show alarm	Displays the room probe anomaly history (if present). The size of the anomaly history is equal to 10 anomalies and they are displayed in decreasing order of appearance (no.1 is the most recent). The displayed anomalies are accompanied by the time and date of the anomaly being generated.	
Reset anomalies	Resets the list of anomalies	S

S = menu item visible only from "Service" login.

MENU/Meters		
Menu item	Description	S
Burner ignitions number	Number of burner ignitions counter	S
Burner working hours	Burner operating hours meter	S

S = menu item visible only from "Service" login.

MENU / General settings					
Menu item	Description	Range	Default	Customised value	S
Language	Defines the remote panel operation language		ITA (*)		
Display	It is possible to adjust the contrast and lighting of the display. The lighting (available on two levels) can be automatically selected as fixed or variable during the boiler operation or user access to the display		Contrast: 5 Display lighting: Min		
Access level	Allows the entry of an access code to access the parameter customisation menus according to one's needs (dedicated to a qualified technician)				
User factory settings	Resets the user parameters to default state				
Service factory settings	Resets the service parameters to default state: the boiler parameters are excluded (hydraulic and combustion setting)				S

S = menu item visible only from "Service" login.

(*) The display leaves the factory set in Italian. To change the display language, see Par. 3.2 in the "USER" chapter, under "Changing the display language".

In case the user restores the factory conditions through "Menu/General settings/User factory settings", the menu will appear in English. Proceed in the following way to restore the desired display language:

- Enter **Menu/General setting/Language**.
- Select the desired language from those available and press OK.

INSTALLER

USER

CONTROL PANEL

MAINTENANCE/TECHNICIAN

TECHNICAL DATA



MENU/Support	
Menu item	S
Boiler	S
DHW	S
C.H.	S
Inputs	S
Modbus	S
Special function	S
Maintenance	S

S = menu item visible only from "Service" login.

MENU / Support / Boiler	
Menu item	S
Hydraulic	S
Combustion	S
Powers	S
External relays	S
Flue	S
Timers	S
Pump	S

S = menu item visible only from "Service" login.

MENU/Support/Boiler/Hydraulic					
Menu item	Description	Range	Default	Customised value	S
Hydraulic	Defines the type of boiler hydraulics	Istan. = not used on this model	Bol.		S
		Bol. = boiler with DHW storage tank			
		Herc. = not used on this model			
		Herc. Sol. = not used on this model			

S = menu item visible only from "Service" login.



MENU/Support/Boiler/Combustion					
Menu item	Description	Range	Default	Customised value	S
Model	Set the heat generator type	1 ÷ 30	Victrix Zeus Superior 25 = 5 Victrix Zeus Superior 30 = 4 Victrix Zeus Superior 35 = 3		S
Gas type	Defines the type of gas:	NG = operation with methane gas	NG		S
		LG = operation with LPG gas			
		AP = operation with Propane Air gas			
Fan rpm min	Setting of minimum fan speed (absolute)	450 - 3500 (rpm)	Victrix Zeus Superior 25 = 2150 rpm Victrix Zeus Superior 30 = 2350 rpm Victrix Zeus Superior 35 = 2350 rpm		S
Fan rpm max	Setting of maximum fan speed (absolute)	3500 ÷ 8300 (rpm)	Victrix Zeus Superior 25 = 6400 rpm Victrix Zeus Superior 30 = 6950 rpm Victrix Zeus Superior 35 = 6950 rpm		S
Fan rpm ign.	Sets burner ignition fan speed	2000 ÷ 4500 (rpm)	Victrix Zeus Superior 25 = 3800 rpm Victrix Zeus Superior 30 = 3500 rpm Victrix Zeus Superior 35 = 3500 rpm		S
Maximum calibr. range	Activates a greater combustion set adjustment range during complete calibration	No = normal combustion set adjustment range	No		S
		Yes = extended combustion set adjustment range			

S = menu item visible only from "Service" login.



A change in values of this table will cause a appliance block with E62 appearing and consequent request for complete calibration.

MENU/Support/Boiler/Powers					
Menu item	Description	Range	Default	Customised value	S
Power max DHW	Defines the maximum boiler power in the DHW phase as a percentage compared to the available range, between "Fan rpm min" (0%) and "Fan rpm max" (100%)	0 ÷ 100 (%)	Victrix Zeus Superior 25 = 100 Victrix Zeus Superior 30 = 83 Victrix Zeus Superior 35 = 100		S
Power min DHW	Defines the minimum heat output percentage of the boiler during the D.H.W. phase compared to the minimum heat output available, included between "Fan rpm min" (0%) and "Fan rpm max" (100%)	0 ÷ 100 (%)	Victrix Zeus Superior 25 = 22 Victrix Zeus Superior 30 = 17 Victrix Zeus Superior 35 = 17		S
Power max CH	Defines the maximum heat output percentage of the boiler during the central heating mode compared to the maximum heat output available, included between "Fan rpm min" (0%) and "Fan rpm max" (100%)	0 ÷ 100 (%)	Victrix Zeus Superior 25 = 73 Victrix Zeus Superior 30 = 75 Victrix Zeus Superior 35 = 75		S
Power min CH	Defines the minimum heat output percentage of the boiler during the central heating mode compared to the minimum heat output available, between "Fan rpm min" (0%) and "Fan rpm max" (100%)	0 ÷ 100 (%)	Victrix Zeus Superior 25 = 0 Victrix Zeus Superior 30 = 0 Victrix Zeus Superior 35 = 0		S
Correction flow DHW	Not used on this model	-	-		S

S = menu item visible only from "Service" login.



The P.C.B. defines the operating mode and the boiler output according to the combination of several parameters. From the combination of the parameters "Model", "Gas type", "Length Flue" the parameters are defined to obtain the correct operating power of the appliance. For this reason it is suggested not to modify the "Fan rpm" parameters (Fan rpm min - Fan rpm max - Fan rpm ign.).



MENU/Support/Boiler/External relays					
Menu item	Description	Range	Default	Customised value	S
Relay 1	The boiler is set-up for functioning with the relay board (optional), which can be configured on relay 1	Off = relay always Off	Zone 1		S
		Zone 1 = Zone 1 control			
		Allarm = Generic alarm			
		CH active = CH mode active			
		Gas valve = External gas valve supply			
		Threeway = Active together with three-way position in central heating			
		DHW acti. = DHW mode active			
Relay 2	The boiler is set-up for functioning with the relay board (optional), which can be configured on relay 2	Off = relay always Off	Off		S
		Allarm = Generic alarm			
		CH active = CH mode active			
		Gas valve = External gas valve supply			
		Zone 2 = Zone 2 control			
		HP = not used on this model			
		DHW acti. = DHW mode active			
Relay 3	The boiler is set-up for functioning with the relay board (optional), which can be configured on relay 3	Off = relay always Off	Off		S
		CHL active = not used on this model			
		Allarm = Generic alarm			
		CH active = CH mode active			
		Gas valve = External gas valve supply			
		HP = not used on this model			
		(*) DHW reci. = Storage tank recirculation pump active when Boost is active			
		Zone 1 = Zone 1 control			
		DHW acti. = DHW mode active			

S = menu item visible only from "Service" login.

(*) To activate recirculation using the optional "Recirculation pump" kit, in addition to configuring the relay, it is necessary to activate the Boost Function. With Boost On, recirculation is always running. With Boost Auto, recirculation works according to the time slots set on the DHW (Domestic hot water) program (on in comfort and off in economy).

MENU/Support/Boiler/Flue					
Menu item	Description	Range	Default	Customised value	S
Length	Sets flue length	Min med Max	Min		S
Enable klapet valve	Set the preset parameters on the board software to allow installation in configuration C ₍₁₀₎ - C ₍₁₂₎	No - Yes	No		S

S = menu item visible only from "Service" login.



A change in these parameters will cause the appliance block signalled with E72; to reset E72, a quick calibration must be activated.



MENU/Support/Boiler/Timers					
Menu item	Description	Range	Default	Customised value	S
Anti heating cycles	Central heating / C.H. anti-cycle timer set	0 ÷ 840	180 seconds		S
Heating ramp	Set central heating ramp timer	0 ÷ 840	180 seconds		S
RT request delay	Set delay timer requested by TA	0 ÷ 600	0 seconds		S
Solar delay	Not used on this model				S
Waiting time priority	Not used on this model				S
Antilegionella stop	Sets the maximum time for the anti-legionella function. Once this time elapses, an error is indicated and the function is forced to terminate.	0 ÷ 255	180 minutes		S
Boiler end of precedence	Sets the maximum time allowed to complete the storage tank heating cycle. At the end of this time, the appliance will display error 177.	0 ÷ 255	240 minutes		S

S = menu item visible only from "Service" login.

MENU/Support/Boiler/Pump					
Menu item	Description	Range	Default	Customised value	S
Mode	Sets the central heating / C.H. pump operation mode	Interm. = in winter "mode" the pump is managed according to the room control request.	Interm.		S
		Cont. = in winter mode the pump is always powered and so functions continuously			S
Max pump speed	Sets the maximum pump operating speed in central heating / C.H.	1 ÷ 9	9		S
Min pump speed	Sets the minimum pump operating speed in central heating / C.H.	1 ÷ 9	6		S
Delta t	This defines the type of speed control of the pump in central heating / C.H.	Delta t = 0: head proportional to the power supplied by the burner	15°C		S
		Delta t = 5...25: constant Delta t operation (at the set value)			S

S = menu item visible only from "Service" login.

INSTALLER

USER

CONTROL PANEL

MAINTENANCE TECHNICIAN

TECHNICAL DATA



MENU/Support/DHW					
Menu item	Description	Range	Default	Customised value	S
Boiler control input	Set the type of board input on which to activate the storage tank control	ntc : storage tank control performed via NTC probe	ntc		S
		dig : storage tank control performed via contact (not used on this model)			
		ntc+dig : storage tank control performed by summing the probe reading and the enabling contact (not used on this model)			
DHW hysteresis	Sets the storage tank control hysteresis and temperature	hyster. 0 : 3k control hysteresis and flow correlated to the DHW setting (set +25K)	hyster. 1		S
		hyster. 1 : 3k control hysteresis and flow correlated to boiler power			
		hyster. 2 : 10k control hysteresis and flow correlated to set			
		hyster. 3 : 5k control hysteresis and flow fixed at 85°C			
		hyster. 4 : hysteresis and flow settable on parameters below the item			
Boil.water temp. hyster. 4	Set the storage tank flow temperature for hysteresis type 4	35 ÷ 85	70°C		S
Diff. prec. with hyster. 4	Set the storage tank control hysteresis for type 4 hysteresis	2 ÷ 15	15°C		S
DHW flow regulator	Not used on this model	-	-		S
DHW min set	Set minimum DHW (Domestic hot water) set limit available to user	10 ÷ 65	10°C		S
DHW max set	Set maximum DHW (Domestic hot water) set limit available to user	10 ÷ 65	60°C		S
Anti-legionella	Anti-legion.cycle time: Sets the anti-legionella function intervention time	00:00 ÷ 24:00	02:00		S
	Anti-legion.cycle day: Sets the day(s) of activation of the anti-legionella function	None ... All	None		S

S = menu item visible only from "Service" login.



MENU/Support/C.H.					
Menu item	Description	Range	Default	Customised value	S
CH min set	Set minimum central heating / C.H. set limit available	20 ÷ 85	20°C		S
CH max set	Set maximum central heating / C.H. set limit available	20 ÷ 85	85°C		S
External probe corr.	Sets correction factor on external probe reading	-9 ÷ 9	0°C		S
Sys.flow probe max cur.	Sets the maximum limit for boiler flow set correction from system flow probe reading (Optional)	0 ÷ 15	10°C		S

S = menu item visible only from "Service" login.

MENU/Support/Inputs					
Menu item	Description	Range	Default	Customised value	S
Configurable input	Sets the management of the input available at connection terminals 38 and 20.	Disable Flow temp Photovol.	Disable		S
Remote control	Sets the dialogue protocol with remote device	IMGBUS: select this mode when connecting an Immergas remote control (e.g. CARv2) to terminals 44-41	IMGBUS		S
		1: select this mode when a commercial remote is connected to terminals 44-41 (with this selection, the control of the domestic hot water adjustments is available on the boiler panel, rather than on the remote device)			S
		2: not used on this model			S

S = menu item visible only from "Service" login.

INSTALLER

USER

CONTROL PANEL

MAINTENANCE TECHNICIAN

TECHNICAL DATA



MENU/Support/Modbus					
Menu item	Description	Range	Default	Customised value	S
Type	Enables dialogue in Dominus app or Domotics system	Off Dominus *BMS	Off		S

S = menu item visible only from "Service" login.

BMS mode (Building Management System)

When the BMS is activated and functioning, the control panel behaves like when the CAR^{v2} is connected.

This condition is specified by the appearance of the word "BMS" under the zone identification icon.

The device connected to the BMS must only be controlled by it and not by other external appliances, such as the CAR^{v2}, the zone board, etc.

If the "BMS" is activated and these appliances are present simultaneously, a conflict will be generated and will appear on the display with the text "Incompatible mode".

* When the BMS parameter is selected, the parameters already set and ready to communicate with the Immergas system manager will appear and be visible in the following table:

MENU/Support/Modbus/BMS					
Menu item	Description	Range	Default	Customised value	S
Slave address	Items displayed when Modbus type is set = Type BMS.	1÷247	1		S
Baud rate		1200 - 2400 - 4800 - 9600 - 19200 - 38400 (bps)	9600		S
Parity bit		None Even Odd	Even		S
Stop bits		1 - 2	1		S

S = menu item visible only from "Service" login.



If the BMS must be integrated into an existing home automation system or other than the Immergas system manager, the Authorised Technical Assistance Centre must be contacted for the configuration of the correct parameters.

Menu / Support / Special function	
Menu item	S
Deaeration	S
Chimney sweeper	S
Test flue	S
Complete calibration	S
Fast calibration	S
Screed heater	S

S = menu item visible only from "Service" login.

MENU/Support/Special function/Deaeration					
Menu item	Description	Range	Default	Customised value	S
Enable vent	Vent enabled: to activate automatic venting at each power-on	No - Yes	Yes		S
Deaeration comand	Activates/deactivates the deaeration control with a command	Stop Start			S
Function duration in hours	This displays the time remaining until the end of the function	0 - 255 (h)			S
Fault	This displays any current anomaly	--			S

S = menu item visible only from "Service" login.



MENU/Support/Special function/ Chimney sweeper				
Menu item	Description	Range	Default	S
En. chimneysweeper	Chimney sweep function active	Stop - Start	Stop	S
Status	Notifies the function status	Off - On		S
Set power level	Set power level	0 ÷ 100%		S
Fan speed	Fan speed display (rpm)	-- (rpm)		S
Flow temperature	Flow temperature display	0 ÷ 99°C		S
Flame	This displays the flame status	Off - On		S
Circuit CH	Notification if central heating / C.H. is activated	Off - On		S
Circuit DHW	Notification if DHW (Domestic hot water) is activated	Off - On		S
Fault	This displays any current anomaly	--		S

S = menu item visible only from "Service" login.

MENU/Support/Special function/ Test flue					
Menu item	Description	Range	Default	Customised value	S
En. test flue	Activate the flue test function	Stop Start	Stop		S
Status	Notifies the function status	Off - On			S
Fan speed	Fan speed display (rpm)	-- (rpm)			S
Fault	This displays any current anomaly	--			S

S = menu item visible only from "Service" login.

MENU/Support/Special function/ Complete calibration		
Menu item	Description	S
Complete calibration	Activates the complete calibration function (Access to the calibration window with activation of the complete calibration command: makes it possible to change the combustion set)	S

S = menu item visible only from "Service" login.

MENU/Support/Special function/ Fast calibration		
Menu item	Description	S
Fast calibration	Activates the quick calibration function (Access to the calibration window with activation of the quick calibration command)	S

S = menu item visible only from "Service" login.

INSTALLER

USER

CONTROL PANEL

MAINTENANCE TECHNICIAN

TECHNICAL DATA



MENU/Support/Special function/Screed heater

Menu item	Description	Range	Default	Customised value	S
En. screed heater	Activates the function with Yes selected and the advanced end if No is selected	Stop Start	Stop		S
Minimum flow set	It is possible to set the minimum flow temperature at screed heater function start	20 ÷ 45 (°C)	25°C		S
Maximum flow set	It is possible to set the maximum flow temperature delivered during the screed heater function	25 ÷ 55 (°C)	45°C		S
Min dwell time set	It is possible to set the days of stay at minimum flow set during the screed heater function	1 ÷ 7 (Day(s))	3 Day(s)		S
Rise gradient	It is possible to set the ascent variation speed from minimum flow set to maximum flow set during the screed heater function	3 ÷ 30 (°C/Day)	30°C/Day		S
Max dwell time set	It is possible to set the days of stay at maximum flow set during the screed heater function	1 ÷ 10 (Day(s))	4 Day(s)		S
Fall gradient	It is possible to set the descent variation speed from maximum flow set to minimum flow set during the screed heater function	3 ÷ 30 (°C/Day)	30°C/Day		S
Status	This displays the screed heater function progress	Off = function deactivated			S
		Min = function active with dwell time at minimum flow set			S
		up = function active with increase from minimum flow set to maximum flow set			S
		Max = function active with dwell time at maximum flow set			S
		down = function active with decrease from maximum flow set to minimum flow set			S
Holding time T max	This displays the stay time at maximum screed heater temperature (h)	(h)			S
Function duration in days	This displays the time remaining until the end of the function in days	(Day(s))			S
Function duration in hours	This displays the time remaining in hours until the end of the function (to be added to the days of the previous item)	(h)			S

S = menu item visible only from "Service" login.

MENU/Support/Maintenance

Menu item	Description	Range	Default	Customised value	S
Select number of months	Sets the number of months for scheduled maintenance	Off - 36	Off		S

S = menu item visible only from "Service" login.



3.6 FAULT AND ANOMALY SIGNALS

The appliance indicates a possible anomaly through a code flanked by the symbol of a key "🔑" in the centre of the display and the message "boiler anomaly" at the bottom of the display itself (Fig. 61).

Error Code	Anomaly signalled	Cause	Appliance status / Solution
01	No ignition block	In the event of space heating or domestic hot water production demand, the appliance does not switch on within the preset time. Upon appliance commissioning or after extended downtime, it may be necessary to eliminate the block.	Press the Reset button (1)
02	Safety thermostat block (overheating safety device)	During normal operation, if a fault causes excessive overheating internally, the appliance goes into overheating block.	Press the Reset button (1)
03	Flue safety thermostat block	During normal operation, if a fault causes excessive flue gas overheating, the appliance blocks.	Press the Reset button (1)
04	Contacts resistance block/Damaged hardware board	The P.C.B. detects a fault on the gas valve supply. Check its connection. (the anomaly is detected and displayed only in the event of a request). Once it has been established that the fault is not related to the gas valve, the electronic board must be replaced if the fault does not disappear after pressing the Reset button.	Press the Reset button (1)
05	Delivery probe fault	The board detects an anomaly on the flow NTC probe.	The appliance does not start (1)
07	Chimney sweep function	The appliance is in chimney sweep function or complete/quick calibration.	(3)
08	Maximum N° of resets	Number of allowed resets already performed.	The anomaly can be reset 5 times consecutively, after which the function is inhibited for at least one hour. One attempt is gained every hour for a maximum of 5 attempts. By switching the appliance on and off again, the 5 attempts are re-acquired.
10	Insufficient system pressure	Sufficient water pressure inside the central heating circuit to guarantee the correct operation of the appliance is not detected.	Check the appliance pressure gauge to ensure the system pressure is between 1-1.2 bar and restore the correct pressure, if necessary.
12	Storage tank probe anomaly	The board detects an anomaly on the storage tank probe.	The appliance cannot produce domestic hot water (1)
(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)			
(2) The anomaly can only be verified in the list of errors in the "Information" menu			
(3) Error displayed only on CAR ^{v2}			

INSTALLER

USER

CONTROL PANEL

MAINTENANCE TECHNICIAN

TECHNICAL DATA



Error Code	Anomaly signalled	Cause	Appliance status / Solution
15	Configuration error	If the board detects an anomaly or incongruity on the electric wiring, the boiler will not start.	If normal conditions are restored, the appliance restarts without having to be reset. Check that the appliance is configured correctly (1)
16	Fan anomaly	This occurs if the fan has a mechanical or electrical fault.	Press the Reset button (1)
20	Parasite flame block	This occurs in the event of a leak on the detection circuit or anomaly in the flame control unit.	Press the Reset button (1)
23	Return probe anomaly	The board detects an anomaly on the return NTC probe.	Press the Reset button (1)
29	Flue probe anomaly	The board detects an anomaly on the flue gas probe.	The appliance does not start (1)
30	Combustion model setting request	The combustion model identification parameter setting is incorrect or does not support the firmware evolution of the combustion control board.	(1)
31	Loss of remote control communication	This occurs if an incompatible remote control is connected, or if communication between the boiler and the remote control is lost or incorrect connection to the terminals.	Disconnect and reconnect the power to the appliance. If the Remote Control is still not detected on re-starting, the appliance will switch to local operating mode, i.e. using the controls on the control panel. In this case the "Central Heating" (1) function cannot be activated
32	Zone 2 Low Temperature probe anomaly	The zone 2 low temperature flow probe has an out of range resistive value.	(1)
33	Zone 3 Low Temperature probe anomaly	The zone 3 low temperature flow probe has an out of range resistive value.	(1)
34	Low-temperature Zone 2 safety thermostat intervention	Safety thermostat positioned on low temperature zone 2 intervention.	(1)
35	Low-temperature Zone 3 safety thermostat intervention	Safety thermostat positioned on low temperature zone 3 intervention.	(1)
36	IMG Bus communication loss	Communication between the various components is interrupted due to an anomaly on the appliance control unit, on the zone control unit or on the IMG Bus.	The appliance does not satisfy the central heating requests (1)

(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)

(2) The anomaly can only be verified in the list of errors in the "Information" menu

(3) Error displayed only on CAR^{v2}



Error Code	Anomaly signalled	Cause	Appliance status / Solution	INSTALLER
37	Low power supply voltage value	This occurs when the power supply voltage is lower than the allowed limits for correct operation of the appliance.	If normal conditions are restored, the appliance restarts without having to be reset (1).	
38	Loss of flame signal	This occurs when the appliance is ignited correctly and the burner flame switches off unexpectedly; a new attempt at ignition is performed and if normal conditions are restored, the appliance does not have to be reset.	If normal conditions are restored, the appliance restarts without having to be reset (1) (2)	
43	Block due to loss of flame signal	This occurs if the "Flame signal loss" error occurs many times in a row within a preset period (38).	Press the Reset button, before restarting, the appliance will run a post-ventilation cycle. (1)	USER
44	Block for exceeding gas valve frequent maximum opening time	This occurs if the gas valve remains open for longer than required for normal operation, without the appliance switching on.	Press the Reset button (1)	
45	High T Delta	The appliance detects a sudden, unexpected increase in the ΔT between the flow probe and the system return probe.	The power of the burner is limited to prevent damage to the condensation module and once the right ΔT is restored, the appliance resumes regular operation. Make sure there is water circulating in the boiler, that the pump is configured according to system requirements and that the return probe works properly (1)	
46	Intervention of DIM v2 safety thermostat or Low temperature safety thermostat outside the boiler	During normal operation, if an anomaly causes excessive overheating of the flow temperature in low temperature conditions, the appliance blocks.	In this case, after suitable cooling, it is possible to reset the thermostat (see relative instructions sheet) (1)	CONTROL PANEL
47	Burner power limitation	Should flue high temperature be detected, the appliance reduces power supplied so as not to damage it.	(1)	
48	System flow probe anomaly	The board detects an anomaly on the system flow probe.	The appliance works with possible system temperature oscillations (1)	
(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)				MAINTENANCE TECHNICIAN
(2) The anomaly can only be verified in the list of errors in the “Information” menu				
(3) Error displayed only on CARv2				



Error Code	Anomaly signalled	Cause	Appliance status / Solution
49	High temperature block on return probe	The temperature measured by the return probe is above 90°C. The block is with manual reset.	The error disappears when the temperature detected by the return probe drops below 70°C. Press the Reset button (1)
51	RF communication failure towards CAR v2 RF	If there is no communication between the boiler and Wireless version CAR, an anomaly is signalled. From this moment, it is only possible to control the system by means of the control panel of the appliance itself.	Check operation of the Wireless CAR, check the battery charge (refer to the relative instructions booklet).
59	Electric power supply mains frequency anomaly	The board detects a main supply voltage frequency anomaly.	The appliance does not start (1)
60	Anomaly pump blocked	The pump is stopped due to one of the following causes: Impeller blocked, electrical fault.	Try to unblock the pump as described in the relative section. If normal conditions are restored, the appliance restarts without having to be reset (1).
61	Air in circulator pump anomaly	Air is detected inside the pump; the pump cannot work.	Vent the pump and the central heating circuit. If normal conditions are restored, the appliance restarts without having to be reset (1).
62	Complete calibration required	Missing calibration is detected by the P.C.B. It may occur in the event the P.C.B. is replaced or if the parameters are altered in the air / gas section, thus requiring "complete calibration".	The appliance does not start (1)
72	Fast calibration required	The P.C.B. detects that some parameters have been altered, thus requiring "fast calibration".	The appliance does not start (1)
73	High deviation between flow probe and safety flow probe	Faulty flow sensor or not correctly inserted.	If normal conditions are restored, the appliance restarts without having to be reset (1).
74	Safety flow probe anomaly	The board detects an anomaly on the NTC safety flow probe.	The appliance does not start (1)
77	Combustion control anomaly	Out of range current is detected on the gas valve.	The appliance does not start (1)
78	Combustion control anomaly	High current on the gas valve is detected.	The appliance does not start (1)
(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)			
(2) The anomaly can only be verified in the list of errors in the "Information" menu			
(3) Error displayed only on CARv2			



Error Code	Anomaly signalled	Cause	Appliance status / Solution	
79	Combustion control anomaly	Reduced current on the gas valve is detected.	The appliance does not start (1)	INSTALLER
80	Block - gas valve driver issue	This occurs in the event of malfunctions of the P.C.B. that controls the valve.	Press the Reset button (1)	
84	Combustion anomaly (Power reduction in progress)	A low supply pressure is detected on the gas line. As a result the appliance power is limited and the anomaly is reported.	If normal conditions are restored, the appliance restarts without having to be reset (1) (2)	
87	Block - gas valve control	A malfunction of one of the components that controls the gas valve has been detected.	The appliance does not start (1)	
88	Block - gas valve control	A malfunction of one of the components that controls the gas valve has been detected.	The appliance does not start (1)	USER
89	Combustion signal unstable	The flame is unstable due to: presence of flue gas recirculation, wind, unstable gas pressure, unstable fan speed, or due to system malfunction.	The appliance keeps working (1) (2)	
90	Combustion signal beyond limit	The combustion signal is beyond the adjustment range required for an extended period of time.	The appliance keeps working (1) (2)	
91	Incorrect ignition block	The board has exhausted all possible actions in order to obtain optimal ignition of the burner.	Press the Reset button (1)	
92	Fan revs correction limit	The system has exhausted all possible corrections of the number of fan revs.	The appliance keeps working (1) (2)	CONTROL PANEL
93	Combustion signal beyond limit	The combustion signal is beyond the adjustment range required for a limited period of time.	The appliance keeps working (1) (2)	
94	Combustion anomaly	A problem is detected on the combustion control, which may be due to: gas low pressure, flue recirculation, defective gas valve or P.C.B.	If normal conditions are restored, the appliance restarts without having to be reset (1) (2)	
95	Combustion signal discontinuous	The system detects a discontinuous combustion signal.	The appliance keeps working (1) (2)	
96	Clogged flue	This occurs in the event an obstruction is detected in the flue system.	If normal conditions are restored, the appliance restarts without having to be reset (1).	TECHNICIAN
98	Block - maximum no. of software errors	The maximum number of software errors possible has been reached.	Press the Reset button (1)	
99	General block	A boiler anomaly has been detected.	Press the Reset button (1)	
121*	Zone 1 device offline alarm	Low quality or no radio communication between the zone 1 wireless probe and the concentrator or device connected to zone 1 is offline.	Check receiver/sensor positioning Check probe battery (1)	
(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)				
(2) The anomaly can only be verified in the list of errors in the “Information” menu				
(3) Error displayed only on CARv2				

(*) Errors visible below zone area icons.



Error Code	Anomaly signalled	Cause	Appliance status / Solution
122*	Zone 2 device offline alarm	Low quality or no radio communication between the zone 2 wireless probe and the concentrator or device connected to zone 2 is offline.	Check receiver/sensor positioning Check probe battery (1)
123*	Zone 3 device offline alarm	Low quality or no radio communication between the zone 3 wireless probe and the concentrator or device connected to zone 3 is offline.	Check receiver/sensor positioning Check probe battery (1)
125*	Zone 1 room temperature probe anomaly	Faulty room sensor (resistor open or short circuit).	Replace room probe (1)
126*	Zone 2 room temperature probe anomaly	Faulty room sensor (resistor open or short circuit).	Replace room probe (1)
127*	Zone 3 room temperature probe anomaly	Faulty room sensor (resistor open or short circuit).	Replace room probe (1)
141	Alarm due to connection to outdated zones control unit	The zones control unit does not have suitable firmware for communicating with the appliance.	Update zones control unit fw (or replace the board with the latest version) (1)
142	Dominus Offline Alarm	The Dominus is disconnected or not powered. No communication between Dominus and the boiler.	Check that the Dominus is correctly connected and powered Replace the Dominus or the display board (1)
144*	BMS Offline Alarm	The BMS interface has lost communication with the master	(1)
145*	Conflict alarm on Master definition	The settings made on the parameters and the external connections generate a conflict between them on the unique definition of Master device for system control (e.g. activation of the BMS or Dominus Superior dialogue together with the presence of CARv2)	(1)
177	DHW maximum time alarm	The DHW request was made exceeding a preset maximum time.	(1)
(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)			
(2) The anomaly can only be verified in the list of errors in the “Information” menu			
(3) Error displayed only on CARv2			

(*) Errors visible below zone area icons.



Error Code	Anomaly signalled	Cause	Appliance status / Solution
178	Anti-legionella cycle not successful	The anti-legionella cycle was not completed successfully within a preset time.	Check the set anti-legionella time. Check the thermal exchange to the storage tank. The error is reset by changing the operating mode, or by pressing the ON - OFF button (1).
300*	RF address 0 concentrator off-line alarm	Lack of communication on BUS (wires) between concentrator with address "0" and boiler.	Check concentrator-boiler-display board connection wiring Check correct association Replace concentrator board or display board (1)
301*	RF address 1 concentrator off-line alarm	Lack of communication on BUS (wires) between concentrator with address "1" and boiler.	Check concentrator-boiler-display board connection wiring Check correct association Replace concentrator board or display board (1)
302*	RF address 2 concentrator off-line alarm	Lack of communication on BUS (wires) between concentrator with address "2" and boiler.	Check concentrator-boiler-display board connection wiring Check correct association Replace concentrator board or display board (1)
(1) If the shutdown or fault persists, contact an authorised company (e.g. Authorised Service Centre)			
(2) The anomaly can only be verified in the list of errors in the "Information" menu			
(3) Error displayed only on CAR^{v2}			

(*) Errors visible below zone area icons.



The reset of the error signal (following a solving operation) can take up to 10 minutes. It is recommended to "force" the communication between the probe and concentrator by briefly pressing the probe button; in this way the RF communication between the two devices will be forced and the error signal will be quickly cancelled.

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4 INSTRUCTIONS FOR MAINTENANCE AND INITIAL CHECK

4.1 GENERAL RECOMMENDATIONS



Operators who install and service the appliance must wear the suitable personal protective equipment (PPE) required by applicable law.
The list of possible PPE is not all-comprehensive as it is indicated and chosen by the Employer of the authorised company (installer or maintenance).



Before carrying out any maintenance work, make sure that:

- you have disconnected the power to the appliance;
- you have closed the gas isolation valve;
- you have discharged the pressure from the system and domestic hot water circuit.



If additional documentation needs to be consulted for extraordinary maintenance, contact the Authorised After-Sales Service.



Supply of spare parts

The device's warranty shall be rendered null and void if unapproved or unsuitable parts are used for maintenance or repairs. These will also compromise the product's compliance, and the said product may no longer be valid and fail to meet the current regulations. In regard to the above, only use original Immergas spare parts when replacing components.



4.2 INITIAL CHECK

Commissioning the appliance requires you to:

- ensure that the type of gas used corresponds to the appliance settings (the type of gas appears on the display on first electrical power supply, on the data nameplate or, with the display already on, with the following sequence: MENU - Information - Ok);
- check connection to a 230V-50Hz power mains, correct L-N polarity and the earthing connection;
- make sure the central heating system is filled with water and the appliance pressure gauge reads a pressure of 1-1.2 bar;
- switch the appliance on and check correct ignition;
- check the Δp gas values in domestic hot water and central heating modes;
- check the proper calibration of the number of fan revolutions;
- check the CO₂ flow rate in the flue:
 - maximum
 - intermediate
 - minimum
- the values must comply with the relevant tables (Par. 5.2);
- fill in and affix the installation information sticker on the appliance next to the data nameplate, with the same data as in this instruction manual (Par. 1.2) on the facsimile of the sticker;
- check activation of the safety device in the event of no gas, as well as the relative activation time;
- check the activation of the main switch located upstream of the appliance;
- check that the intake and/or exhaust terminals are not blocked;
- ensure activation of all adjustment devices;
- seal the gas flow regulation devices (if the settings are changed);
- ensure production of domestic hot water;
- check the tightness of the hydraulic circuits;
- check ventilation and/or aeration of the installation room where provided.



Even if just one single safety check provides a negative result, do not commission the system.

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4.3 YEARLY APPLIANCE CHECK AND MAINTENANCE



The following checks and maintenance should be performed once a year to ensure operation, safety and efficiency of the appliance over time.

- Clean the flue side of the heat exchanger.
- Clean the main burner.
- Check the correct positioning, integrity and cleanliness of the detection and ignition electrode; remove any oxide present.
- If deposits are detected in the combustion chamber they must be removed and the heat exchanger coils must be cleaned using nylon or broomcorn brushes; it is forbidden to use brushes made of metal or other materials that may damage the combustion chamber. It is also forbidden to use alkaline or acid detergents.
- Check the integrity of the insulating panels inside the combustion chamber and if damaged replace them.
- Visually check for water leaks or oxidation from/on connections and traces of condensate residues inside the sealed chamber.
- Check the contents of the condensate drain trap.
- Visually check that the siphon is properly filled with condensate and top it up if necessary.
- Check that there are no material residues in the condensate drain siphon clogging the condensate passage; also check that the entire condensate drainage circuit is clear and efficient.
- In the event of obstructions (dirt, sediment, etc.) with consequent leakage of condensate in the combustion chamber, one must replace the insulating panels.
- Check that the burner and gas manifold seal gaskets are intact and perfectly efficient, otherwise replace them. In any case the gaskets must be replaced at least every two years, regardless of their state of wear.
- Check that the burner is intact, that it has no deformations or cuts and that it is properly fixed to the combustion chamber lid; otherwise it must be replaced.
- Visually check that the water safety drain valve is not blocked.
- Check that, after discharging the system pressure and bringing it to zero (read on boiler pressure gauge), the expansion vessel pressure is at 1.0 bar.
- Check that the system static pressure (with system cold and after refilling the system by means of the filling valve) is between 1 and 1.2 bar.



For proper and safe operation of the appliance, it is essential to check that the water pressure of the feed system (mains water) is at least 2.5 bar, before opening the filling cock. When filling the central heating system (CH), it is essential to comply with standard EN 1717, which indicates the requirements for the protection against pollution of potable water caused by backflow. If the feed water pressure is insufficient, **DO NOT OPEN** the filling cock. Otherwise there is the risk of dangerous contamination of the DHW storage tank integrated with the central heating water, which could endanger the user's comfort and cause health issues. The operator must make sure that the feed water pressure is adequate before filling the central heating system to prevent any possible contamination.

- Check visually that the safety and control devices have not been tampered with and/or shorted, in particular:
 - temperature safety thermostat;
 - system pressure switch.
- Check the conservation and integrity of the storage tank magnesium anode.
- Check the condition and integrity of the electrical system and in particular:
 - The power cables must be inside the cable fixings;
 - There must be no traces of blackening or burning.
- Check correct lighting and operation.
- Check the CO₂ by using the chimney sweep function at the three reference heat outputs, using the parameters in the table of Paragraph 5.2. Should values out of the indicated tolerance range be detected, check the integrity of the ignition / detection electrodes and, if required, change them also changing the relative gasket. At this point, activate the “complete calibration” function.
- Ensure correct calibration of the burner in domestic water and central heating phases.
- Check correct operation of control and adjustment devices and in particular:
 - system regulation probes intervention;
 - DHW regulation probes intervention.
- Check sealing efficiency of gas circuit and the internal system.
- Check the intervention of the device against no gas ionisation flame control. Intervention time must be less than 10 seconds.
- Check the non-return valve on the flue gas in installations C₁₀ - C₁₂.
- Check the flue gas non-return valve (inside the appliance) in installations C₁₀ - C₁₂.



If the flue gas non-return valve in the flues must be removed to inspect and clean it, temporarily plug the exhaust pipe connected to the collective flue. This prevents the return of fumes from the other appliances connected to the flue itself.



In the case of an annual inspection of the device, the max CO must be less than 700 ppm (0% O₂). If the CO value is higher, the device requires maintenance/repair.
Following maintenance/repair work, the maximum CO must be less than 500 ppm.



If a Hydrogen ready installation is planned for H₂ percentages up to 20%, (referring to the gas distributed in the network) all calibration of the gas valve must refer to the O₂ values in the table in Par.5.2.



In addition to yearly maintenance, one must also check the energy efficiency of the thermal system, with frequency and procedures that comply with the indications of the technical regulations in force.



In the setting at Q. Nominal and at Q. Minimum, if the O₂ values are not reached, the full Calibration procedure must be repeated. If after this operation the values are still not within the indicated ranges, no further adjustments are necessary.

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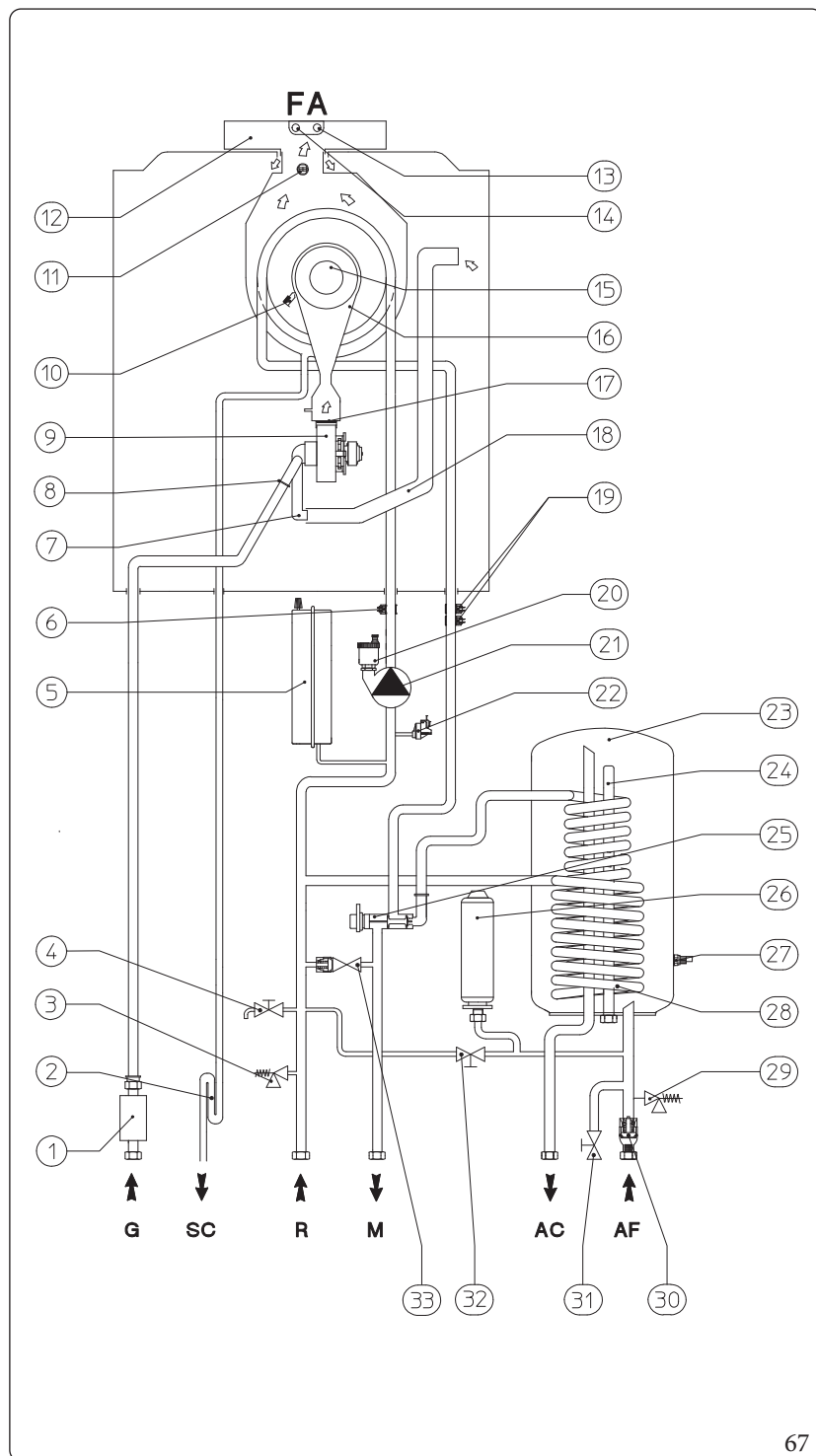
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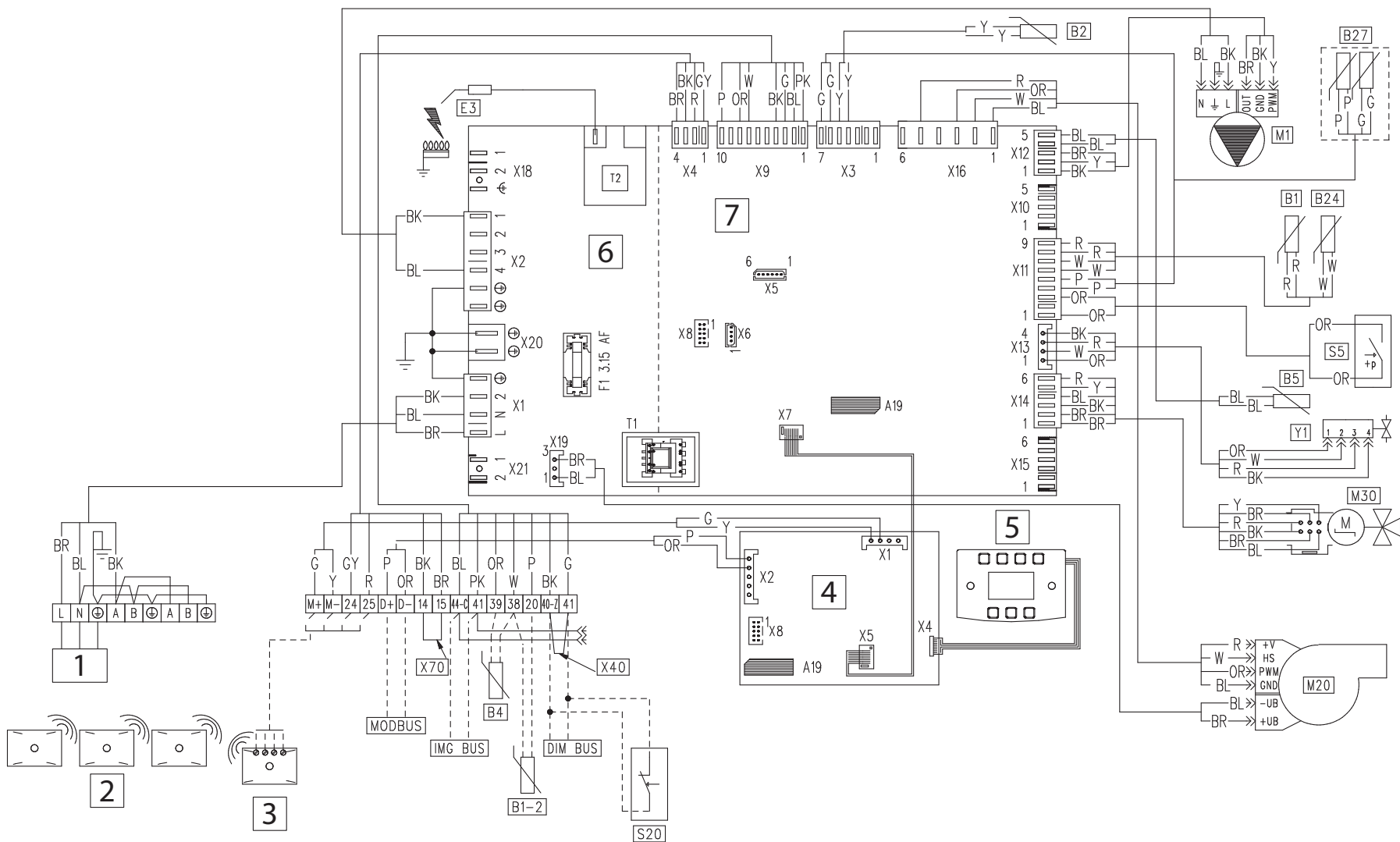


4.4 HYDRAULIC DIAGRAM



Key (Fig. 67):

- 1 - Gas valve
 - 2 - Condensate drain trap
 - 3 - 3 bar safety valve
 - 4 - System draining valve
 - 5 - System expansion vessel
 - 6 - Return probe
 - 7 - Air / gas mixer
 - 8 - Gas nozzle
 - 9 - Fan unit with non-return valve on the flue gas
 - 10 - Ignition/detection electrode
 - 11 - Double flue probe sensor
 - 12 - Flue hood
 - 13 - Air sample point
 - 14 - Flue sample point
 - 15 - Burner
 - 16 - Air / gas manifold
 - 17 - Non-return valve on flue gas
 - 18 - Air intake pipe
 - 19 - Flow probes
 - 20 - Air vent valve
 - 21 - Boiler circulating pump
 - 22 - System pressure switch
 - 23 - Stainless steel storage tank
 - 24 - Magnesium anode
 - 25 - 3-way valve (motorised)
 - 26 - Domestic hot water expansion vessel
 - 27 - D.H.W. probe
 - 28 - Stainless steel coil for storage tank
 - 29 - 8 bar safety valve
 - 30 - Cold water inlet non-return valve
 - 31 - Storage tank draining valve
 - 32 - System filling valve
 - 33 - By-pass
- G - Gas supply
AC - Domestic hot water outlet
AF - Domestic hot water inlet
SC - Condensate drain
M - System flow
R - System return





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Key (Fig. 68):

A19	-	Removable memory
B1	-	Flow probe
B1-2	-	System flow probe (optional)
B2	-	D.H.W. probe
B4	-	External probe (optional)
B5	-	Return probe
B24	-	Safety flow probe
B27	-	Double flue probe sensor
DIMBUS	-	DIMERP (optional) or Zone Kit
E3	-	Ignition and detection electrode
IMGBUS	-	CAR v2 (optional) or Smartech Plus (optional) or Commercial Remote OT (optional)
MODBUS	-	Dominus or B.M.S. (optional)
M1	-	Boiler circulating pump
M20	-	Fan
M30	-	Three-way stepper motor
S20	-	Room thermostat (optional)
S5	-	System pressure switch
T1	-	Boiler P.C.B. transformer
T2	-	Ignition transformer
X40	-	Room thermostat link
X70	-	Safety thermostat (low temperature) link
Y1	-	Gas valve

Key (Fig. 68):

1	-	230 Vac 50Hz Power supply
2	-	Wireless room probes (optional)
3	-	Wireless concentrator (optional)
4	-	Display board
5	-	Capacitive keyboard
6	-	230 V connections
7	-	Low voltage connections

Colour code key (Fig. 68):

BK	-	Black
BL	-	Blue
BR	-	Brown
G	-	Green
GY	-	Grey
OR	-	Orange
P	-	Purple
PK	-	Pink
R	-	Red
W	-	White
Y	-	Yellow

Any room thermostat or ON-OFF must be connected to terminals 40 and 41 eliminating link X40.

Any CAR^{v2} must be connected to terminals 44 and 41 complying with the polarity **without eliminating link X40**.

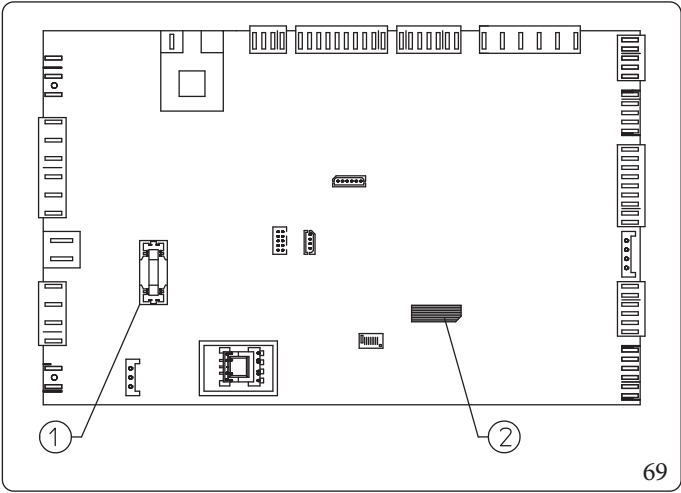
4.6 REMOVABLE MEMORY



Replacing the memory must be carried out after disconnecting all electrical connection of the P.C.B.

P.C.B.

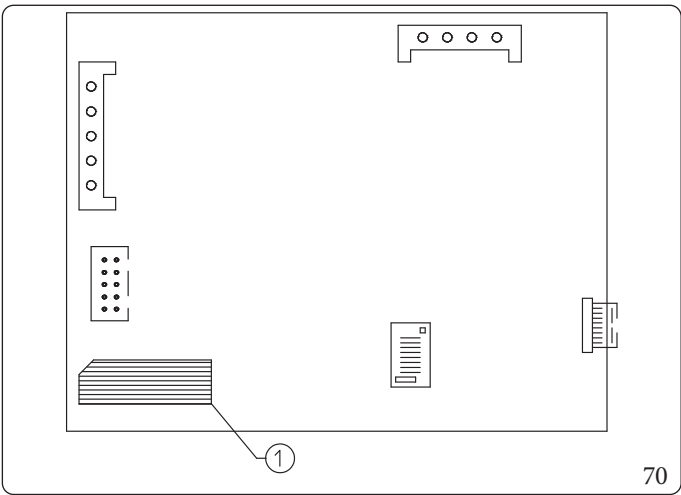
The P.C.B. is equipped with a removable memory (Ref. 2 Fig.69) which records all operation parameters and appliance customisations. Should the P.C.B. be replaced, you can use the memory of the replaced board again, so it is not necessary to reconfigure the appliance.



- Key (Fig. 69):
- 1 - Quick fuse 3.15 A 250 V Type F
 - 2 - Grey removable memory (A19)

Display board

The display board is equipped with a removable memory (Ref. 1 Fig.70) which records all operation parameters and customisations of the display, wireless probes, Dominus and timer maintenance. Should the display board be replaced, you can use the memory of the replaced board again so it is not necessary to reconfigure the appliance.



- Key (Fig. 70):
- 1 - Black removable memory (A19)

4.7 TROUBLESHOOTING



Maintenance operations must be carried out by an authorised company (e.g. Authorised After-Sales Technical Assistance Centre).

Trouble	Possible causes	Solutions
Smell of gas	Caused by leakage from gas circuit pipelines.	Check sealing efficiency of gas intake circuit.
Repeated ignition blocks	No gas. Condensate drain clogged.	Check the presence of pressure in the network and that the gas adduction valve is open. Restore/release the function of the condensate drain, checking that the condensate has not affected: combustion components, fan and gas valve. Check the function of the condensate sensor.
Irregular combustion or noisiness	Dirty burner, clogged primary heat exchanger, incorrect combustion parameters, intake-exhaust terminal not correctly installed.	Check the indicated components.
Non-optimal ignition of first ignitions of the burner.	The first ignitions of the burner (after calibration) may not be optimal.	The system automatically adjusts the burner ignition until the best ignition conditions are found.
Frequent trips of the overheating safety device thermostat function.	Lack of water in the appliance, little water circulation in the system or blocked pump (Par. 1.36, 1.37).	Check on the pressure gauge that the system pressure is within established limits. Check that the radiator valves are not closed and also the functionality of the pump.
Siphon blocked	Dirt or combustion products deposited inside.	Check that there are no residues of material blocking the flow of condensate.
Heat exchanger blocked.	Obstruction of the siphon.	Check that there are no residues of material blocking the flow of condensate.
Abnormal noises in the system	Air in the system.	Check opening of the special air vent valve cap (Par. 1.39). Make sure the system pressure and expansion tank factory-set pressure values are within the set limits. The factory-set pressure values of the expansion vessel must be 1.0 bar, the value of system pressure must be between 1 and 1.2 bar.
Abnormal noises in the condensation module	Air in the module.	Use the manual air vent valve (Parag. 1.39) to remove any air inside the condensation module. When the operation has been performed, close the manual air vent valve.
Poor production of D.H.W.	Clogged condensing module or D.H.W. exchanger.	Contact the Authorised Technical Assistance Service that has procedures to clean the module or D.H.W. heat exchanger.

Red pump LED (UPM3)

There can be three possible causes for this anomaly:

Trouble	Possible causes	Solutions
Low power supply voltage	After about 2 seconds, the LED switches from green to red and the pump stops.	Wait for the power supply voltage to rise; when the pump restarts, the LED will turn green again with a delay of about one second. Note: The flow rate decreases as the supply voltage decreases.
Rotor seized	Powering the pump with the rotor seized, after about 4 seconds the LED switches from green to red,	Carefully act on the screw in the middle of the head to manually release the crankshaft; circulation starts up immediately after the rotor is released and the LED switches from red to green after about 10 seconds.
Electrical error		Check that there is no fault on the pump (on its wiring or electronics).



4.8 ACCESS RESERVED TO SERVICE

To enter the appliance menu reserved for Service:

MENU / General settings / Access level

To activate the access reserved to "Service", follow the above path; upon "Access code request", enter code 1122 (using the "DHW set" and "Central heating set" knobs) and press "Ok", then the "Access level" menu will open where it is possible to select the "Service" access type. The authentication as "Service" gives access to the parameters reserved for a qualified Technician.



As long as you continue navigating the menu, access as "Service" remains active.

Returning to the main screen, the "Service" access will remain active for 4 minutes, then it will automatically go back to "User" level.

To manually go back to "User" level, simply type the password following the procedure described above and set "User". again. If the appliance turns off and on again, the menu will automatically go back to "User". level.

4.9 CONVERTING THE APPLIANCE TO OTHER TYPES OF GAS



The gas conversion operation must be carried out by an authorised company (e.g. Authorised Technical Assistance Service).

To convert to another type of gas the following operations are required:

MENU / Support / Boiler / Combustion

- In the window "Combustion" change and confirm the gas type on the line "Gas type": "NG" for methane gas, "LG" for LPG gas and "AP" for propane air (Par. 3.5).
- Perform complete calibration (Parag. 4.11): during which, check and, if necessary, correct the CO₂ value.
- Upon completing the conversion, apply the sticker regarding the modified gas content onto the data nameplate in the connection box.



The pressure testers used for calibration should be perfectly closed and there should be no leaks from the gas circuit.

Checks following conversion to another type of gas.

These adjustments must be made with reference to the type of gas used, following that given in the table (Parag. 5.2).

After having made sure that the conversion is complete and that the calibration has been successful, you must make sure that:

- there is no flame in the combustion chamber;
- the burner flame is not too high or low and that it is stable (does not detach from burner);



Maintenance operations must be carried out by an authorised company (e.g. Authorised After-Sales Technical Assistance Centre).

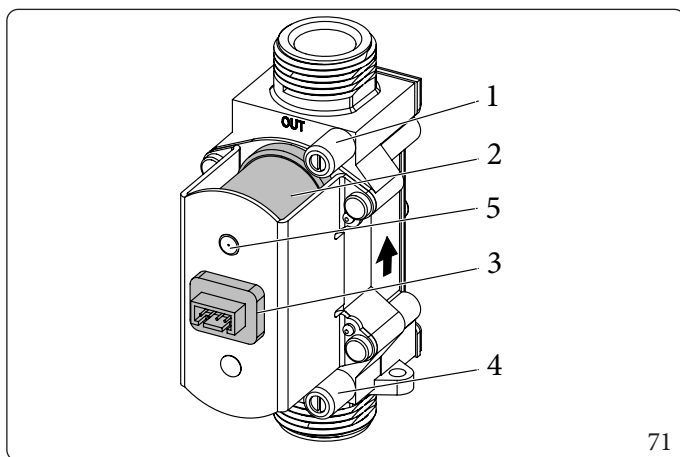


Risk of material damage after using sprays and liquids to search for leaks

Leak sprays and liquids clog the reference hole P.Ref. (Fig. 71) of the gas valve, damaging it irreparably.

During installation and maintenance, do not use spray or liquids on the gas valve (electric connections side).





Key (Fig. 71):

- 1 - Gas valve outlet pressure point
- 2 - Coil
- 3 - Wiring connector
- 4 - Gas valve inlet pressure point
- 5 - P. Ref. (Reference pressure)

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4.10 CALIBRATION TYPE INVOLVING THE REPLACEMENT OF A COMPONENT.

When performing extraordinary maintenance on the appliance, involving the replacement of a component, such as the P.C.B. (if the removable memory is not put into the replacement board) or components in the air, gas and flame control circuits, the appliance will need to be calibrated.

Select the type of calibration to be carried out according to the table below.

Component replaced	Type of calibration required
Gas valve	Quick calibration
Fan	Quick calibration
Burner	Complete calibration with CO ₂ check
Ignition / detection electrode	Complete calibration with CO ₂ check
P.C.B. (New virgin P.C.B. without removable memory recovery)	Reset the parameters Complete calibration with CO ₂ check
P.C.B. (Recovery of the removable memory with the boiler parameters set from the replaced board)	No calibration required.

4.11 COMPLETE CALIBRATION

 Before carrying out complete calibration, ensure that all the requirements indicated in par.1.32 and 1.33).

In the event of anomaly "62" or "72" (Par.3.6) the appliance cancels any requests by itself.
During the various calibration stages, the CO₂ value can be checked and possibly corrected as described in Par. 4.12.
The energy produced during the function is disposed of on the central heating circuit / C.H. circuit if a DHW (Domestic hot water) request is not activated; check that any valves on the system not managed by the appliance are open.
To dispose of all the energy on the domestic hot water, open the hot water tap and set the DHW (Domestic hot water) set to maximum before activating the function.

The calibration procedure involves various stages:

- nominal heat output calibration;
- intermediate heat output ignition calibration;
- minimum heat output calibration;

The complete calibration function offers a maximum time of stay within the Calibration Menu of 20 minutes counted after the last action on the display keyboard.

After this time, the function ends, showing the message "Calibration completed".

The Calibration completed window will be automatically abandoned after 60 seconds (to display the main window); if you want to exit the "CCalibration completed" message in advance, press the "OK" button.

Complete calibration activation

Select the Summer or Winter mode and enable the function by accessing the menu as "Service" access level:

Menu / Support / Special function / Complete calibration

 If Antifreeze mode is selected, the function cannot be activated.
In the attempt of activating the function under impossible conditions, the text "Incompatible mode" will be displayed.

Complete calibration

Calibration Phase

Max...

Combustion Set

23

Power perc.

0%

Flow temperature

25°C

Flame

Off

CH underway

72

- Calibration Phase: indicates the phase of calibration in progress and the stability connection on the combustion;
- Combustion Set: indicates the combustion set value in progress; if the text is highlighted, the value can be changed using the "Set Central heating" knob;
- Power perc.: indicates (from 0 to 100%) the power supplied by the burner;
- Flow temperature: indicates the thermal module outlet temperature;
- Flame: indicates the presence of a flame (thus the ignition of the burner)

The text indicating the circuit on which the energy produced is discharged appears at the bottom of the display ("CH underway" or "DHW underway").

Nominal heat

The Calibration function is automatically activated when entering the menu window.

Initially "Calibration Phase Max" appears, meaning that the appliance is performing the nominal power calibration phase.

After the first moments of burner ignition, "Calibration Phase Max <" appears meaning that the appliance has detected and stored the minimum parameters necessary for appliance ignition (it is possible to force the end of calibration by pressing "RESET").

To check and correct the CO₂ values, continue waiting for the combustion set for nominal power to be engaged. After the engaging is complete, "Calibration Phase Max Ok" appears and the belowline "Combustion Set" is highlighted at the same time.



Under these conditions, the combustion value (CO₂) linked to the supply of maximum nominal power can be measured (Par.4.12).

Complete calibration

Calibration Phase	Max Ok
Combustion Set	23
Power perc.	100%
Flow temperature	51°C
Flame	On
CH underway	

73

If the CO₂ value is not that indicated in the table (Par. 5.2), change the value, as described in the paragraph (Par. 4.12).

When the combustion value measured on the nominal power is correct, request the advancement of the procedure to the next phase (intermediate ignition power) by pressing the "OK" button "Calibration Phase Max Ok".



Ignition intermediate heat output

Once the nominal heat output calibration is confirmed, the appliance is calibrated with the intermediate heat output (or ignition heat output).

The beginning of the intermediate phase is displayed with "Calibration Phase med" it means that the appliance is adjusting the intermediate power.

To check and correct the CO₂ values, continue waiting for the combustion set for intermediate power to be engaged. After the engaging is complete, "Calibration Phase med Ok" appears and the below line "Combustion Set" is highlighted at the same time.

 Under these conditions, the combustion value linked to the supply of intermediate power can be measured (Par.4.12). Any corrections to the intermediate combustion are linked to the same actions illustrated for the nominal power.

Complete calibration	
Calibration Phase	med Ok
Combustion Set	↕ 30
Power perc.	23 %
Flow temperature	43°C
Flame	On
CHunderway	

74

If the CO₂ value is not that indicated in the table (Par. 5.2), change the value, as described in the paragraph (Par. 4.12).
When the combustion value measured on the intermediate power is correct, request the advancement of the procedure to the next phase (minimum power) by pressing OK "Calibration Phase med Ok".

Minimum heat output

After confirming the intermediate power calibration, the appliance is calibrated at minimum power.

The beginning of the minimum phase is displayed with "Calibration Phase Min" it means that the appliance is adjusting the minimum power.

To check and correct the CO₂ values, continue waiting for the combustion set for minimum power to be engaged. After the engaging is complete, "Calibration Phase Min Ok" appears and the below line "Combustion Set" is highlighted at the same time.



Under these conditions, the combustion value linked to the supply of minimum power can be measured (Par.4.12). Any corrections to the minimum combustion are linked to the same actions illustrated for the nominal power.

Complete calibration	
Calibration Phase	Min Ok
Combustion Set	64
Power perc.	0%
Flow temperature	24°C
Flame	On
CH underway	

75

If the CO₂ value is not that indicated in the table (Par. 5.2), change the value, as described in the paragraph (Par. 4.12).

When the combustion value measured on the minimum power is correct, request the end of the procedure by pressing the "OK" "Calibration Phase Min Ok" button.

The end of the function is accompanied by the window "Calibration completed"



If the message "Max Err" on the "Calibration Phase" item appears, it means that something was not successful during the calibration process. In which case, the operation must be repeated from the beginning.

4.12 CO₂ADJUSTMENT

 During complete calibration (Par. 4.11) the CO₂ values can be adjusted.

To have an exact value of CO₂ in the flue, the technician must insert the sampling probe to the bottom of the sample point.

 In case of calibration for propane air, select the analyser in LPG gas mode.

Check that the CO₂ value is that indicated in the table (Par.5.2), otherwise, modify the value as described below:

Complete calibration	
Calibration Phase	Max Ok
Combustion Set	↕ 22
Power perc.	99%
Flow temperature	53°C
Flame	On
CH underway	

76

The modification takes place only if the line “Combustion Set” is highlighted; using the “Set flow” knob, change the “Combustion Set” value then press “Ok” to confirm the new value.

 Wait for the text "Max Ok" "med Ok" or "Min Ok" to appear before checking the combustion linked to the new value based on the phase in which the change is made.

4.13 QUICK CALIBRATION

This function allows you to calibrate the appliance automatically without requiring or giving the possibility to alter the parameters. Typically, the "Fast calibration" is used after changing the flue type parameters in the menu, which creates the "72" anomaly or is necessary in case of component replacement (Par. 4.10).



Before performing quick calibration, ensure that all the requirements indicated in (Par.1.32 - 1.33) have been met.

The energy produced during the function is disposed of on the central heating circuit / C.H. circuit if a the storage tank is at temperature; check that any valves on the system not managed by the appliance are open.

To dispose of all the energy on the domestic hot water, open the hot water tap and set the DHW (Domestic hot water) set to maximum before activating the function.

Select the Summer or Winter mode and enable the function by accessing the menu as "Service" access level:

Menu / Support / Special function / Fast calibration



If Antifreeze mode is selected, the function cannot be activated.

In the attempt of activating the function under impossible conditions, the text "Incompatible mode" will be displayed.

Once the function is active, the appliance sequentially carries out the procedures required to calibrate the appliance with the nominal, intermediate and minimum heat output values.

Fast calibration	
Calibration Phase	Max...
Combustion Set	--
Power perc.	0%
Flow temperature	26°C
Flame	Off
CH underway	

77

- Calibration Phase: indicates the phase of calibration in progress and the stability connection on the combustion;
- Combustion Set: value not compiled during quick calibration;
- Power perc.: indicates (from 0 to 100%) the power supplied by the burner;
- Flow temperature: indicates the thermal module outlet temperature;
- Flame: indicates the presence of a flame (thus the ignition of the burner)

The text indicating the circuit on which the energy produced is discharged appears at the bottom of the display ("CH underway" or "DHW underway").

The Calibration function is automatically activated when entering the menu window.

Initially "Calibration Phase Max..." appears, meaning that the appliance is performing the nominal power calibration phase.

After the first moments of burner ignition, "Calibration Phase Max<" appears meaning that the appliance has detected and stored the minimum parameters necessary for its ignition (it is possible to force the end of calibration by pressing "RESET").

The advancement is automatic; however, the quick calibration window makes the various phases known:

- Calibration Phase Max
- Calibration Phase med
- Calibration Phase Min

The "Combustion Set" line is not managed, as it is not possible to operate to modify its value.

The end of the function is accompanied by the window "Calibration completed"



If the message "Max Err" on the "Calibration Phase" item appears, it means that something was not successful during the calibration process. In which case, the operation must be repeated from the beginning.



4.14 FLUE TEST



Before performing the test, ensure that the condensate drain trap has been filled correctly and check that there are no obstructions in the air intake circuit and flue exhaust and that the sealed chamber is perfectly closed and the flue has already been installed.

The Flue Test activation command is available in the Menu (with Service reserved access) at the following address:

Menu / Support / Special function / Test flue

To activate the flue test, enter the "Test flue" page and on the first line, activate the Test by selecting "Start".

To end the flue test, select the "Stop" item on the first line.

To define the value to set in the "Length Flue" parameter, detect the parameters during the "Test flue".

The appliance remains in this mode for a maximum period of 15 minutes, keeping the fan speed constant.

The function ends after 15 minutes, or by selecting "Stop".

Check the ΔP between two pressure tests (Par. 1.39) and set the parameter "Length Flue" according to the values below:

Victrix Zeus Superior 25	
Menu / Support / Boiler / Flue	Pressure
Min	< 75 Pa
med	75 ÷ 120 Pa
Max	120 ÷ 210 Pa
Value detected on first check	

Victrix Zeus Superior 30-35	
Menu / Support / Boiler / Flue	Pressure
Min	< 122 Pa
med	122 ÷ 183 Pa
Max	184 ÷ 300 Pa
Value detected on first check	



Examinations are carried out by sealing the holes provided to analyse the flues, making them pneumatically sealed.



Should there be a appliance malfunction, you can carry out a flue test to check that there are no obstructions in the flue system. Different values to those indicated in the previous tables indicate a flue system malfunction, especially a flue system with excessive load losses or obstructed system.

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4.15 REPLACING THE MANIFOLD INSULATING PANEL AND RELATIVE GASKETS



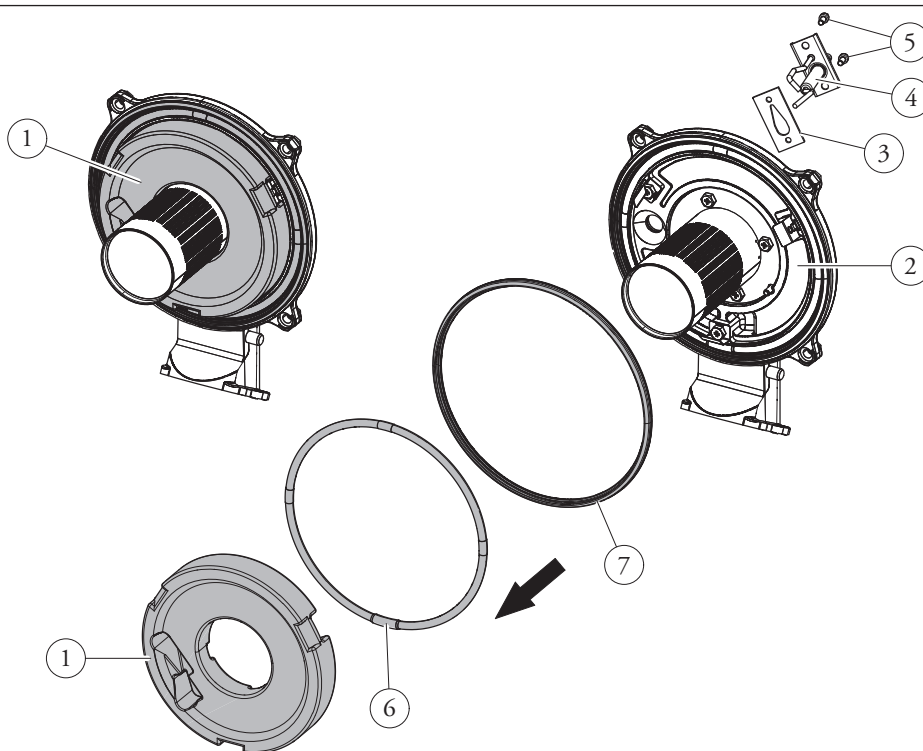
The operations described below must be performed after having removed the voltage from the appliance.

1. To access the inside of the appliance, remove the casing as indicated in Paragr. 4.25.
2. Unscrew the 4 manifold fastening nuts (1, Fig. 80) and gently pull them out towards you at right angles.
3. Unscrew the fixing screws (5) of the ignition and detection electrode (4) and remove it.
4. Pull the insulating panel (1) perpendicularly towards you to remove it
5. Remove the cord packing (6) and the silicone gasket (7) as indicated in Fig. 78.
6. Remove the residue of the fixing adhesive from the surface of the manifold (2).
7. Remove the insulating panel (1), the cord packing (6) and the gasket (7).



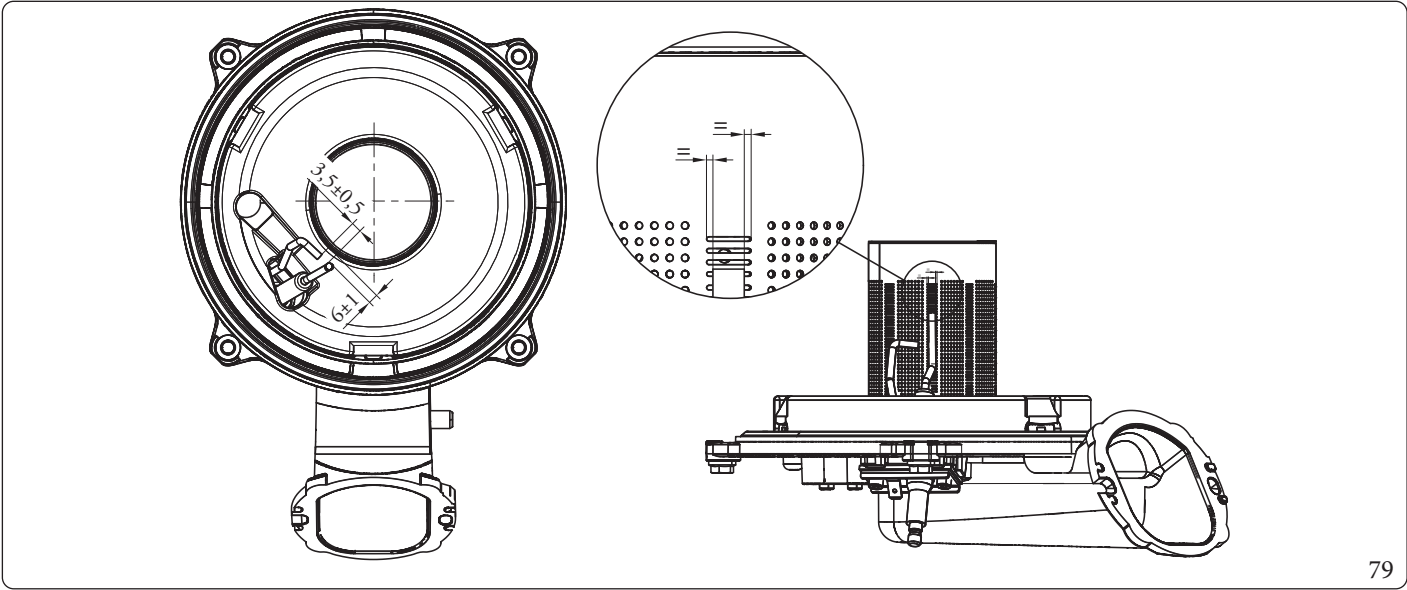
The new insulating panel, used as a spare to replace the removed one, does not need to be fixed with glue as its shape with the interference on the burner ensures correct coupling with the manifold.

8. Refit in sequence the insulating panel (1), the cord packing (6) and the silicone gasket (7) proceeding in opposite order compared to the operations described above.
9. Refit the ignition and detection electrode (4) using the previously removed screws (5) and replace the relative gasket (3).



Electrode distance

To regain optimal operation, make sure that the following variables are respected when refitting the electrodes.



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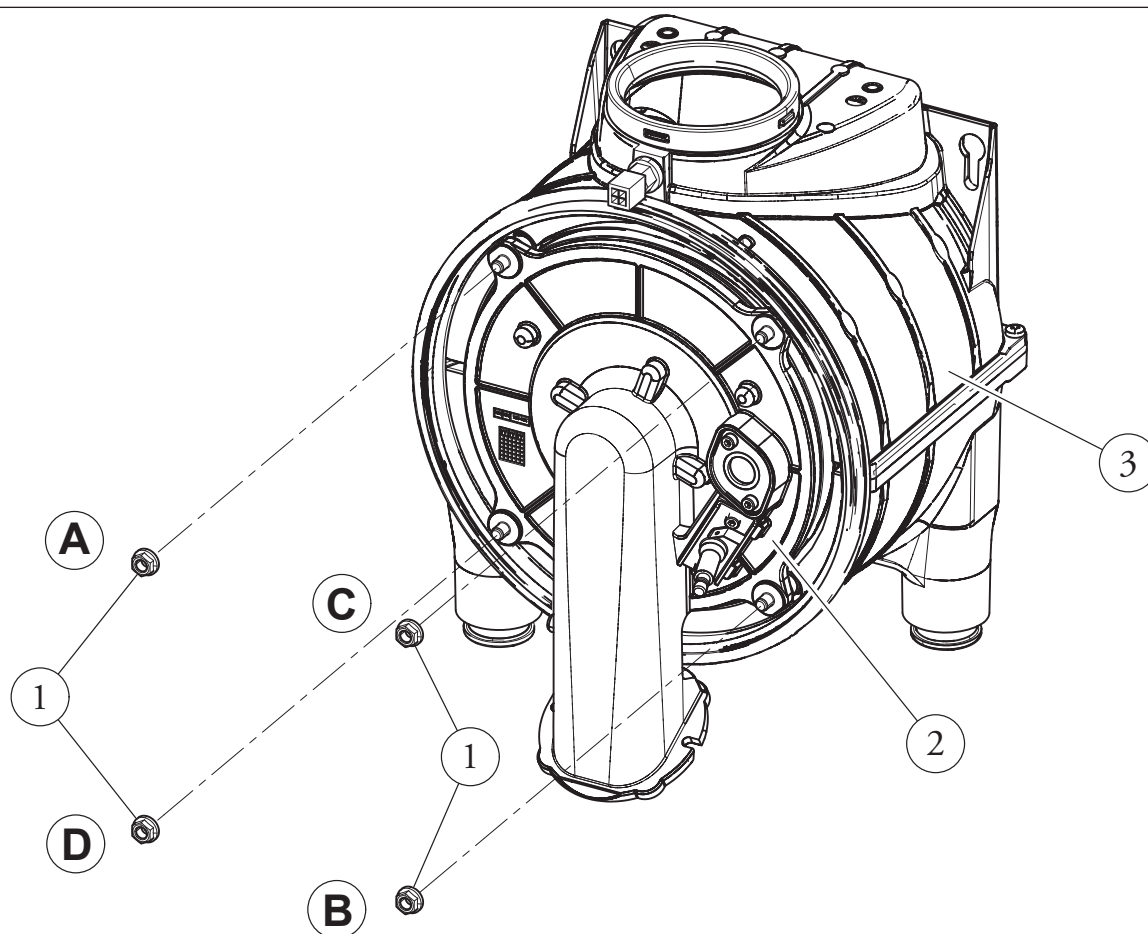


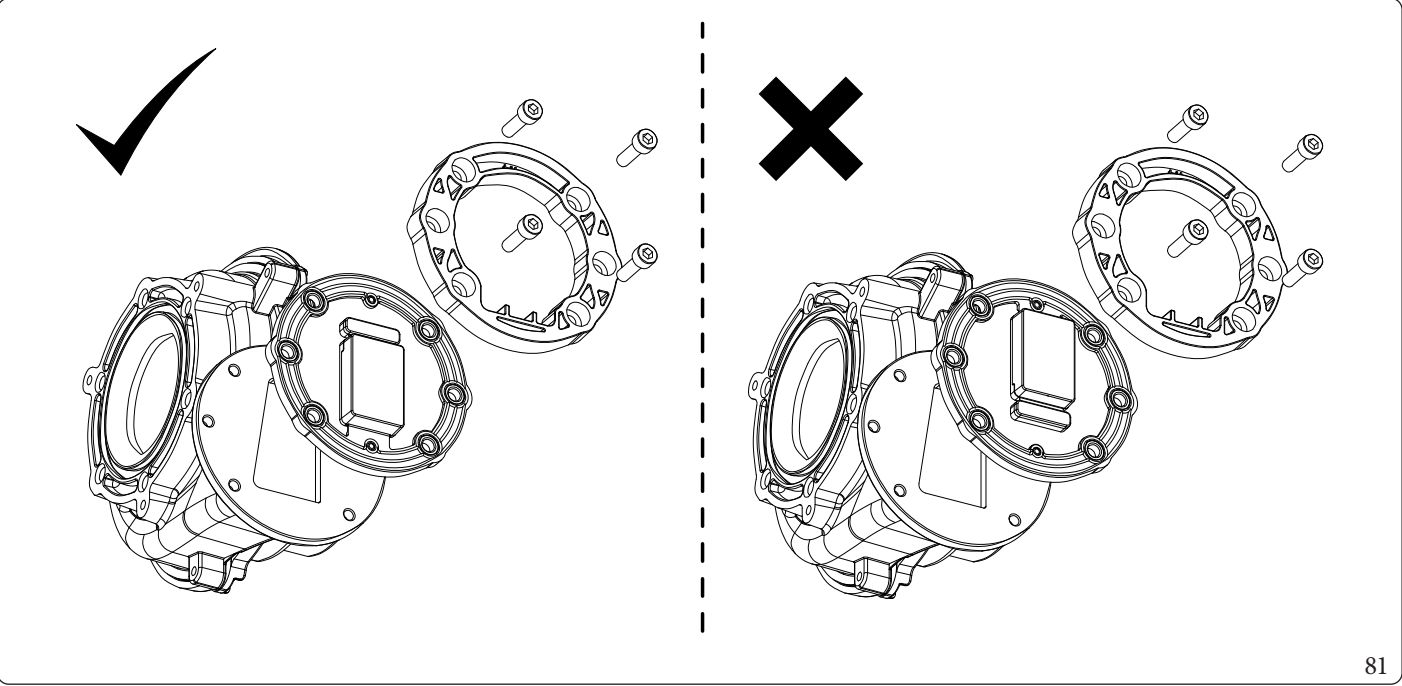
4.16 ASSEMBLING THE MANIFOLD ON THE CONDENSATION MODULE

1. Set the manifold on the module.
2. Tighten the 4 nuts (1) on the condensation module (3) according to the sequence (A, B, C, D) indicated in the drawing.



The tightening torque when assembling the manifold (2) on the condensation module (3) must be 4 Nm.
Do not exceed 5 Nm.



4.17 SPECIFIC INFORMATION FOR CORRECT APPLIANCE INSTALLATION IN COMMON PRESSURISED FLUE SYSTEMS (C₍₁₀₎ - C₍₁₂₎)  The appliance is factory equipped with a flue gas non-return valve located downstream of the fan, this device, given the importance of its correct operation, must have its installations C₍₁₀₎ and C₍₁₂₎ checked on an annual basis, and the active rubber element must be replaced in case of cuts in the moving parts.  For safety reasons, the flue gas non-return valve (inside the appliance) must be replaced after 10 years of operation. 	INSTALLER
 Before removing the sealing elements of the sealed chamber, using the flue gas analyser and with the appliance off, check that there are no traces of combustion products in the flue gas sample point.	USER
The presence of combustion products indicates that the non-return valve on the flue gas (in appliance exhaust) is not properly closed, in which case it is appropriate to check the absence of flue gas even in the sealed chamber (analysis via air sample point).  If malfunctions are detected on the flue gas non-return valves, especially on the discharge valve, in the absence of a shut-off flue adjusting device at the coupling point of the flue in the pressurised collective flue, it will be necessary to turn off all the boilers connected to the pressurised collective flue itself, or make sure to intercept the connection point to avoid the dispersion of combustion products into the environment. Only then proceed to verify the components, making sure that the non-return valve siphon on the flue gas (on the exhaust) (Fig. 45) is full and replacing them if malfunctioning or damaged.	CONTROL PANEL
4.18 AUTOMATIC VENT The De-aeration setting and activation control is available in the Menu (with Service recognition) at the following path: Menu / Support / Special function / Deaeration Once in the “Deaeration” page, the window allows the first line to activate automatic de-aeration each time the appliance is powered by selecting “Enable vent = Yes” (standard setting). This function lasts 8 minutes and it can be ended both by setting “Enable vent = No”, and by pressing the “Reset” button on the main screen control panel. On the second line of the “Deaeration” page it is possible to activate the manual de-aeration by selecting “Deaeration = Start”. This function lasts 18 hours and it can be ended by setting “Deaeration = Stop” and by pressing the “Reset” button on the control panel.	MAINTENANCE TECHNICIAN TECHNICAL DATA



4.19 CHIMNEY SWEEP

Activate the chimney sweep function by enabling the mode as described below.

With the display set on the main screen (if not, go to the main screen by pressing the Menu key).

1. Activate the keyboard by pressing any key (if it is not already active, i.e. with the backlit keys);
2. Press the "RESET" key and keep it pressed for about 4 - 6.5 seconds until the message Chimney sweep appears, then release the key;
3. When the "RESET" key is released, the following list will appear on the display:

Chimney sweep			
Menu item	Description	Range	Default
En. chimney sweep	Chimney sweep function active	Stop - Start	Stop
Status	Notifies the function status	Off - On	
Set power level	Set power level	0 ÷ 100%	
Flow temperature	Flow temperature display	0 ÷ 99°C	
Flame	This displays the flame status	Off - On	
Circuit CH	Notification if central heating / C.H. is activated	Off - On	
Circuit DHW	Notification if DHW (Domestic hot water) is activated	Off - On	
Fault	This displays any current anomaly	--	



If the key is released after the time limit of 6.5 seconds, no function is activated.



In this state, all adjustments are excluded and the safety thermostat and the limit thermostat functions remain active.

Activate the function in the first line by selecting "Start".

This function makes it possible for the technician to check the combustion parameters in the working range that goes from minimum central heating / C.H. Q. to Nominal central heating / C.H. Q.

It is possible to select whether to make the check in CH status or DHW status by opening any hot water valve.

The power supplied by the burner can be adjusted within the chimney sweep menu on the "Set power level" parameter.

The central heating or D.H.W. operating mode is displayed on the chimney sweep window.

After completing the checks, disable the function by selecting "Stop".

If an anomaly with a manual release command is active when this function is started, the prolonged pressure described above will be followed by the message "Chimney sweep: Active fault".

If the Antifreeze mode is set at start-up, the prolonged pressure described above will be followed by the message "Chimney sweep: In-compatible mode".

Once activated from the Chimney sweep window, the function remains active until the "En. chimney sweep = Stop" command is given, or after the chimney sweep function has lasted for 20 minutes after the last action on the buttons and/or encoder.



With the function active, it is possible to return to the initial screen and then re-enter the Chimney sweep window with a long press on the reset button, keeping the function always active.

4.20 SCREED HEATER

The appliance is equipped with a function to perform the thermal shock on new radiant panel systems, as required by the applicable standard.

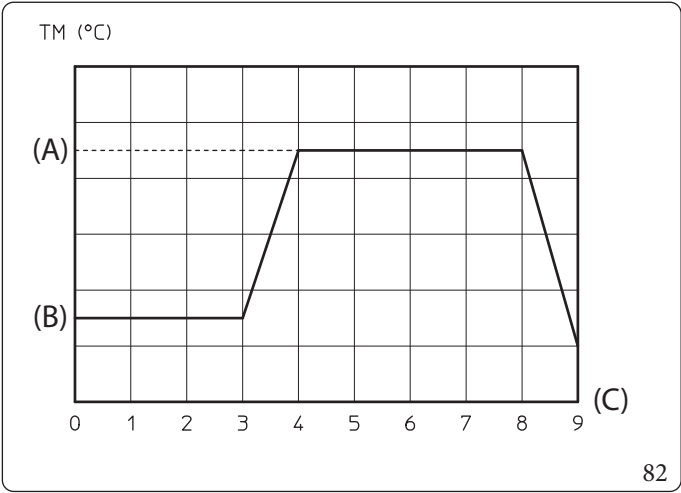
The function can only be activated when the appliance is in antifreeze mode.

 Contact the manufacturer of the radiant panels for the thermal shock characteristics and its correct execution.

 To be able to activate the function there must be no remote control connected, while in case of system divided into zones it must be properly connected, both hydraulically and electrically.

Menu/Support/Specialfunction/Screed heater

The active zone pumps are those with ongoing requests, made via the room thermostat input.
The standard function lasts in total 8 days - 3 days at the lowest temperature set and 4 days at the highest temperature selected plus the time necessary for the ascent and descent variations (Fig. 82).
Duration can be changed by changing the value of parameters, see (Par. 3.5).
At this point, "Screed heater underway" appears on the display.
In case of failure, the function is suspended and will resume when normal operating conditions are reset from the point where it was interrupted.



Key (Fig. 82):
(A) - Topset
(B) - Lower set
(C) - Days

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4.21 PUMP ANTI-BLOCK

The appliance has a function that starts up the pump at least once every 24 hours for 30 seconds in order to reduce the risk of the pump locking up due to prolonged inactivity.

4.22 THREE-WAY ANTI-BLOCK

In both phase "DHW", and "DHW-C.H.", the appliance has a function that activates the motorised 3-way unit 24 hours after the last time it operated by running a complete cycle in order to reduce the risk of the 3-way blocking due to prolonged inactivity.

4.23 RADIATOR ANTIFREEZE

If the system return water is below 4°C, the appliance starts up until reaching 42°C.

4.24 P.C.B. PERIODICAL SELF-CHECK

During functioning in Central heating mode or with appliance in Standby, the function activates every 18 hours after the last appliance check/power supply. In case of functioning in domestic hot water mode the self-check starts within 10 minutes after the end of the with-drawing in progress, for duration of approx. 10 seconds.



During the self-check, the appliance remains off. Warnings included.



4.25 CASINGREMOVAL

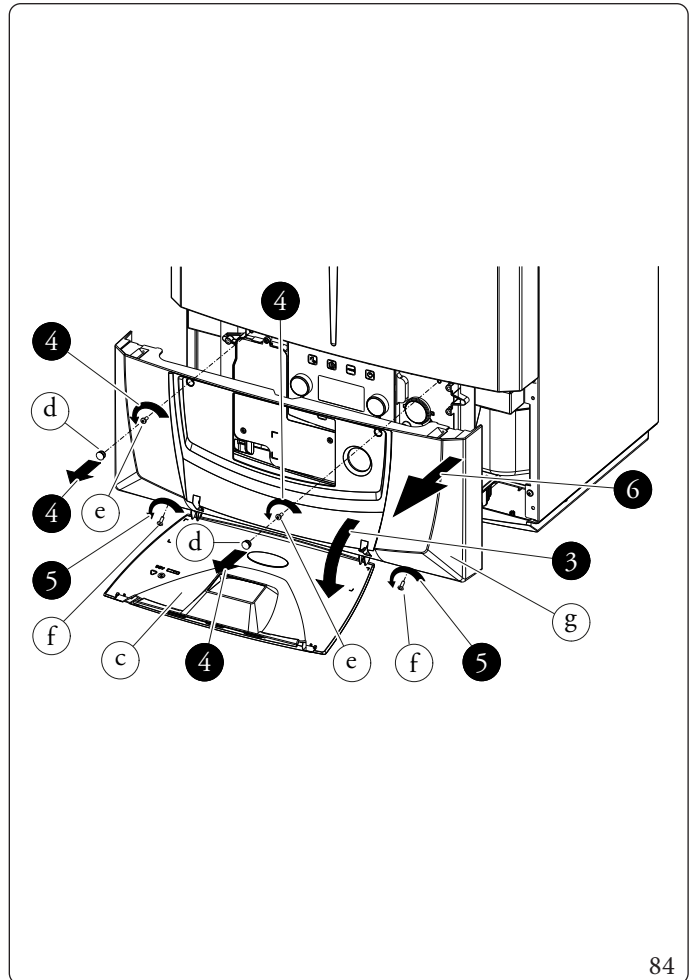
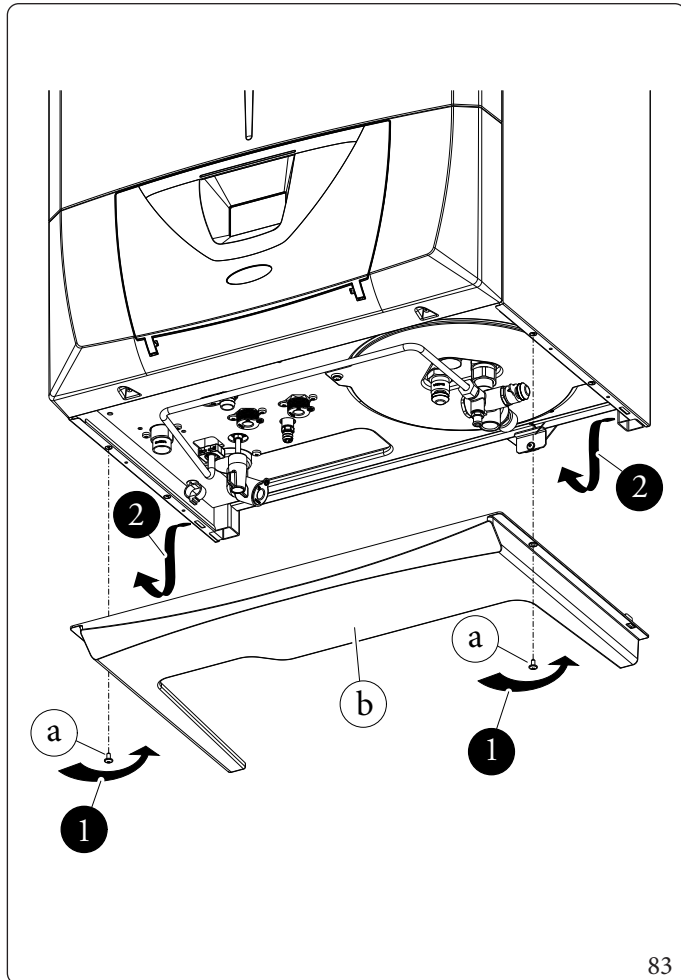
To facilitate appliance maintenance the casing can be completely removed as follows:

Lower grid (Fig. 83)

1. Loosen the two screws (a).
2. Remove the grid (b).

Front panel (Fig. 84)

3. Open the door (c).
4. Remove the cover caps (d) and loosen the screws (e).
5. Loosen the two screws (f) secured under the hinges.
6. Pull the front panel (g) towards you and release it from its lower seat.



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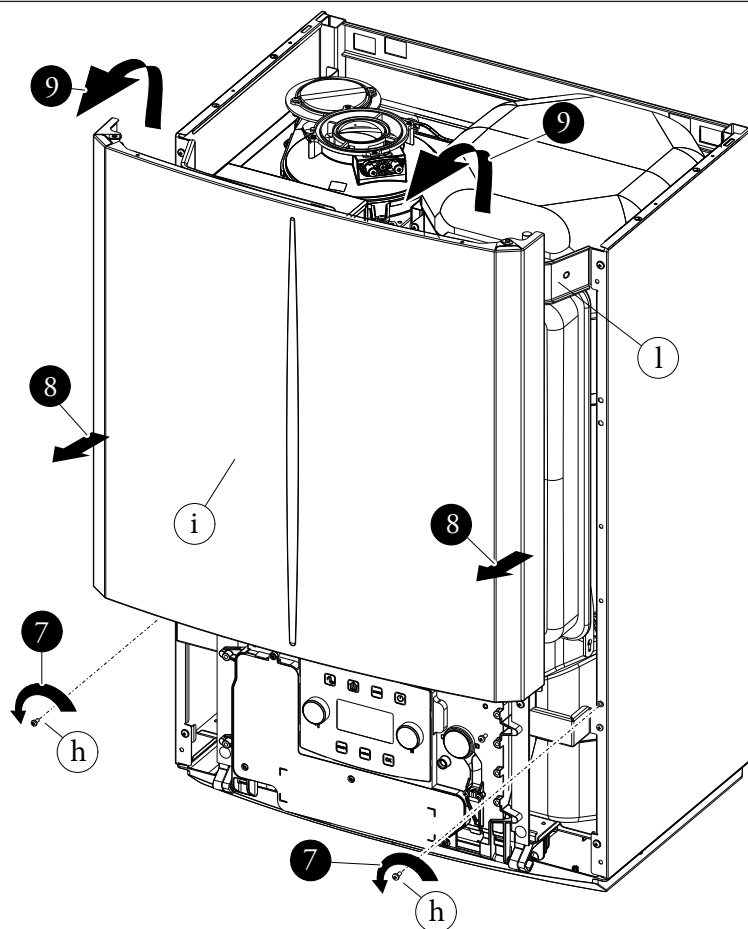
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Front (Fig.85)

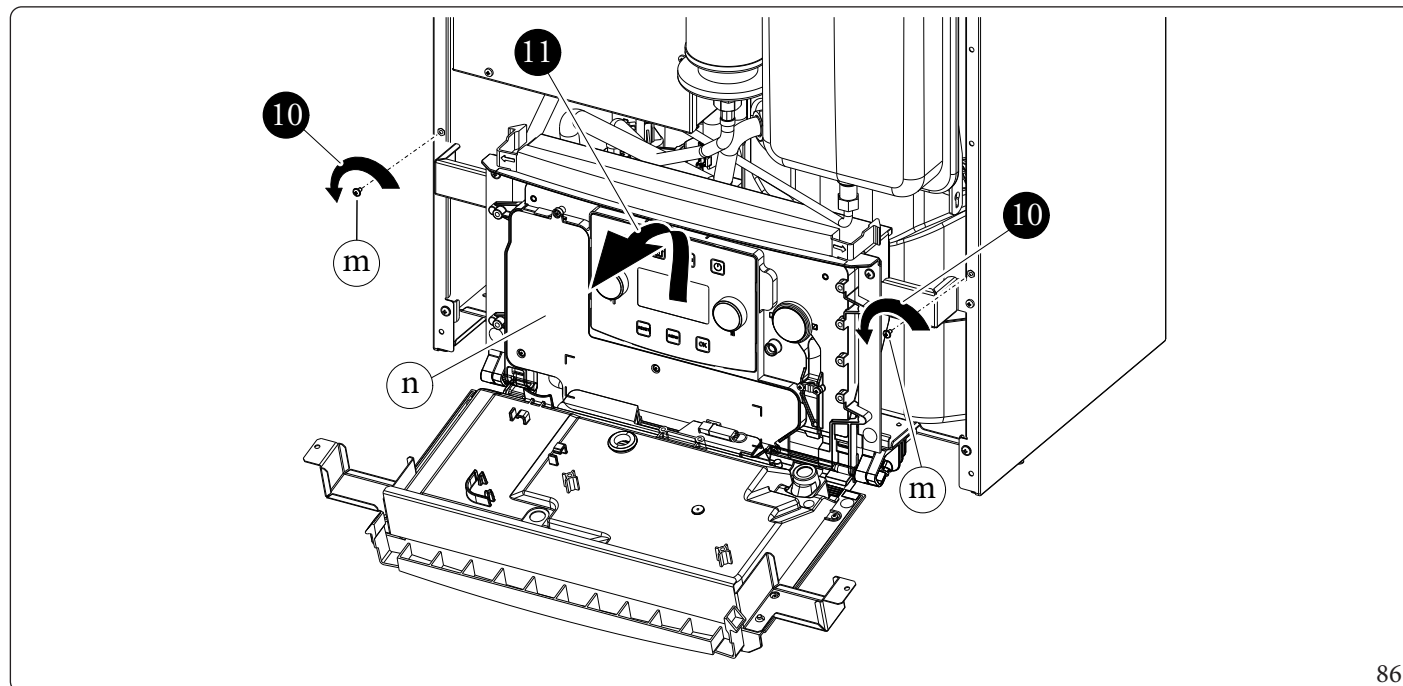
7. Loosen the two screws (h).
8. Pull the front (i) slightly towards you.
9. Release the front (i) from the bracket (l) by pushing upwards and towards you.



Control panel (Fig. 86)

10. Loosen the fixing screws (m) from the front panel.

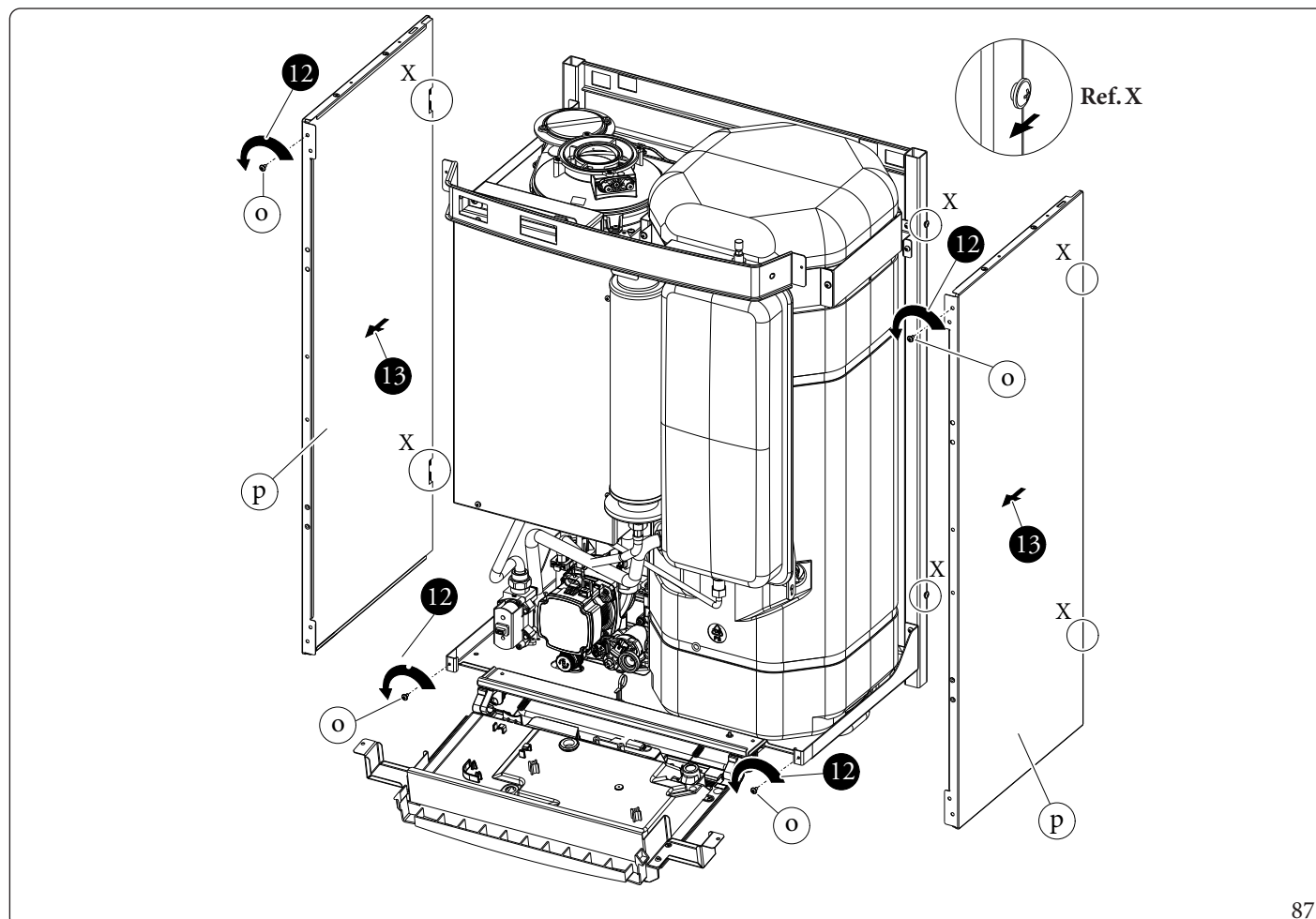
11. Tilt the control panel (n) towards you.



Sides (Fig. 87)

12. Unscrew the side (p) fastening screws (o).

13. Remove the sides (p) by extracting them from their rear seat (Ref. X).



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5 TECHNICAL DATA

5.1 VARIABLE HEAT OUTPUT



The power data in the table has been obtained with intake-exhaust pipe measuring 0.5 m in length. Gas flow rates refer to net calorific value below a temperature of 15°C and at a pressure of 1013 mbar.

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			METHANE (G20)			G20Y20		PROPANE (G31)		
FLOW RATE OUTPUT	HEAT OUTPUT		FANREVS		GASFLOW RATE BURNER	FANREVS		FANREVS		GASFLOW RATE BURNER
(kW)	(kW)		(rpm)	(%)	(m³/h)	(rpm)	(%)	(rpm)	(%)	(kg/h)
25,7	24,8	D.H.W.	6400	100	2,72	6400	100	6150	100	2,00
20,8	20,2	HEAT. + D.H.W.	5200	73	2,20	5200	73	4925	70	1,62
19,5	18,9		5025	69	2,06	5025	69	4750	66	1,51
18,5	18,0		4900	66	1,96	4900	66	4625	62	1,44
17,5	17,0		4775	63	1,85	4775	63	4500	59	1,36
16,0	15,6		4575	58	1,69	4575	58	4300	54	1,24
15,0	14,6		4425	54	1,59	4425	54	4175	51	1,17
14,0	13,6		4300	51	1,48	4300	51	4050	48	1,09
12,5	12,2		4100	47	1,32	4100	47	3850	43	0,97
11,6	11,2		3975	44	1,22	3975	44	3725	40	0,90
11,0	10,7		3900	42	1,16	3900	42	3675	38	0,85
10,0	9,7		3775	39	1,06	3775	39	3550	35	0,78
9,0	8,7		3650	36	0,95	3650	36	3400	32	0,70
8,5	8,2		3575	34	0,90	3575	34	3350	30	0,66
7,5	7,2		3450	31	0,79	3450	31	3225	27	0,58
7,0	6,7		3375	29	0,74	3375	29	3150	25	0,54
4,8	4,6		3075	22	0,51	3075	22	2525	9	0,37
2,3	2,2		2150	0	0,24	2150	0	2150	0	0,18
4,8	4,6		3085	22	0,51	3085	22	2870	18	0,37



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			METHANE (G20)			G20Y20		PROPANE (G31)		
FLOW RATE OUTPUT	HEAT OUTPUT		FANREVS		GASFLOW RATE BURNER	FANREVS		FANREVS		GASFLOW RATE BURNER
(kW)	(kW)		(rpm)	(%)	(m³/h)	(rpm)	(%)	(rpm)	(%)	(kg/h)
30,9	30,0	D.H.W.	6150	83	3,27	6150	83	5750	80	2,40
29,0	28,2	HEAT. + D.H.W.	5775	75	3,07	5775	75	5450	73	2,25
27,5	26,7		5600	71	2,91	5600	71	5275	69	2,14
26,0	25,3		5400	67	2,75	5400	67	5075	64	2,02
24,0	23,3		5150	61	2,54	5150	61	4850	59	1,86
22,5	21,9		4975	57	2,38	4975	57	4650	55	1,75
21,0	20,4		4800	54	2,22	4800	54	4475	51	1,63
19,5	19,0		4600	49	2,06	4600	49	4300	47	1,51
17,5	17,0		4350	44	1,85	4350	44	4050	41	1,36
16,0	15,6		4175	40	1,69	4175	40	3850	37	1,24
15,0	14,6		4050	37	1,59	4050	37	3750	34	1,17
14,0	13,6		3925	34	1,48	3925	34	3625	31	1,09
13,0	12,6		3800	32	1,38	3800	32	3500	29	1,01
12,0	11,7		3675	29	1,27	3675	29	3375	26	0,93
11,0	10,7		3550	26	1,16	3550	26	3250	23	0,85
10,0	9,7		3425	24	1,06	3425	24	3125	20	0,78
7,3	7,1		3100	17	0,77	3100	17	2775	12	0,57
3,0	2,8		2350	0	0,32	2350	0	2250	0	0,23
7,3	7,1		3100	17	0,77	3100	17	2800	13	0,57

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			METHANE (G20)			G20Y20		PROPANE (G31)		
FLOW RATE OUTPUT	HEAT OUTPUT		FANREVS		GASFLOW RATE BURNER	FANREVS		FANREVS		GASFLOW RATE BURNER
(kW)	(kW)		(rpm)	(%)	(m³/h)	(rpm)	(%)	(rpm)	(%)	(kg/h)
34,9	33,9	D.H.W.	6950	100	3,69	6950	100	6650	100	2,71
29,0	28,2	HEAT. + D.H.W.	5775	75	3,07	5775	75	5450	73	2,25
27,5	26,7		5600	71	2,91	5600	71	5275	69	2,14
26,0	25,3		5400	67	2,75	5400	67	5075	64	2,02
24,0	23,3		5150	61	2,54	5150	61	4850	59	1,86
22,5	21,9		4975	57	2,38	4975	57	4650	55	1,75
21,0	20,4		4800	54	2,22	4800	54	4475	51	1,63
19,5	19,0		4600	49	2,06	4600	49	4300	47	1,51
17,5	17,0		4350	44	1,85	4350	44	4050	41	1,36
16,0	15,6		4175	40	1,69	4175	40	3850	37	1,24
15,0	14,6		4050	37	1,59	4050	37	3750	34	1,17
14,0	13,6		3925	34	1,48	3925	34	3625	31	1,09
13,0	12,6		3800	32	1,38	3800	32	3500	29	1,01
12,0	11,7		3675	29	1,27	3675	29	3375	26	0,93
11,0	10,7		3550	26	1,16	3550	26	3250	23	0,85
10,0	9,7		3425	24	1,06	3425	24	3125	20	0,78
7,3	7,1		3100	17	0,77	3100	17	2775	12	0,57
3,0	2,8		2350	0	0,32	2350	0	2250	0	0,23
7,3	7,1		3100	17	0,77	3100	17	2800	13	0,57

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5.2 COMBUSTION PARAMETERS

Combustion parameters: measuring conditions of useful efficiency (flow temperature/return temperature= 80/60 °C), ambient temperature reference = 20 °C.



In case of using G20Y20 mixtures with percentages of H₂ up to 20% (referring to the gas distributed in the network), all calibration operations of the appliance must refer to the O₂ values of METHANE gas (G20) reported in the following tables.

Victrix Zeus Superior 25

Gas type			G20			G20Y20			G31		
Gas supply pressure		mbar	20,00			20,00			37,00		
Gas nozzle diameter		mm	5,00			5,00			5,00		
Ignition fan speed		rpm	3800			3800			3800		
Post ventilation fan speed		rpm	3800			3800			3800		
Flow rate reference (*)		-	Qnw	Qn	Qmin	Qnw	Qn	Qmin	Qnw	Qn	Qmin
Flue gas mass		kg/h	43	35	4	44	37	4	42	33	4
CO ₂	Reference	%	8,8	8,8	8,8	8,0	7,8	8,2	10,3	10,7	10,0
	Tolerance min/max		8,3 / 9,3	8,3 / 9,3	8,3 / 9,3	- / -	- / -	- / -	9,8 / 10,8	9,8 / 10,8	9,4 / 10,4
O ₂	Reference	%	5,1	5,1	5,1	5,8	6,2	5,4	5,2	4,6	5,6
	Tolerance min/max		6,0 / 4,2	6,0 / 4,2	6,0 / 4,2	- / -	- / -	- / -	6,0 / 4,4	6,0 / 4,4	6,6 / 5,0
λn		Reference	-	1,30	1,30	1,30	1,30	1,30	1,30	1,26	1,34
CO at 0% of O ₂		ppm	124	100	5	76	55	4	189	203	6
NO _x at 0% of O ₂		ppm	31	-	21	-	-	-	53	-	23
Flue gas temperature		°C	72	69	65	68	64	61	72	69	65
Maximum flue gas temperature		°C	120			120			120		

(*) Qnw (Maximum DHW flow rate); Qn (Maximum CH flow rate); Qmin (Minimum CH flow rate)

Device working range (ref. TS/15502-3-1)				
Gas category	W _{min} MJ/m ³	W _{max} MJ/m ³	W _{step} MJ/m ³	ROC _{max} (MJ/m ³)/h
2NY20Z192	35,5	54,7	19,2	2304
3P	72,9	76,8	4,0	478

W_{min} = Minimum Wobbe Index

W_{max} = Maximum Wobbe Index

W_{step} = Maximum variation of Wobbe Index

ROC_{max} = Maximum variation rate of Wobbe Index



Victrix Zeus Superior 30

Gastype		G20			G20Y20			G31		
Gas supply pressure	mbar	20,00			20,00			37,00		
Gas nozzle diameter	mm	5,70			5,70			5,70		
Ignition fan speed	rpm	3500			3500			3375		
Post ventilation fan speed	rpm	3500			3500			3375		
Flow rate reference (*)	-	Qnw	Qn	Qmin	Qnw	Qn	Qmin	Qnw	Qn	Qmin
Flue gas mass	kg/h	52	49	5	54	51	5	50	47	5
CO ₂	Reference	8,8	8,8	8,8	7,9	7,7	8,4	10,5	10,5	10,3
	Tolerance min/max	8,3/9,3	8,3/9,3	8,3/9,3	-/-	-/-	-/-	10,0/11,0	10,0/11,0	9,8/10,8
O ₂	Reference	5,1	5,1	5,1	6,0	6,3	5,0	4,9	4,9	5,2
	Tolerance min/max	6,0/4,2	6,0/4,2	6,0/4,2	-/-	-/-	-/-	5,6/4,1	5,6/4,1	6,0/4,4
λn	Reference	-	1,30	1,30	1,30	1,30	1,30	1,28	1,28	1,30
CO at 0% of O ₂	ppm	134	108	3	64	51	2	233	210	3
NO _x at 0% of O ₂	ppm	22	-	15	-	-	-	41	-	25
Flue gas temperature	°C	68	67	66	68	67	66	67	67	66
Maximum flue gas temperature	°C	120			120			120		

(*) Qnw (Maximum DHW flow rate); Qn (Maximum CH flow rate); Qmin (Minimum CH flow rate)

Device working range (ref. TS/15502-3-1)				
Gas category	W _{min} MJ/m ³	W _{max} MJ/m ³	W _{step} MJ/m ³	ROC _{max} (MJ/m ³)/h
2NY20Z192	35,5	54,7	19,2	2304
3P	72,9	76,8	4,0	478

W_{min} = Minimum Wobbe Index
W_{max} = Maximum Wobbe Index
W_{step} = Maximum variation of Wobbe Index
ROC_{max} = Maximum variation rate of Wobbe Index

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Victrix Zeus Superior 35

Gas type			G20			G20Y20			G31		
Gas supply pressure		mbar	20,00			20,00			37,00		
Gas nozzle diameter		mm	5,70			5,70			5,70		
Ignition fan speed		rpm	3500			3500			3375		
Post ventilation fan speed		rpm	3500			3500			3375		
Flow rate reference (*)		-	Qnw	Qn	Qmin	Qnw	Qn	Qmin	Qnw	Qn	Qmin
Flue gas mass		kg/h	59	49	5	62	51	5	58	47	5
CO ₂	Reference	%	8,8	8,8	8,8	7,7	7,7	8,4	10,3	10,5	10,3
	Tolerance min/max		8,3/9,3	8,3/9,3	8,3/9,3	-/-	-/-	-/-	9,8/10,8	9,8/10,8	9,8/10,8
O ₂	Reference	%	5,1	5,1	5,1	6,3	6,3	5,0	5,2	4,9	5,2
	Tolerance min/max		6,0/4,2	6,0/4,2	6,0/4,2	-/-	-/-	-/-	6,0/4,4	6,0/4,4	6,0/4,4
λn	Reference	-	1,30	1,30	1,30	1,30	1,30	1,30	1,30	1,28	1,30
CO at 0% of O ₂		ppm	141	108	3	66	51	2	227	210	3
NO _x at 0% of O ₂		ppm	22	-	15	-	-	-	34	-	25
Flue gas temperature		°C	71	67	66	70	67	66	70	67	66
Maximum flue gas temperature		°C	120			120			120		

(*) Qnw (Maximum DHW flow rate); Qn (Maximum CH flow rate); Qmin (Minimum CH flow rate)

Device working range (ref. TS/15502-3-1)				
Gas category	W _{min} MJ/m ³	W _{max} MJ/m ³	W _{step} MJ/m ³	ROC _{max} (MJ/m ³)/h
2NY20Z192	35,5	54,7	19,2	2304
3P	72,9	76,8	4,0	478

W_{min} = Minimum Wobbe Index
W_{max} = Maximum Wobbe Index
W_{step} = Maximum variation of Wobbe Index
ROC_{max} = Maximum variation rate of Wobbe Index



5.3 TECHNICAL DATA TABLE

		VICTRIX ZEUS SUPERIOR 25	VICTRIX ZEUS SUPERIOR 30	VICTRIX ZEUS SUPERIOR 35
DHW nominal heat input (Qnw)	kW	25,7	30,9	34,9
Central heating nominal heat input (Qn)	kW	20,8	29,0	
Minimum heat input (Qmin)	kW	2,3	3,0	
DHW nominal heat input with G20Y20 gas (Qrnw)	kW	23,6	28,5	32,7
Central heating nominal heat input with G20Y20 gas (Qrn)	kW	19,1	27,3	
Minimum heat input with G20Y20 gas (Qrmin)	kW	2,3	3,0	
Domestic hot water nominal heat output (useful) (Pnw)	kW	24,8	30,0	33,9
Central heating nominal heat output (useful) (Pn)	kW	20,2	28,2	
Minimum heat output (useful) (Pmin)	kW	2,2	2,8	
Domestic hot water nominal heat output with G20Y20 gas (useful) (Prnw)	kW	22,8	27,6	31,7
Central heating nominal heat output with G20Y20 gas (useful) (Prn)	kW	18,5	26,5	
Minimum heat output with G20Y20 gas (useful) (Prmin)	kW	2,2	2,8	
*Effective thermal efficiency 80/60 Nom./Min.	%	97,0 / 93,9	97,1 / 94,3	
*Effective thermal efficiency 50/30 Nom./Min.	%	105,1 / 105,9	105,0 / 103,7	
*Effective thermal efficiency 40/30 Nom./Min.	%	107,1 / 108,5	106,5 / 108,0	
Efficiency at 100% heat output (η100) ref. UNIEN 15502-1	%	97,4	97,3	
Efficiency at partial heat load (η30) ref. UNIEN 15502-1	%	109,7		
Casing losses with burner On/Off	%	0,48 / 0,63	0,61 / 0,63	
Chimney losses with burner Off/On	%	0,01 / 2,37	0,01 / 2,27	
Maximum heating temperature	°C	90		
Adjustable central heating temperature (min. operating field)	°C	20		
Adjustable central heating temperature (max operating field)	°C	85		
System expansion vessel nominal volume	l	8,0	10,0	
System expansion vessel useful volume	l	3,6	4,2	
System expansion vessel total volume	l	5,8	7,1	
Expansion vessel pre-charged pressure	bar	1,0		
Appliance water content	l	4,7	7,3	
Domestic hot water adjustable temperature	°C	10 / 60		
Central heating circuit max. operating pressure	bar	3,0		
Domestic hot water circuit min. pressure (dynamic)	bar	0,6		
Domestic hot water circuit max. operating pressure	bar	8,0		
Flow rate capacity in continuous duty (ΔT 30°C)	l/min	12,4	15,0	16,9
Weight of full boiler	kg	123,6	126,5	
Weight of empty boiler	kg	63,9	64,2	
Electrical connection	V/Hz	230 / 50		
Nominal absorbed current	A	0,7	0,8	1,0
Installed electric power	W	95	110	130
Equipment electrical system protection	IP	X5D		

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Ambient operating temperature range	°C	0 ÷ 40	
Ambient operating temperature range with antifreeze kit (optional)	°C	-15 ÷ 40	
Relative humidity range (min/max)	%	0 / 90	
NO _x class	-	6	
*Weighted NO _x G20	mg/kWh	23	21
Weighted CO G20	mg/kWh	15	16
Type of appliance	-	B _{23p} B ₃₃ B _{53p} C ₁₃ C ₃₃ C ₄₃ C ₅₃ C ₆₃ C ₈₃ C ₉₃ C _{13X} C _{33X} C _{43X} C _{53X} C _{63X} C _{83X} C _{93X} C ₍₁₀₎₃ C ₍₁₂₎₃ C _{(10)3X} C _{(12)3X} C ₍₁₅₎₃ C _{(15)3X}	
Market		IE	
Category		II2HY203P-II2NY20Z192	

* Efficiencies and weighted NO_x refer to the net calorific value.

The data relevant to domestic hot water performance refer to a dynamic inlet pressure of 2 bar and an inlet temperature of 15°C; the values are measured directly at the appliance outlet considering that to obtain the data declared mixing with cold water is necessary.

For type C₆₃ it is forbidden to install the appliance as it came out of the factory, in configurations that require shared flues in positive pressure.

Configurations C₍₁₀₎₃ and C₍₁₂₎₃ are only permitted with original, approved flue system.



5.4 TECHNICAL PARAMETERS FOR COMBINATION BOILERS (IN COMPLIANCE WITH REGULATION 813/2013)

The efficiencies and NO_x values in the following tables refer to the gross calorific value.

Model	VICTRIX ZEUS SUPERIOR 25		
Condensing Boiler	YES		
Low temperature boiler	NO		
Boiler type B1	NO		
Co-generation appliance for central heating	NO		
Mixed heating appliance	YES		
Nominal heat output	P _n	20	kW
Seasonal energy efficiency of central heating	η _s	94	%
For central heating only and combination boilers: useful heat output			
At nominal heat output in high temperature mode (*)	P ₄	20,2	kW
At 30% of nominal heat output in a low temperature mode (**)	P _l	6,9	kW
For central heating only and combination boilers: useful efficiency			
At nominal heat output in high temperature mode (*)	η ₄	87,7	%
At 30% of nominal heat output in a low temperature mode (**)	η _l	99,0	%
Auxiliary electricity consumption			
At full load	e _{lmax}	0,021	kW
At partial load	e _{lmin}	0,015	kW
In standby mode	P _{SB}	0,005	kW
Other items			
Heat loss in standby	P _{stby}	0,058	kW
Ignition burner energy consumption	P _{ign}	0,000	kW
Emissions of nitrogen oxides	NO _x	21	mg\kWh
For mixed central heating appliances			
Stated load profile	XL		
Domestic hot water production efficiency	η _{WH}	80	%
Daily electrical power consumption	Q _{elec}	0,234	kWh
Annual electrical power consumption	AEC	51	kWh
Daily gas consumption	Q _{fuel}	24,651	kWh
Annual gas consumption	AFC	20	GJ
(*) High temperature mode means 60°C on return and 80°C on flow. (**) Low temperature mode for condensation Boilers means 30°C, for low temperature boilers 37°C and for other appliances 50°C of return temperature.			

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TECHNICAL DATA



Model	VICTRIX ZEUS SUPERIOR 30		
Condensing Boiler	YES		
Low temperature boiler	NO		
Boiler type B1	NO		
Co-generation appliance for central heating	NO		
Mixed heating appliance	YES		
Nominal heat output	P_n	28	kW
Seasonal energy efficiency of central heating	η_s	94	%
For central heating only and combination boilers: useful heat output			
At nominal heat output in high temperature mode (*)	P_4	28,2	kW
At 30% of nominal heat output in a low temperature mode (**)	P_1	9,5	kW
For central heating only and combination boilers: useful efficiency			
At nominal heat output in high temperature mode (*)	η_4	87,6	%
At 30% of nominal heat output in a low temperature mode (**)	η_1	98,8	%
Auxiliary electricity consumption			
At full load	$e_{l_{max}}$	0,020	kW
At partial load	$e_{l_{min}}$	0,015	kW
In standby mode	P_{SB}	0,005	kW
Other items			
Heat loss in standby	P_{stby}	0,088	kW
Ignition burner energy consumption	P_{ign}	0,000	kW
Emissions of nitrogen oxides	NO_x	19	mg\kWh
For mixed central heating appliances			
Stated load profile	XL		
Domestic hot water production efficiency	η_{WH}	80	%
Daily electrical power consumption	Q_{elec}	0,243	kWh
Annual electrical power consumption	AEC	53	kWh
Daily gas consumption	Q_{fuel}	24,484	kWh
Annual gas consumption	AFC	19	GJ
(*) High temperature mode means 60°C on return and 80°C on flow.			
(**) Low temperature mode for condensation Boilers means 30°C, for low temperature boilers 37°C and for other appliances 50°C of return temperature.			



Model	VICTRIX ZEUS SUPERIOR 35		
Condensing Boiler	YES		
Low temperature boiler	NO		
Boiler type B1	NO		
Co-generation appliance for central heating	NO		
Mixed heating appliance	YES		
Nominal heat output	P_n	28	kW
Seasonal energy efficiency of central heating	η_s	94	%
For central heating only and combination boilers: useful heat output			
At nominal heat output in high temperature mode (*)	P_4	28,2	kW
At 30% of nominal heat output in a low temperature mode (**)	P_l	9,5	kW
For central heating only and combination boilers: useful efficiency			
At nominal heat output in high temperature mode (*)	η_4	87,6	%
At 30% of nominal heat output in a low temperature mode (**)	η_l	98,8	%
Auxiliary electricity consumption			
At full load	$e_{l_{max}}$	0,020	kW
At partial load	$e_{l_{min}}$	0,015	kW
In standby mode	P_{SB}	0,005	kW
Other items			
Heat loss in standby	P_{stby}	0,088	kW
Ignition burner energy consumption	P_{ign}	0,000	kW
Emissions of nitrogen oxides	NO_x	19	mg/kWh
For mixed central heating appliances			
Stated load profile	XL		
Domestic hot water production efficiency	η_{WH}	80	%
Daily electrical power consumption	Q_{elec}	0,243	kWh
Annual electrical power consumption	AEC	53	kWh
Daily gas consumption	Q_{fuel}	24,484	kWh
Annual gas consumption	AFC	19	GJ
(*) High temperature mode means 60°C on return and 80°C on flow. (**) Low temperature mode for condensation Boilers means 30°C, for low temperature boilers 37°C and for other appliances 50°C of return temperature.			

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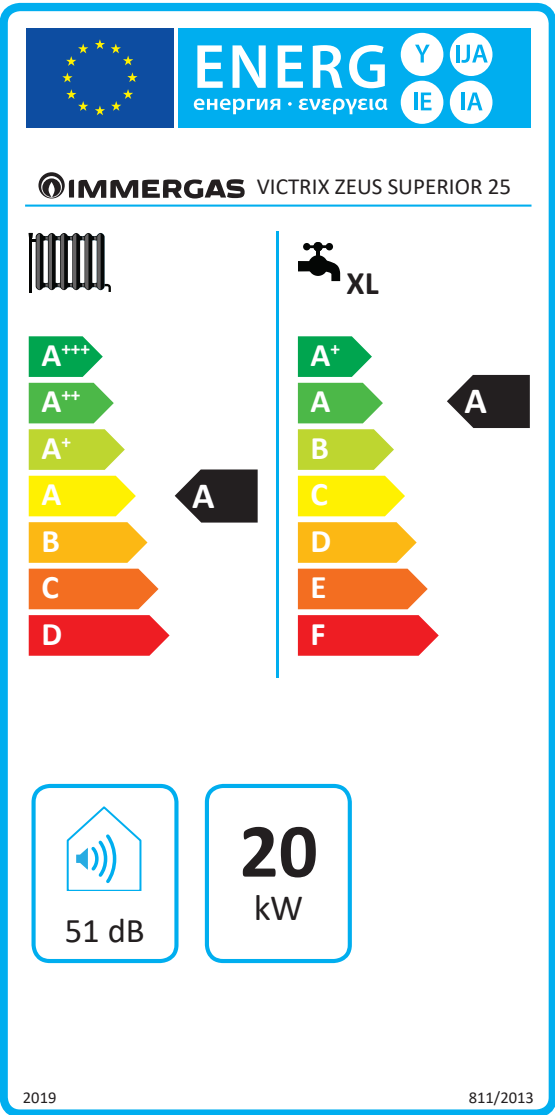
MAINTENANCE TECHNICIAN

TECHNICAL DATA



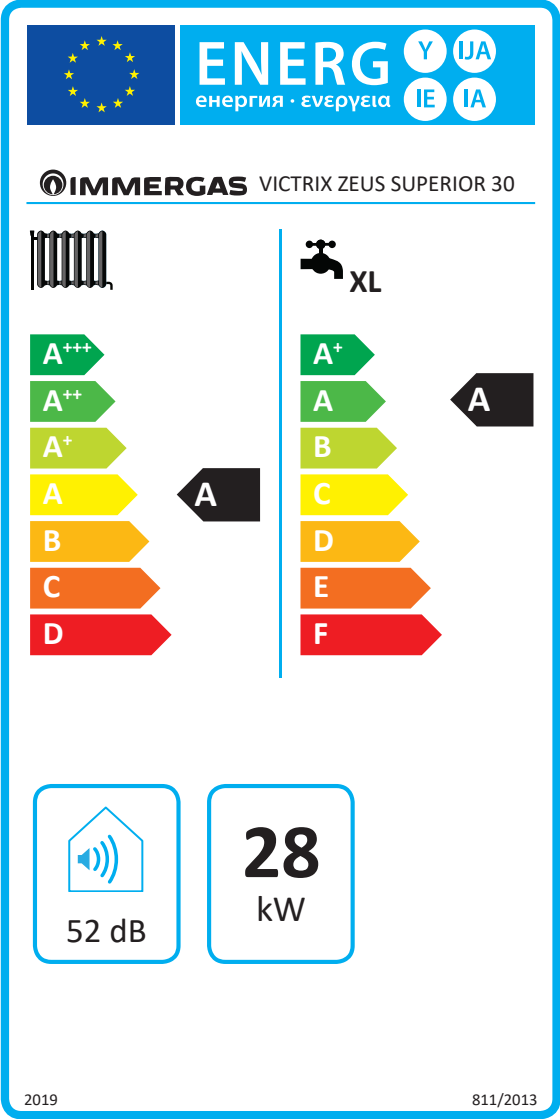
5.5 PRODUCT FICHE (IN COMPLIANCE WITH REGULATION 811/2013)

Victrix Zeus Superior 25



Parameter		Value
Annual energy consumption for the central heating mode (QHE)	GJ	35
Annual electricity consumption for the domestic hot water function (AEC)	kWh	51
Annual fuel consumption for the domestic hot water function (AFC)	GJ	20
Seasonal space heating energy efficiency (ηs)	%	94
Water heating energy efficiency (ηwh)	%	80





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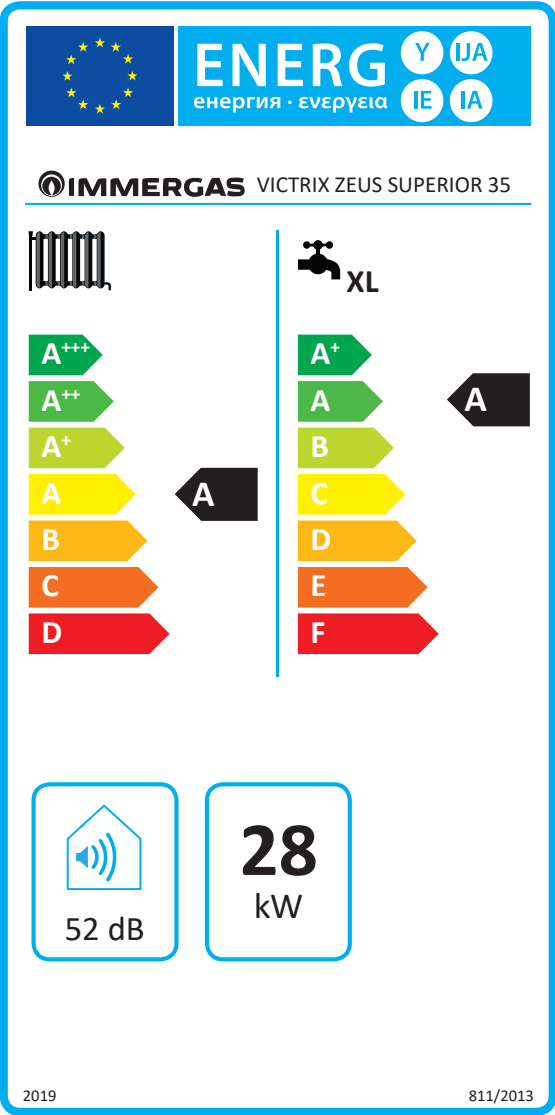
TECHNICAL DATA

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Parameter		Value
Annual energy consumption for the central heating mode (QHE)	GJ	48
Annual electricity consumption for the domestic hot water function (AEC)	kWh	53
Annual fuel consumption for the domestic hot water function (AFC)	GJ	19
Seasonal space heating energy efficiency (ηs)	%	94
Water heating energy efficiency (ηwh)	%	80



Victrix Zeus Superior 35



Parameter		Value
Annual energy consumption for the central heating mode (QHE)	GJ	48
Annual electricity consumption for the domestic hot water function (AEC)	kWh	53
Annual fuel consumption for the domestic hot water function (AFC)	GJ	19
Seasonal space heating energy efficiency (ηs)	%	94
Water heating energy efficiency (ηwh)	%	80

For proper installation of the appliance refer to chapter 1 of this booklet (for the installer) and current installation regulations.
 For proper maintenance refer to chapter 3 of this booklet (for the maintenance technician) and adhere to the frequencies and methods set out herein.



5.6 PARAMETERS FOR FILLING IN THE PACKAGE FICHE

If an assembly is to be made from this device, use the assembly sheets shown in (Fig. 92 and 94).

For the correct compilation, insert into the appropriate spaces (as shown in the facsimile package fiche (Fig. 91 and 93) the values set out in the tables "Parameters for compiling package fiche" and "Parameters for compiling DHW pack package fiche".

The remaining values must be obtained from the technical data sheets of the products used to make up the assembly (e.g. solar devices, integration heat pumps, temperature controllers).

Use sheet (Fig. 92) for "assemblies" related to the heating function (e.g.: boiler + temperature controller).

Use sheet (Fig. 94) for "assemblies" related to the domestic hot water function (e.g.: boiler + solar thermal system).

Facsimile for filling in the package fiche for room central heating systems.

Seasonal central heating energy efficiency of the boiler		1	%
Temperature control From temperature control board	Class I = 1 %, Class II = 2 %, Class III = 1.5 %, Class IV = 2 %, Class V = 3 %, Class VI = 4 %, Class VII = 3.5 %, Class VIII = 5 %	2	%
Supplementary boiler From boiler board	Seasonal central heating energy efficiency of the room (%) (- 'I') x 0.1 = ± %	3	%
Solar contribution From the board of the solar device	Dimensions of the manifold (in m ²) Volume of the tank (in m ³) Efficiency of the manifold (in %) Classification of the tank A* = 0.95, A = 0.91, B = 0.86, C = 0.83, D-G = 0.81	4	%
Supplementary heat pump From the heat pump board	Seasonal central heating energy efficiency of the room (%) (- 'I') x 'II' = + %	5	%
Solar contribution and supplementary heat pump	Select the lowest value 0.5 x O 0.5 x = - %	6	%
Seasonal central heating energy efficiency of the set		7	%
Seasonal central heating energy efficiency class of the set			
☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ G F E D C B A A⁺ A⁺⁺ A⁺⁺⁺ < 30 % ≥ 30 % ≥ 34 % ≥ 36 % ≥ 75 % ≥ 82 % ≥ 90 % ≥ 98 % ≥ 125 % ≥ 150 %			
Boiler and supplementary heat pump installed with low temperature heat emitters at 35 °C?			
From the board of the heat pump	+ (50 x 'II') = %		%

The energy efficiency of the set of products indicated in this sheet may not reflect the actual energy efficiency after installation since such efficiency is affected by additional factors, such as the heat loss in the distribution system and the size of the products compared to the size and features of the building.

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Parameters for filling in the assembly chart

Parameter	VICTRIX ZEUS SUPERIOR 25	VICTRIX ZEUS SUPERIOR 30	VICTRIX ZEUS SUPERIOR 35
"I"	94		
"II"	*		
"III"	1,32	0,95	
"IV"	0,52	0,37	

* to be established by means of table 5 of Regulation 811/2013 in case of "assembly" including a heat pump to integrate the boiler. In this case the boiler must be considered as the main appliance of the assembly.

Room central heating system package fiche.

Seasonal central heating energy efficiency of the boiler 1 %

Temperature control 2 %
 From temperature control board

Class I = 1 %, Class II = 2 %,
 Class III = 1.5 %, Class IV = 2 %,
 Class V = 3 %, Class VI = 4 %,
 Class VII = 3.5 %, Class VIII = 5 %

Supplementary boiler 3 %
 From boiler board

Seasonal central heating energy efficiency of the room (%)

$$(\text{ } - \text{ }) \times 0.1 = \pm \text{ } \%$$

Solar contribution
 From the board of the solar device

Dimensions of the manifold (in m²)

Volume of the tank (in m³)

Efficiency of the manifold (in %)

Classification of the tank
 A* = 0.95, A = 0.91,
 B = 0.86, C = 0.83,
 D-G = 0.81

$$(\text{ } \times \text{ } + \text{ } \times \text{ }) \times (0.9 \times (\text{ } / 100) \times \text{ }) = + \text{ } \%$$

Supplementary heat pump 5 %
 From the heat pump board

Seasonal central heating energy efficiency (in %)

$$(\text{ } - \text{ }) \times \text{ } = + \text{ } \%$$

Solar contribution and supplementary heat pump

Select the lowest value 6 %

$$0.5 \times \text{ } \text{ O } 0.5 \times \text{ } = - \text{ } \%$$

Seasonal central heating energy efficiency of the set 7 %

Seasonal central heating energy efficiency class of the set

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺	
< 30 %	≥ 30 %	≥ 34 %	≥ 36 %	≥ 75 %	≥ 82 %	≥ 90 %	≥ 98 %	≥ 125 %	≥ 150 %	

Boiler and supplementary heat pump installed with low temperature heat emitters at 35 °C?

From the board of the heat pump 7 %

$$\text{ } + (50 \times \text{ }) = \text{ } \%$$

The energy efficiency of the set of products indicated in this sheet may not reflect the actual energy efficiency after installation since such efficiency is affected by additional factors, such as the heat loss in the distribution system and the size of the products compared to the size and features of the building.



Water heating energy efficiency of combination boiler

¹
 %

Stated load profile:

Solar contribution

From the board of the solar device

Auxiliary electricity

$(1.1 \times \text{'I'} - 10\%) \times \text{'II'} - \text{'III'} - \text{'I'} = + \text{'2'} \%$

Water heating energy efficiency of the assembly in average climate conditions

³
 %

Water heating energy efficiency class of the assembly in average climate conditions

	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	G	F	E	D	C	B	A	A⁺	A⁺⁺	A⁺⁺⁺
☐ M	< 27 %	≥ 27 %	≥ 30 %	≥ 33 %	≥ 36 %	≥ 39 %	≥ 65 %	≥ 100 %	≥ 130 %	≥ 163 %
☐ L	< 27 %	≥ 27 %	≥ 30 %	≥ 34 %	≥ 37 %	≥ 50 %	≥ 75 %	≥ 115 %	≥ 150 %	≥ 188 %
☐ XL	< 27 %	≥ 27 %	≥ 30 %	≥ 35 %	≥ 38 %	≥ 55 %	≥ 80 %	≥ 123 %	≥ 160 %	≥ 200 %
☐ XXL	< 28 %	≥ 28 %	≥ 32 %	≥ 36 %	≥ 40 %	≥ 60 %	≥ 85 %	≥ 131 %	≥ 170 %	≥ 213 %

Water heating energy efficiency class in colder and hotter climate conditions

Colder: ³ - 0.2 x ² = %

Hotter: ³ + 0.4 x ² = %

The energy efficiency of the set of products indicated in this sheet may not reflect the actual energy efficiency after installation since such efficiency is affected by additional factors, such as the heat loss in the distribution system and the size of the products compared to the size and features of the building.

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TECHNICAL DATA



Parameters for filling in the DHW package fiche

Parameter	VICTRIX ZEUS SUPERIOR 25	VICTRIX ZEUS SUPERIOR 30	VICTRIX ZEUS SUPERIOR 35
"I"		80	
"II"		*	
"III"		*	

* to be determined according to Regulation 811/2013 and transient calculation methods as per Notice of the European Community no. 207/2014.

Domestic hot water production system package fiche.

Water heating energy efficiency of combination boiler

¹
 %

Stated load profile:

Solar contribution

From the board of the solar device

Auxiliary electricity

(1.1 x - 10 %) x - - = + ²
 %

Water heating energy efficiency of the assembly in average climate conditions

³
 %

Water heating energy efficiency class of the assembly in average climate conditions

	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
	G	F	E	D	C	B	A	A ⁺	A ⁺⁺	A ⁺⁺⁺
☐ M	< 27 %	≥ 27 %	≥ 30 %	≥ 33 %	≥ 36 %	≥ 39 %	≥ 65 %	≥ 100 %	≥ 130 %	≥ 163 %
☐ L	< 27 %	≥ 27 %	≥ 30 %	≥ 34 %	≥ 37 %	≥ 50 %	≥ 75 %	≥ 115 %	≥ 150 %	≥ 188 %
☐ XL	< 27 %	≥ 27 %	≥ 30 %	≥ 35 %	≥ 38 %	≥ 55 %	≥ 80 %	≥ 123 %	≥ 160 %	≥ 200 %
☐ XXL	< 28 %	≥ 28 %	≥ 32 %	≥ 36 %	≥ 40 %	≥ 60 %	≥ 85 %	≥ 131 %	≥ 170 %	≥ 213 %

Water heating energy efficiency class in colder and hotter climate conditions

Colder: ³
 - 0.2 x ²
 = %

Hotter: ³
 + 0.4 x ²
 = %

The energy efficiency of the set of products indicated in this sheet may not reflect the actual energy efficiency after installation since such efficiency is affected by additional factors, such as the heat loss in the distribution system and the size of the products compared to the size and features of the building.









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Design, manufacture and post-sale
assistance of gas boilers, gas water heaters
and related accessories

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