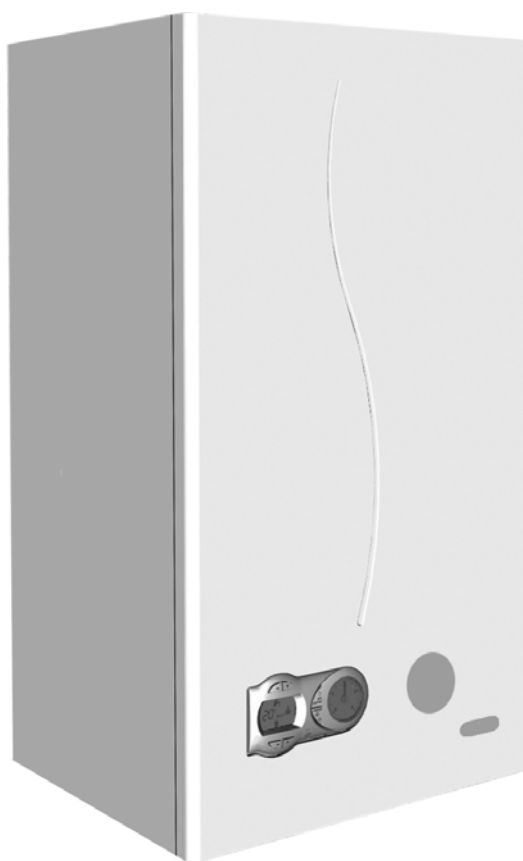


i25 / i29



1. GENERAL WARNINGS

- Carefully read and follow the instructions contained in this instruction booklet.
- After boiler installation, inform the user regarding its operation and give him this manual, which is an integral and essential part of the product and must be kept with care for future reference.
- Installation and maintenance must be carried out by professionally qualified personnel, in compliance with the current regulations and according to the manufacturer's instructions. Do not carry out any operation on the sealed control parts.
- Incorrect installation or inadequate maintenance can result in damage or injury. The Manufacturer declines any liability for damage due to errors in installation and use, or failure to follow the instructions.
- Before carrying out any cleaning or maintenance operation, disconnect the unit from the electrical power supply using the switch and/or the special cut-off devices.
- In case of a fault and/or poor operation, deactivate the unit and do not try to repair it or directly intervene. Contact professionally qualified personnel. Any repair/replacement of the products must only be carried out by qualified personnel using original replacement parts. Failure to comply with the above could affect the safety of the unit.
- This unit must only be used for its intended purpose. Any other use is deemed improper and therefore hazardous.
- The packing materials are potentially hazardous and must not be left within the reach of children.
- The unit must not be used by people (including children) with limited physical, sensory or mental abilities or without experience and knowledge of it, unless instructed or supervised in its use by someone responsible for their safety.
- The unit and its accessories must be appropriately disposed of, in compliance with the current regulations.
- The images given in this manual are a simplified representation of the product. In this representation there may be slight and insignificant differences with respect to the product supplied.

2. OPERATING INSTRUCTIONS

2.1 Introduction

Dear Customer,

i25 / i29 is a high-efficiency sealed chamber **condensing** heat generator for heating and hot water production using natural gas or LPG, and equipped with a microprocessor control system.

THIS UNIT IS IDEAL FOR COMBINING WITH CONVENTIONAL HIGH TEMPERATURE SYSTEMS. IT CANNOT BE COMBINED OR INSTALLED WITH DIRECT DELIVERY TO LOW TEMPERATURE RADIANT PANEL SYSTEMS.

2.2 Control panel

Panel

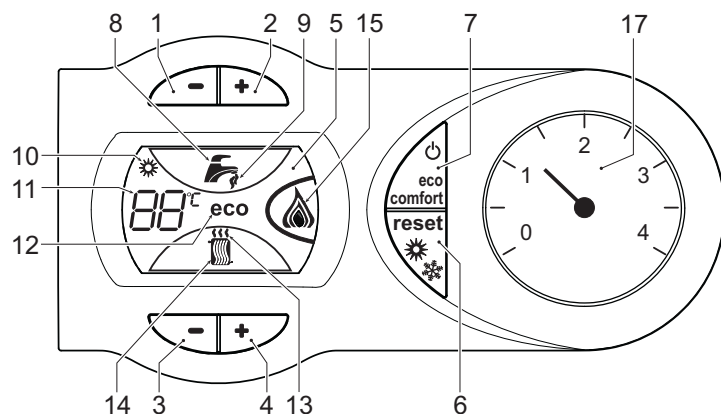


fig. 1 - Control panel

Panel key fig. 1

- | | |
|----|---|
| 1 | DHW temperature setting decrease button |
| 2 | DHW temperature setting increase button |
| 3 | Heating system temperature setting decrease button |
| 4 | Heating system temperature setting increase button |
| 5 | Display |
| 6 | Summer/Winter mode selection - Reset button |
| 7 | Unit On/Off - Economy/Comfort mode selection button |
| 8 | DHW symbol |
| 9 | DHW mode |
| 10 | Summer mode |
| 11 | Multifunction |
| 12 | Eco (Economy) mode |
| 13 | Heating |
| 14 | Heating symbol |
| 15 | Burner lit and actual power level |
| 17 | Water gauge |

Indication during operation

Heating

A heating demand (generated by the Room Thermostat or Remote Timer Control) is indicated by flashing of the hot air above the radiator on the display.

The display (detail 11 - fig. 1) shows the actual heating delivery temperature and, during heating standby time, the message "d2".

Domestic hot water (DHW)

A DHW demand (generated by drawing domestic hot water) is indicated by flashing of the hot water under the tap on the display.

The display (detail 11 - fig. 1) shows the actual DHW outlet temperature and, during DHW standby time, the message "d1".

Comfort

A Comfort demand (reinstatement of temperature inside the boiler) is indicated by flashing of the water under the tap on the display. The display (detail 11 - fig. 1) shows the actual temperature of the water in the boiler.

Fault

In case of a fault (see cap. 4.5) the display shows the fault code (detail 11 - cap. 4.5) and during safety pause times the message "d3".

2.3 Lighting and shutdown

Connection to the power supply

- During the first 5 seconds the display will also show the card software release.
- Open the gas cock ahead of the boiler.
- The boiler is now ready to function automatically whenever domestic hot water is drawn or in case of a heating demand (generated by Room Thermostat or Remote Temperature Control).

Switching the boiler off and on

Press the **On/Off button** (detail 7 - fig. 1) for 5 seconds.

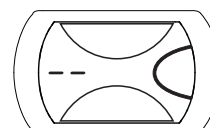


fig. 2 - Turning the boiler off

When the boiler is switched off, the electronic board is still powered. Domestic hot water and heating are disabled. The antifreeze system remains activated. To relight the boiler, press the **On/Off button** (detail 7 fig. 1) again for 5 seconds.

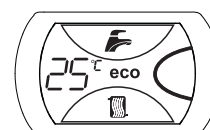


fig. 3

The boiler will be immediately ready to work whenever domestic hot water is drawn or in case of a heating demand (generated by the Room Thermostat or the Remote Timer control).



The antifreeze system does not work when the power and/or gas to the unit are turned off. To avoid damage caused by freezing during long shutdowns in winter, it is advisable to drain all water from the boiler, the DHW circuit and the heating system water; or drain just the DHW circuit and add a suitable antifreeze to the heating system, as prescribed in sec. 3.3.

2.4 Adjustments

Summer/Winter Switchover

Press the **summer/winter button** (detail 6 - fig. 1) for 2 seconds.

The display activates the Summer symbol (detail 10 - fig. 1): the boiler will only deliver domestic hot water. The antifreeze system remains activated.

To deactivate the Summer mode, press the **summer/winter button** (detail 6 - fig. 1) again for 2 seconds.

Heating temperature adjustment

Use the heating buttons (details 3 and 4 - fig. 1) to adjust the temperature from a min. of 30°C to a max. of 80°C; in any case, it is advisable not to operate the boiler below 45°C.

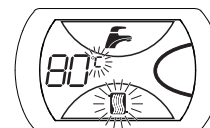


fig. 4

DHW temperature adjustment

Use the DHW buttons (details 1 and 2 - fig. 1) to adjust the temperature from a min. of 40°C to a max. of 55°C.

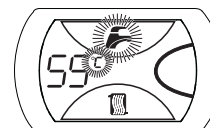


fig. 5

Room temperature adjustment (with optional room thermostat)

Using the room thermostat, set the temperature required in the rooms. If the room thermostat is not installed, the boiler will keep the system at the set system delivery setpoint temperature.

Room temperature adjustment (with optional remote timer control)

Using the remote timer control, set the required temperature in the rooms. The boiler will adjust the system water according to the required room temperature. For operation with remote timer control, please refer to the relevant instruction manual.

ECO/COMFORT selection

The unit has a function that ensures a high domestic hot water delivery speed and maximum comfort for the user. When the device is activated (COMFORT mode), the water contained in the boiler is kept hot, thereby ensuring immediate availability of hot water on opening the tap, without waiting times.

The user can deactivate the device (ECO mode) by pressing the **eco/comfort** button (detail 7 - fig. 1). In ECO mode the display activates the ECO symbol (detail 12 - fig. 1). To activate the COMFORT mode, press the **eco/comfort** button (detail 7 - fig. 1) again.

Adjustments from Remote Timer Control

If the Remote Timer Control (optional) is connected to the boiler, the above adjustments are managed according to that given in table 1.

Table. 1

Heating temperature setting	Adjustment can be made from the Remote Timer Control menu and the boiler control panel.
Hot water temperature adjustment	Adjustment can be made from the Remote Timer Control menu and the boiler control panel.
Summer/Winter Switchover	Summer mode has priority over a possible Remote Timer Control heating demand.
Eco/Comfort selection	Adjustment can only be made from the boiler control panel.

3. INSTALLATION

3.1 General Instructions

This unit must only be used for its intended purpose. This unit is designed to heat water to a temperature below boiling point and must be connected to a heating system and/or a water supply system for domestic use, compatible with its performance, characteristics and heating capacity. Any other use is deemed improper.

THE BOILER MUST ONLY BE INSTALLED BY QUALIFIED PERSONNEL, IN COMPLIANCE WITH ALL THE INSTRUCTIONS GIVEN IN THIS TECHNICAL MANUAL, THE PROVISIONS OF CURRENT LAW, THE REQUIREMENTS OF THE TECHNICAL STANDARDS (BS) AND ANY LOCAL REGULATIONS AND THE RULES OF PROPER WORKMANSHIP.

Incorrect installation can cause damage or injury for which the manufacturer cannot be deemed responsible.

The unit must be installed in compliance with these instructions and the following standards applicable in Great Britain.

Gas Safety Regulations (Installations & Use).

Local Building Regulations.

The Building Regulations (Part L).

The Buildings Standards (Scotland - Consolidated) Regulations).British Standards Codes of Practice (BSI):

B.S.	5440	Part 1	Flues
B.S.	5440	Part 2	Air flow and ventilation
B.S.	5449	.....	Forced circulation hot water production systems
B.S.	6798	.....	Installation of gas-fired boilers for hot water
B.S.	6891	.....	Gas systems
B.S.	7671	.....	IEE wiring system standards
B.S.	4814	.....	Specifications for expansion tanks
B.S.	5482	.....	LPG systems
B.S.	7593	.....	Water treatment in central heating systems for DHW production
B.S.	5546	.....	Installation of systems for DHW production

Model Water By-Laws (Great Britain)

B.S.	5955-8	Installation of plastic pipes
------	--------	-------	-------------------------------

For Northern Ireland the relevant laws in force must be observed.

Safe handling of materials

Pay attention when handling the boiler insulation panels as they contain materials that could irritate the skin. No part of the boiler contains asbestos, mercury or CFC's.

The use Personal Protective Equipment (PPE) is always recommended.

Advice for transport and handling

For lifting and transporting always take suitable safety precautions: keep your back straight, bend knees, do not turn your body, move feet, avoid bending forward or sideways and keep the load as close as possible to your body.

If possible, use a trolley or other suitable means to carry the boiler.

Grip the boiler firmly and, before lifting it, try and find the point where the load is concentrated in order to establish the centre of gravity and suitably reposition yourself. Ideally seek assistance in lifting the boiler.

3.2 Place of installation

The combustion circuit is sealed with respect to the place of installation and therefore the unit can be installed in any room. However, the place of installation must be sufficiently ventilated to prevent the creation of dangerous conditions in case of even slight gas leaks. This safety regulation is provided for by EEC Directive no. 2009/142 for all gas units, including those with a sealed chamber.

In any case, the place of installation must be free of dust, flammable materials or objects or corrosive gases.

The boiler is arranged for wall mounting and comes standard with a hanging bracket. A paper template for marking the drilling points on the wall is provided in the box. The wall fixing must ensure stable and effective support for the boiler.

If the unit is enclosed in a cabinet or mounted alongside, a space must be provided for removing the casing and for normal maintenance operations. The minimum measurements to be respected are given in fig. 6.

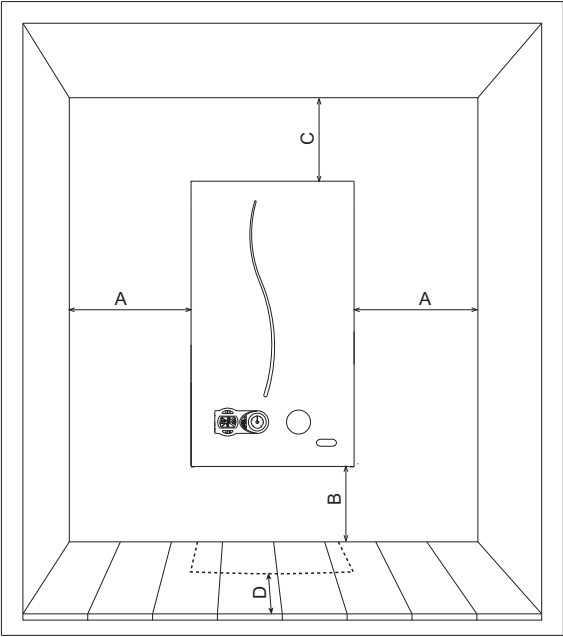


fig. 6 - Minimum distances around the boiler

- A Min. 2.5 cm
- B Min. 20 cm
- C Min. 30 cm
- D Min. 60 cm (via an openable panel)

3.3 Plumbing connections

Important

The heating capacity of the boiler must be previously established by calculating the building's heat requirement according to the current regulations. To ensure proper operation and long boiler life, the plumbing system must be adequately sized and complete with all the necessary accessories, including a room thermostat, a thermostatic radiator valve (TRV), etc. The system flow and return pipes must have a diameter of at least 22 mm for the first 3 m of length from the unit.

If the system delivery and return pipes follow a path where air pockets could form in certain places, it is advisable to install vent valves at these points. Also, install type "A" drain cocks at the lowest points in the system to allow complete emptying.

The temperature drop between the delivery manifold and the return to the boiler should not exceed 20 °C.

A flow rate of at least 6 litres/min through the heat exchanger is required.

Do not use the water system pipes to earth electrical appliances.

Before installation, carefully flush all the heating system pipes to remove any residuals or impurities that could affect proper operation of the unit (as required by BS 7593 Building regs Doc L).

Carry out the connections to the unit as indicated in fig. 34.

The safety valve discharge must be connected to a 15 mm diameter copper pipe descending from the boiler to run off system water in case of overpressure in the heating circuit. Otherwise, the boiler manufacturer cannot be held liable if the discharge valve operates and floods the room. The discharge must be run to the outside of the building to prevent the risk of damage or injury caused by discharged hot water in case of overpressure in the system.

Connections to the boiler are to be made in such a way as to ensure that its internal pipes and fittings are free of stress. If a non-return valve is installed also on the DHW circuit (if provided for), it is necessary

to install a safety valve between the boiler and circuit (with non-return valve at least 3 metres from the boiler) or an expansion tank for domestic use.

Isolation valve kit

The isolation valves supplied (see fig. 7) must be installed between the boiler and heating system to allow the boiler to be isolated from the system if necessary.

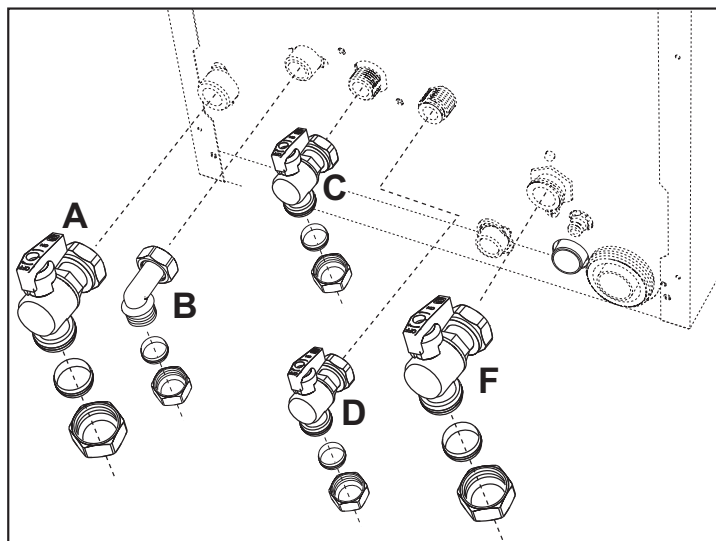


fig. 7 - Isolation valve kit

- A Flow isolation valve 3/4"
- B Domestic hot water outlet elbow 1/2"
- C Gas cock 1/2" (yellow)
- D Cold water inlet valve 1/2"
- F Return isolation valve 3/4"

Make up water

Provision must be made for replacing water lost from the sealed system. Reference should be made to BS6798, for methods of filling and making up sealed systems. There must be no direct connection between the boiler's central heating system and the mains water supply. The use of mains water to charge and pressurise the system directly, is conditional upon the Local Water Byelaws. Again any such connection must be disconnected after use. Ensure the filling point is on the return pipe to the boiler.

Attention - is drawn to the Model Water Byelaws.

FILLING LOOP in fig. 17 IS NOT SUPPLIED WITH BOILER.

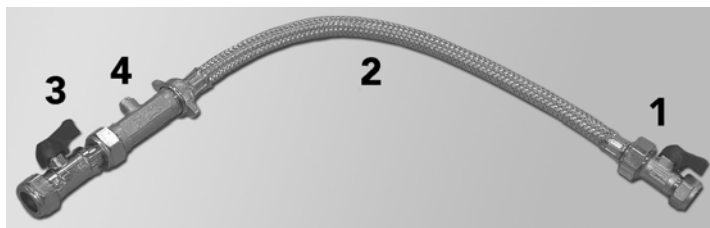


fig. 8 - FILLING LOOP (NOT SUPPLIED WITH BOILER)

Key

- 1. C.H. filling valve
- 2. Temporary connection
- 3. Cold water supply valve
- 4. Double check valve

The maximum domestic water pressure for the inlet supply is 9 bar (130 P.S.I.). If the cold mains supply exceeds 5 bar (72 P.S.I.), a water governor or pressure reducing valve must be fitted by the installer into the mains supply in an inconspicuous but accessible position preferably between 3 and 5 metres (10-16ft) before the appliance. Such a valve must be approved by WRAS. The fitting of a DHW expansion vessel is also recommended.

Water treatment

If treatment of the water is necessary, Ferrolli recommends the exclusive use of specific products such as Fernox or Sentinel to be applied in compliance with the producer's instructions. For more information, please contact:

Fernox Manufacturing Co. LTD.
Cookson Electronics, Forsyth Road
Sheerwater, Woking, Surrey, GU21 5RZ
Tel.: 0870 8700362

Sentinel Performance Solutions Ltd
The Heath Business & Technical Park
Runcorn, Cheshire WA7 4QX
Tel.: 0151 424 5351

- If the boiler is installed in an existing system, it is necessary to remove any unsuitable additives by thoroughly cleaning the system. Cleaning of all the systems must be carried out in compliance with the provisions of Standard B.S. 7593.
- In areas characterised by the presence of hard water, treatment may be necessary to prevent the formation of scale in the boiler.
- Make sure to use the water treatment product in the correct concentration, in compliance with the producer's instructions.

3.4 Gas connection

The gas must be connected to the relevant connection (see fig. 25) in conformity with the current standards, using a rigid metal pipe or a continuous surface flexible s/steel tube and installing a gas cock between the system and boiler. Make sure all the gas connections are tight.

3.5 Electrical connections

Important

The unit must be connected to an efficient earthing system in conformity with current safety regulations. Have the efficiency and suitability of the earthing system checked by professionally qualified personnel; the Manufacturer declines any liability for damage caused by failure to earth the system.

The boiler is prewired and provided with a "Y" type cable (without plug) for connection to the electric line. The connections to the power supply must be permanent and equipped with a double-pole switch with contact opening distance of at least 3 mm, installing fuses of max. 3A between the boiler and the line. Make sure to respect the polarities (LINE: brown wire / NEUTRAL: blue wire / EARTH: yellow/green wire) in connections to the electric line.

The unit's power cable must not be replaced by the user; if damaged, switch the unit off and have the cable replaced by professionally qualified personnel. If replacing the power cable, only use "HAR H05 VV-F" 3x0.75 mm2 cable with max. ext. diameter of 8 mm.

Room thermostat (optional)

IMPORTANT: THE ROOM THERMOSTAT MUST HAVE VOLTAGE-FREE CONTACTS. CONNECTING 230 V TO THE ROOM THERMOSTAT TERMINALS WILL PERMANENTLY DAMAGE THE ELECTRONIC BOARD.

When connecting time controls or a timer, do not take the power supply for these devices from their breaking contacts. Their power supply must be by means of direct connection from the mains or with batteries, depending on the kind of device.

Accessing the electrical terminal block

The electrical terminal block can be accessed after removing the casing. The layout of the terminals for the various connections is also given in the wiring diagram in fig. 30.

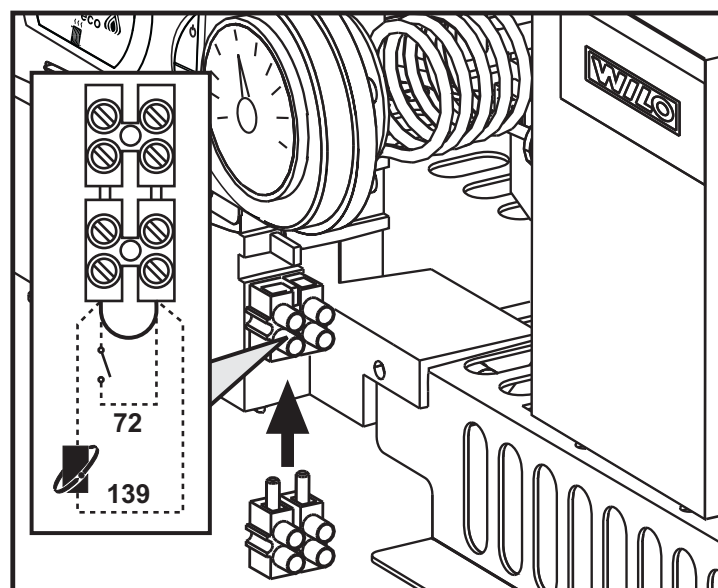


fig. 9 - Accessing the terminal block

3.6 Fume ducts

Important

The unit is a "C type" with sealed chamber and forced draught, the air inlet and fume outlet must be connected to one of the following extraction/suction systems. The unit is approved for operation with all the Cny flue configurations given on the dataplate. Some configurations may be expressly limited or not permitted by law, standards or local regulations. Before installation, check and carefully follow the instructions. Also, comply with the instructions on the positioning of wall and/or roof terminals and the minimum distances from windows, walls, ventilation openings, etc.

Baffles

Boiler operation requires fitting the baffles supplied with the unit, according to the following tables.

Before inserting the fume outlet pipe, it is therefore necessary to check there is the right diaphragm (when it is to be used) and that it is correctly positioned. Boilers are fitted as standard with the diaphragm with the smallest diameter. To replace the baffle (rif. 1 - fig. 10), proceed as indicated in fig. 10.

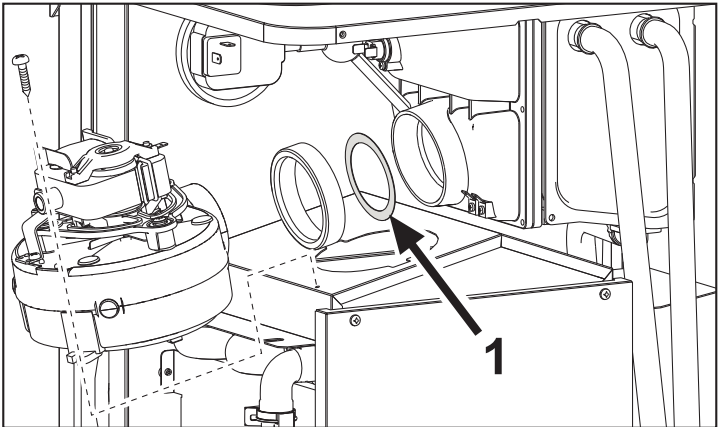


fig. 10

Standard coaxial installation

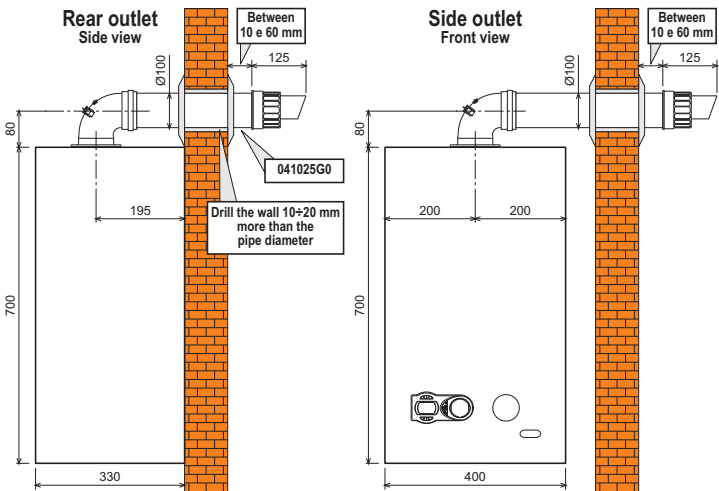


fig. 11 - Standard coaxial installation

Other coaxial connections

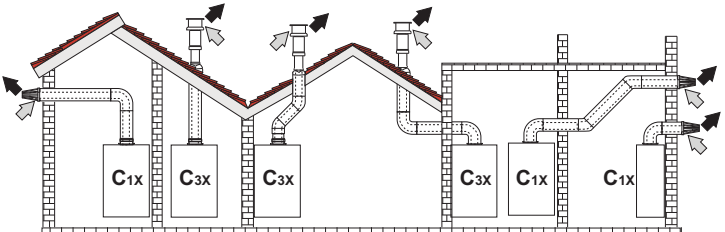


fig. 12 - Examples of connection with coaxial pipes (→ = Air / → = Fumes)

Table. 2 - Typology

Type	Description
C1X	Wall horizontal exhaust and inlet
C3X	Roof vertical exhaust and inlet

For coaxial connection, fit the unit with one of the following starting accessories. For the wall hole dimensions, refer to the figure on the cover. Any horizontal sections of the fume exhaust must be kept sloping slightly towards the boiler, to prevent possible condensate from flowing back towards the outside and causing dripping.

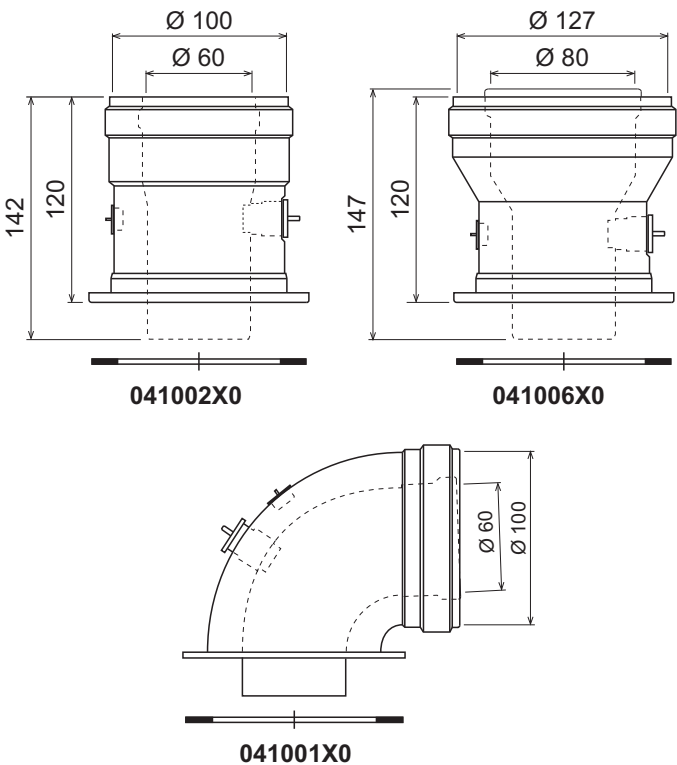


fig. 13 - Starting accessory for coaxial ducts

Table. 3 - Baffles for coaxial ducts

Model i25	Coaxial 60/100		Coaxial 80/125	
Max. permissible length	6 m		12 m	
Reduction factor 90° bend	1 m		0.5 m	
Reduction factor 45° bend	0.5 m		0.25 m	
Baffle to use	0 ÷ 2 m	Ø 45	0 ÷ 6 m	Ø 45
	2 ÷ 4 m	Ø 50	6 ÷ 12 m	no baffle
	4 ÷ 6 m	no baffle		

Model i29	Coaxial 60/100		Coaxial 80/125	
Max. permissible length	6 m		12 m	
Reduction factor 90° bend	1 m		0.5 m	
Reduction factor 45° bend	0.5 m		0.25 m	
Baffle to use	0 ÷ 2 m	Ø 50	0 ÷ 6 m	Ø 50
	2 ÷ 6 m	no baffle	6 ÷ 12 m	no baffle

Connection with separate pipes

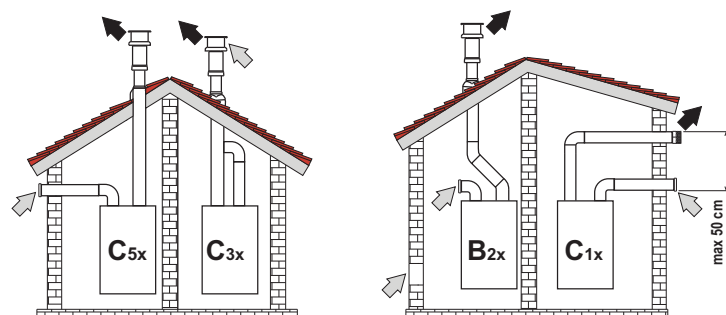


fig. 14 - Examples of connection with separate pipes (→ = Air / → = Fumes)

Table. 4 - Typology

Type	Description
C1X	Wall horizontal exhaust and intake. The inlet/outlet terminals must be concentric or close enough to be undergo similar wind conditions (within 50 cm)
C3X	Roof vertical exhaust and intake. Inlet/outlet terminals like for C12
C5X	Wall or roof exhaust and intake separate or in any case in areas with different pressures. The exhaust and intake must not be positioned on opposite walls.
C6X	Intake and exhaust with separately certified pipes (EN 1856/1)
B2X	Intake from installation room and wall or roof exhaust
⚠ IMPORTANT - THE ROOM MUST BE PROVIDED WITH APPROPRIATE VENTILATION	

For connection of the separate ducts, fit the unit with the following starting accessory:

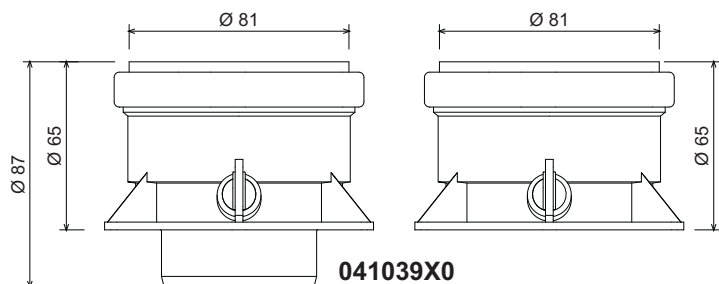


fig. 15 - Starting accessory for separate ducts


Before proceeding with installation make sure the maximum permissible length has not been exceeded, by means of a simple calculation:

1. Completely establish the layout of the system of split flues, including accessories and outlet terminals.
2. Consult the table 6 and identify the losses in m_{eq} (equivalent metres) of every component, according to the installation position.
3. Check that the sum total of losses is less than or equal to the maximum permissible length in table 5.

Table. 5 - Baffles for separate ducts

Model i25	Separate ducts	
Max. permissible length	60 m_{eq}	
Baffle to use	0 ÷ 20 m_{eq}	Ø 45
	20 ÷ 45 m_{eq}	Ø 50
	45 ÷ 60 m_{eq}	No baffle
Model i29	Separate ducts	
Max. permissible length	55 m_{eq}	
Baffle to use	0 ÷ 35 m_{eq}	Ø 50
	35 ÷ 55 m_{eq}	No baffle

Table. 6 - Accessories

				Losses in m _{eq}		
				Air inlet	Fume exhaust	
					Vertical	Horizontal
Ø 80	PIPE	1 m M/F	1KWMA83W	1.0	1.6	2.0
	BEND	45° M/F	1KWMA65W	1.2	1.8	
		90° M/F	1KWMA01W	1,5	2.0	
	PIPE SECTION	with test point	1KWMA70W	0.3	0.3	
	TERMINAL	air, wall	1KWMA85A	2.0	-	
		fumes, wall with antiwind	1KWMA86A	-	5.0	
	FLUE	Split air/fumes 80/80	010027X0	-	12.0	
		Fume outlet only Ø80	010026X0 + 1KWMA86U	-	4.0	
Ø 60	PIPE	1 m M/F	1KWMA89W	6.0		
	BEND	90° M/F	1KWMA88W	4.5		
	REDUCTION	80/60	041050X0	5.0		
	TERMINAL	fumes, wall with antiwind	1KWMA90A	7.0		
		ATTENTION: CONSIDER THE HIGH PRESSURE LOSSES OF Ø60 ACCESSORIES; USE THEM ONLY IF NECESSARY AND AT THE LAST FUME EXHAUST SECTION.				

Position of terminals

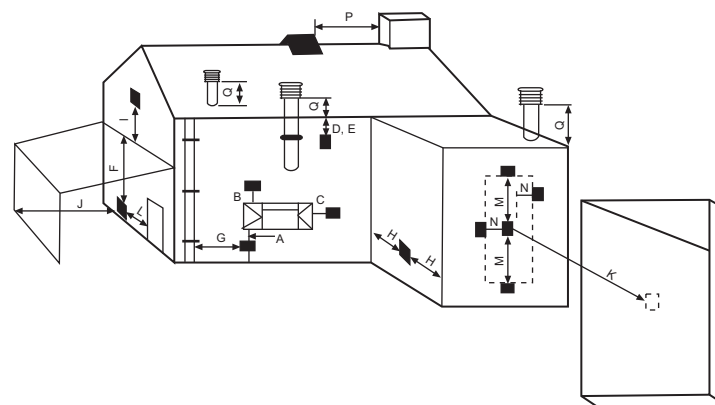


fig. 16

Minimum dimensions of fume exhaust terminals		
A	Directly under an opening, air inlet, openable window, etc.	300 mm
B	Above an opening, air inlet, openable window, etc.	300 mm
C	Horizontally to an opening, air inlet, openable window, etc.	300 mm
D	Under gutters, drain pipes	75 mm
E	Under cornices or under eaves	200 mm
F	Under balconies or garages	200 mm
G	From a drain pipe or a vertical drain pipe	150 mm
H	From an internal or external corner	100 mm
I	Above ground level, a roof or balcony	300 mm
J	From a surface facing the terminal	600 mm
K	From a terminal facing the terminal	1200 mm
litres	From a garage opening (e.g. door, window) with access to the home	1200 mm
M	Vertically from a terminal on the same wall	1500 mm
No	Horizontally from a terminal on the same wall	300 mm
O	From the wall on which the terminal is fitted	N/A
P	From a vertical structure on the roof	150 mm
Q	Above the intersection with the roof	300 mm
NOTES <ul style="list-style-type: none"> • N/A = Not applicable • Also, the terminal must be at least 150 mm (in case of forced intake) from an opening made in the structure of the building to house a fitted element such as a window frame. • Positions of condensate drain terminals: if the fume exhaust is provided for at a low level, the potential effect of the flue gas cloud must be considered. Special flue gas management kits are available by request. • The flue gas cloud must not be directed towards: <ul style="list-style-type: none"> - A frequented approach - A window or door - An adjacent property 		

Connection to multiple flues or single flues with natural draught

To connect the i25 / i29 boiler to a multiple flue or a single flue with natural draught, the flue or chimney must be expressly designed by professionally qualified technical personnel in conformity with the current standards and regulations.

In particular, flues and chimneys must:

- Be sized according to the method of calculation given in the standard.
- Be tight with respect to the products of combustion, resistant to the fumes and heat and impermeable to condensate.
- Have a circular or square cross-section (some hydraulically equivalent sections are permissible), with a vertical progression and with no constrictions.
- Have the ducts conveying the hot fumes at a suitable distance or separately from combustible materials.
- Be connected to just one unit per floor, for not more than 6 units (8 if there is a compensation duct or opening).
- Have no mechanical suction devices in the main ducts.
- Be at low pressure, all along their length, in conditions of stationary operation.
- Have at their base a collection chamber for solid materials or condensate, of at least 0.5 m, equipped with an airtight metal door.

3.7 Condensate drain connection

Installation

The boiler has an internal trap for draining condensate. Fit the inspection coupling **A** and the hose **B**. Fill the trap with approx. 0.5 L of water and connect the hose to the disposal system.

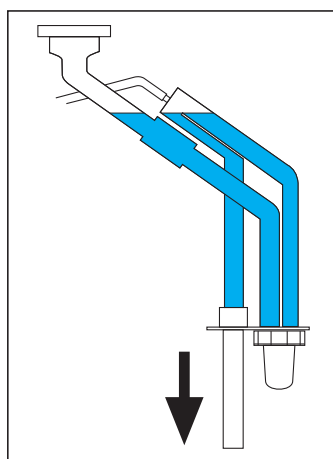
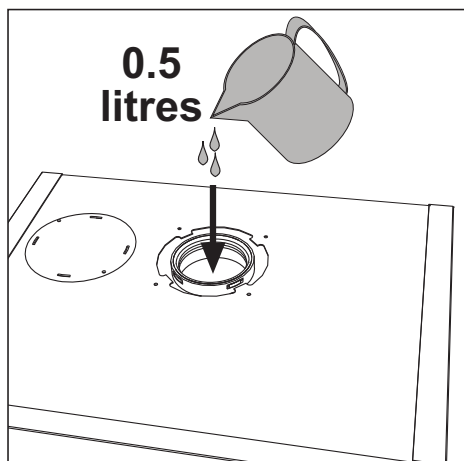
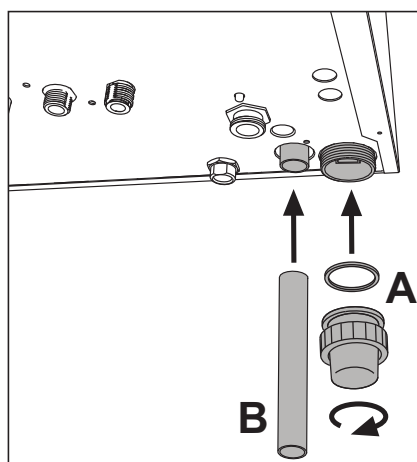


fig. 17

Condensate drain

The condensate should be run inside as far as is practicably possible. For that purpose, use a pipe of at least 22 mm diameter and a trap with flexible connection supplied with the unit to facilitate connection of the condensate drain pipe.

The pipe must be in solvent weld plastic and not in copper, since the condensate has a pH of 4 (slightly acid).

If the condensate drain pipe cannot be ended on the inside, it is advisable to run it outside as shown in the following figure.

The pipe sections going to the outside are exposed to the risk of freezing in particularly extreme weather conditions. To prevent this from occurring, it is advisable to reduce the length of the condensate drain pipes and run them on the inside, as much as possible, before going to the outside. It may also be necessary to insulate the condensate pipe or apply a trace heating device to prevent freezing of the condensate.

The pipes outside the building must be in solvent weld plastic with increased diameter of up to 32 or 40 mm with a maximum run of 3m for connection to a condensate collection soakaway or external drain.

If using a condensate collection soakaway, it must be as indicated in the figure below, or use a specific system (such as Mc Alpine SOAK1GR) available from the majority of plumbing and heating suppliers.

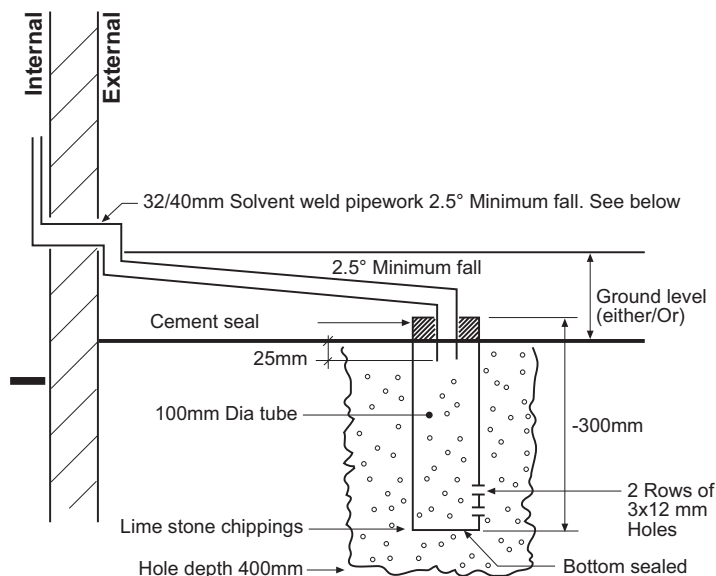


fig. 18 - Condensate drain

4. SERVICE AND MAINTENANCE

4.1 Adjustments

Gas conversion

The unit can work on natural gas or LPG and is factory-set for use with one of these two gases, as clearly shown on the packing and data plate. Whenever a different gas to that for which the unit is arranged has to be used, the special conversion kit will be required, proceeding as follows:

1. Disconnect the power supply ahead of the boiler and close the gas cock;
2. Replace the nozzles at the main burner and pilot burner, fitting the nozzles indicated in the technical data table in cap. 5, depending on the type of gas used
3. Connect the power supply ahead of the boiler and open the gas cock;
4. Modify the parameter for the type of gas:
 - put the boiler in standby mode
 - press the DHW buttons details 1 and 2 - fig. 1 for 10 seconds: the display shows "b01" flashing.
 - press the DHW buttons details 1 and 2 - fig. 1) to set parameter 00 (for operation with natural gas) or 01 (for operation with LPG).
 - press the DHW buttons details 1 and 2 - fig. 1 for 10 seconds.
 - the boiler will return to standby mode
5. Adjust the minimum and maximum pressures at the burner (ref. relevant paragraph), setting the values given in the technical data table for the type of gas used
6. Apply the sticker, contained in the conversion kit, near the data plate as proof of the conversion.

4.2 Startup

Before lighting the boiler

- Check the seal of the gas system.
- Check correct prefilling of the expansion tank.
- Fill the water system and make sure all air contained in the boiler and the system has been vented.
- Make sure there are no water leaks in the system, DHW circuits, connections or boiler.
- Check correct connection of the electrical system and efficiency of the earthing system.
- Make sure the gas pressure for heating is that required.
- Make sure there are no flammable liquids or materials in the immediate vicinity of the boiler

Checks during operation

- Switch the unit on.
- Check the tightness of the fuel circuit and water systems.
- Check the efficiency of the flue and air/fume ducts while the boiler is working.
- Make sure the water is circulating properly between the boiler and the systems.
- Make sure the gas valve modulates correctly in the heating and domestic hot water production stages.
- Check correct boiler lighting by performing various tests, turning it on and off with the room thermostat or remote control.
- Make sure the fuel consumption indicated on the meter matches that given in the technical data table in cap. 5.
- Make sure that with no demand for heating, the burner lights correctly on opening a hot water tap. Check that in heating mode, on opening a hot water tap, the heating circulating pump stops and there is regular production of hot water.
- Make sure the parameters are programmed correctly and carry out any required customisation (compensation curve, power, temperatures, etc.).

4.3 Commissioning instructions

General

PLEASE NOTE: The combustion for this appliance has been checked, adjusted and pre-set at the factory for operation on the gas type defined on the appliance data plate.

Having checked:

- That the boiler has been installed in accordance with these instructions,
- The integrity of the flue system and the flue seals.
- The integrity of the boiler combustion circuit and the relevant seals.

TEST mode activation

Press the heating buttons (detail 3 - fig. 1) together for 5 seconds to activate the **TEST mode**. The boiler lights at the maximum heating power set as described in the following section.

The heating and DHW symbols (fig. 19) flash on the display; the heating power will appear alongside.

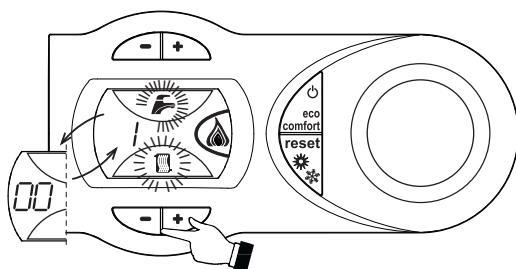


fig. 19 - TEST mode (heating power = 100%)

Press the heating buttons (details 3 and 4 - fig. 1) to increase or decrease the power (Min.=0%, Max.=100%).

If the TEST mode is activated and enough hot water is drawn to activate the DHW mode, the boiler remains in TEST mode but the 3-way valve goes to DHW.

To deactivate the TEST mode, press the heating buttons (details 3 and 4 - fig. 1) together for 5 seconds.

The TEST mode is automatically deactivated in any case after 15 minutes or on stopping of hot water drawing (if enough hot water has been drawn to activate the DHW mode).

Adjustment of pressure at the burner

Since this unit has flame modulation, there are two fixed pressure values: the minimum and maximum, which must be those given in the technical data table according to the type of gas.

- Connect a suitable pressure gauge to pressure point "B" located downstream of the gas valve
- Remove the protection cap "D" undoing screw "A".
- Operate the boiler in **TEST mode**.
- Adjust the power to the max. value.
- Adjust the max. pressure with screw "G", clockwise to increase the pressure and anticlockwise to decrease it
- Disconnect one of the two Faston connectors from the modureg "C" on the gas valve.
- Adjust the min. pressure with screw "E", clockwise to decrease the pressure and anticlockwise to increase it.
- Reconnect the Faston connector detached from the modureg on the gas valve.
- Check that the maximum pressure has not changed.
- Refit protection cap "D".
- To end the **TEST mode** repeat the activation sequence or wait 15 minutes.

After checking or adjusting the pressure, make sure to seal the adjustment screw with paint or a specific seal.

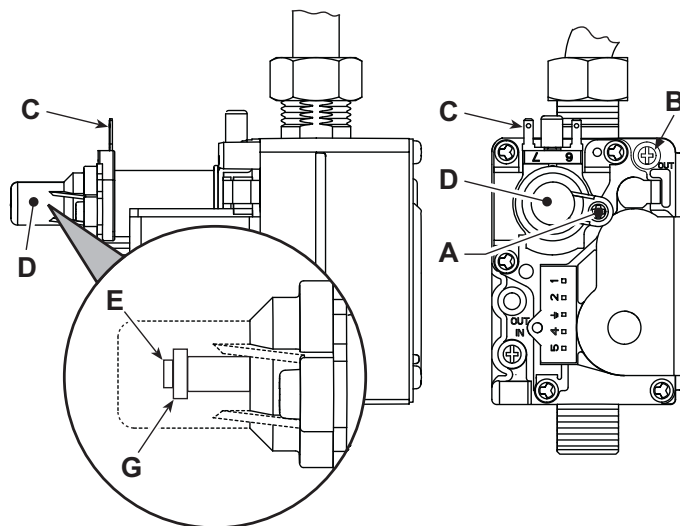


fig. 20 - Gas valve

- A - Protection cap screw
- B - Pressure point downstream
- C - Modureg cable
- D - Protection cap
- E - Min. pressure adjustment
- G - Max. pressure adjustment

Heating power adjustment

To adjust the heating power, switch the boiler to TEST mode (see sec. 4.1). Press the heating buttons detail 3 - fig. 1 to increase or decrease the power (min. = 00 - max. = 100). Press the **reset** button within 5 seconds and the max. power will remain that just set. Exit TEST mode (see sec. 4.1).

Lighting power adjustment

To adjust the lighting power, switch the boiler to TEST mode (see sec. 4.1). Press the DHW buttons (detail 1 - fig. 1) to increase or decrease the power (min. = 00 - max. = 60). Press the **reset** button within 5 seconds and the lighting power will remain that just set. Exit TEST mode (see sec. 4.1).

Measure the gas rate

Measure the gas rate and check against following table:

GAS RATES (NATURAL GAS) AFTER 10 MINUTES FROM COLD				
BOILER MODEL	Maximum rate		Minimum rate	
	m ³ /h	ft ³ /h	m ³ /h	ft ³ /h
i25	2.646	93.58	1.06	37.49
i29	2.963	104.80	1.06	37.49

4.4 Routine servicing, maintenance & repair

General

PLEASE NOTE: During routine servicing, and after any maintenance or change of part of the combustion circuit, we recommend that the following is checked:

- The integrity of the flue system and the flue seals;
- The integrity of the boiler combustion circuit and the relevant seals;
- The operational (working) gas inlet pressure at maximum rate, as described in section 4.4;
- The gas rate, as described in section 4.4;
- The combustion performance, as described in section 3.4 Combustion check.

Competence to carry out the check of combustion performance

PLEASE NOTE: BS 6798: 2009 Specification for installation and maintenance of gas-fired boilers of rated input not exceeding 70 kW net advises that:

- The person carrying out a combustion measurement should have been assessed as competent in the use of a flue gas analyser and the interpretation of the results;
- The flue gas analyser used should be one meeting the requirements of BS7927 or BS-EN50379-3 and be calibrated in accordance with the analyser manufacturers' requirements, and
- Competence can be demonstrated by satisfactory completion of the CPA1 ACS assessment, which covers the use of electronic portable combustion gas analysers in accordance with BS 7967, Parts 1 to 4.

Periodical check

To keep the unit working properly over time, it is necessary to have qualified personnel make an annual check that includes the following tests:

- The control and safety devices (gas valve, flow meter, thermostats, etc.) must function correctly.
- The flue pipe must be fully efficient.
- The airtight chamber must be sealed
- The air-flue terminal and ducts must be free of obstructions and leaks
- The condensate evacuation system must be efficient with no leakage or obstructions.
- The burner and exchanger must be clean and free of scale. When cleaning, do not use chemical products or wire brushes.
- The electrode must be free of scale and properly positioned.
- The gas and water systems must be leak free.
- The water pressure in the heating system must be about 1 bar; otherwise, bring it to that value.
- The circulation pump must not be blocked.
- The expansion tank must be filled.
- The gas flow and pressure must correspond to that given in the respective tables.
- The electrode must be properly positioned and free of deposits.

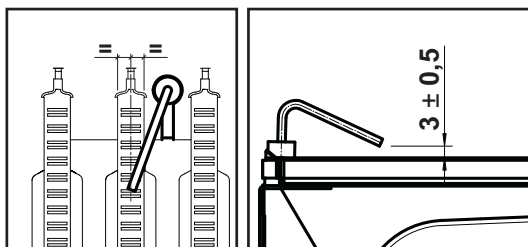


fig. 21 - Electrode positioning



The boiler casing, panel and aesthetic parts can be cleaned with a soft damp cloth, possibly soaked in soapy water. Do not use any abrasive detergents and solvents.

Combustion check

Connect the flue gas analyzer to the flue gas sampling point as shown in the fig. 22 and check combustion as described in table 7 and table 8.

- Press the CH button for 5 seconds to place boiler into test mode
- Wait for 10 minutes for the boiler to stabilize fully
- Take the measurement and record
- Take the boiler to minimum output by pressing the CH – button, allow the boiler to stabilize for a further 10 minutes.
- Take the measurement and record.

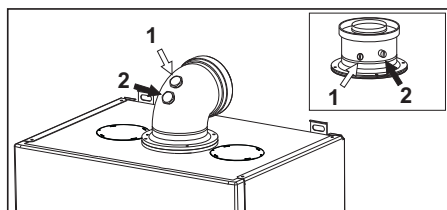


fig. 22 - Flue gas sampling point

1 = Air - 2 = Flue gas

Tabella. 7 - Maximum rate

ACCEPTABLE COMBUSTION RANGE MAXIMUM RATE AFTER 10 MINUTES FROM COLD			
Boiler Model	CO/CO ₂ RATIO	CO ₂ NG	CO ₂ LPG
i25	≤ 0.004	7,2 ÷ 7,9	8,2 ÷ 8,9
i29	≤ 0.004		

Tabella. 8 - Minimum rate

ACCEPTABLE COMBUSTION RANGE MINIMUM RATE AFTER 10 MINUTES FROM COLD			
Boiler Model	CO/CO ₂ RATIO	CO ₂ NG	CO ₂ LPG
i25	≤ 0.004	2,0 ÷ 2,5	2,5 ÷ 3,5
i29	≤ 0.004		

If the combustion reading is greater than the acceptable value AND the integrity of the complete flue system and combustion circuit seals have been verified and the inlet gas pressure (and gas rate) have been verified, proceed as in section **Setting the Air/Gas Ratio valve**.

4.5 Troubleshooting

Diagnostics

The boiler is equipped with an advanced self-diagnosis system. In case of a boiler fault, the display will flash together with the fault symbol (detail 11 - fig. 1) indicating the fault code.

There are faults that cause permanent shutdown (marked with the letter "A"): to restore operation, press the RESET button (detail 6 - fig. 1) for 1 second or RESET on the optional remote timer control if installed; if the boiler fails to start, it is necessary to eliminate the fault.

Faults marked with the letter "F" cause temporary shutdowns that are automatically reset as soon as the value returns within the boiler's normal working range.

Table of faults

Table. 9 - List of faults

Fault code	Faults	Possible cause	Cure
A01	No burner ignition	No gas	Check the regular gas flow to the boiler and that the air has been eliminated from the pipes
		Ignition/detection electrode fault	Check the wiring of the electrode and that it is correctly positioned and free of any deposits
		Faulty gas valve	Check the gas valve and replace it if necessary
		Ignition power too low	Adjust the ignition power
		Excessive condensate level	Empty / clean the trap
A02	Flame present signal with burner off	Electrode fault	Check the ionisation electrode wiring
		Card fault	Check the card
A03	Overtemperature protection intervention	Heating sensor damaged	Check the correct positioning and operation of the heating sensor
		No water circulation in the system	Check the circulating pump
		Air in the system	Vent the system
		Safety thermostat intervention	Check safety thermostat operation
F04	Card parameter fault	Wrong card parameter setting	Check the card parameter and modify it if necessary
F05	Air pressure switch (fails to close contacts within 20 sec. of fan activation)	Air pressure switch contact open	Check the pressure switch / Fan / Fan socket
		Faulty air pressure switch wiring	Check the wiring
		Wrong baffle	Make sure the baffle is correct
		Flue obstructed or not correctly sized	Check the length of the flues / Clean the flues
		Air pressure switch (fails to close contacts within 20 sec. of fan activation) due to activation of the fume thermostat	Clean the exchangers
A06	No flame after the ignition phase	Exchangers dirty (clogged on water side)	Clean the exchangers
		Faulty water circulation	
		Low pressure in the gas system	Check the gas pressure
F07	Air pressure switch (contacts closed on activation of fan)	Burner minimum pressure setting	Check the gas pressures
		Air pressure switch contact open	Check the pressure switch / Fan / Fan socket
		Faulty air pressure switch wiring	Check the wiring
		Wrong baffle	Make sure the baffle is correct
A09	Gas valve fault	Flue obstructed or not correctly sized	Check the length of the flues / Clean the flues
		Wiring disconnected	Check the wiring
F10	Delivery sensor fault	Faulty gas valve	Check the gas valve and replace it if necessary
		Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
F11	DHW sensor fault	Wiring disconnected	Check the wiring or replace the sensor
		Sensor damaged	
		Wiring shorted	
A15	Air pressure switch (fails to close contacts within 20 sec. of fan activation)	Wiring disconnected	Check the wiring
A16	Gas valve fault	Fault F05 generated 5 times in the last 24 hours	See fault F05
		Faulty gas valve	Check the gas valve and replace it if necessary
A23	Card parameter fault	Wrong card parameter setting	Check the card parameter and modify it if necessary
A24	Card parameter fault	Wrong card parameter setting	Check the card parameter and modify it if necessary
F34	Supply voltage under 140VAC	Electric mains trouble	Check the electrical system
F35	Faulty mains frequency	Electric mains trouble	Check the electrical system
F37	Incorrect system water pressure	Pressure too low	Fill the system
F43	Exchanger protection intervention	Water pressure switch damaged or not connected	Check the sensor
		No system H ₂ O circulation	Check the circulating pump
F50	Controller DBM32B fault	Air in the system	Vent the system
F51	Controller DBM32B fault	Controller DBM32B internal error	Check the earth connection and replace the controller if necessary.
		Controller DBM32B internal error	Check the earth connection and replace the controller if necessary.

5. TECHNICAL DATA AND CHARACTERISTICS

Table. 10 - key of fig. 25, fig. 27, fig. 28 and fig. 29

5 Sealed chamber	38 Flow switch
7 Gas inlet - Ø 1/2"	39 Water flow limiter
8 Domestic hot water outlet - Ø 1/2"	42 DHW temperature sensor
9 Cold water inlet - Ø 1/2"	43 Air pressure switch
10 System delivery - Ø 3/4"	44 Gas valve
11 System return - Ø 3/4"	49 Safety thermostat
14 Safety valve	56 Expansion tank
16 Fan	81 Ignition and detection electrode
19 Combustion chamber	95 Diverter valve
22 Burner	114 Water pressure switch
27 Copper exchanger for heating and hot water	126 Flue gas safety thermostat
28 Fume manifold	194 DHW exchanger
32 Heating circulating pump	241 Automatic bypass
34 Heating temperature sensor	277 Fume recuperator
36 Automatic air vent	364 Condensate union
37 Cold water inlet filter	

5.1 Dimensions and connections

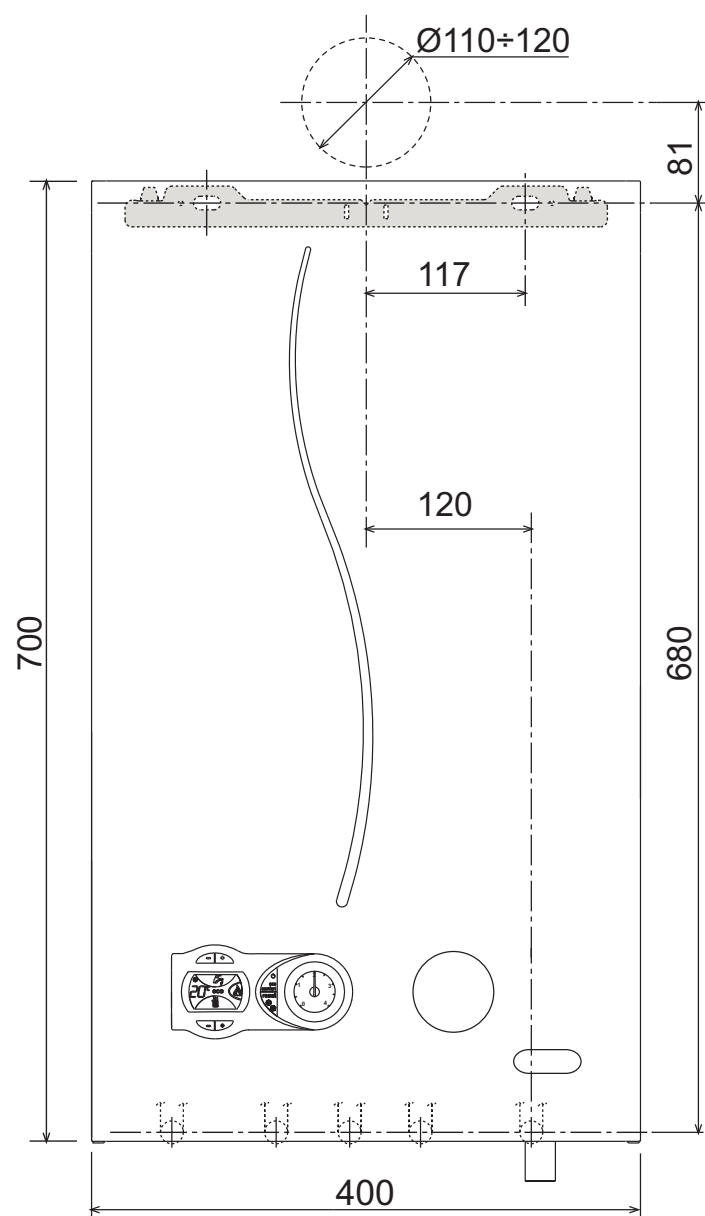


fig. 23 - Front view

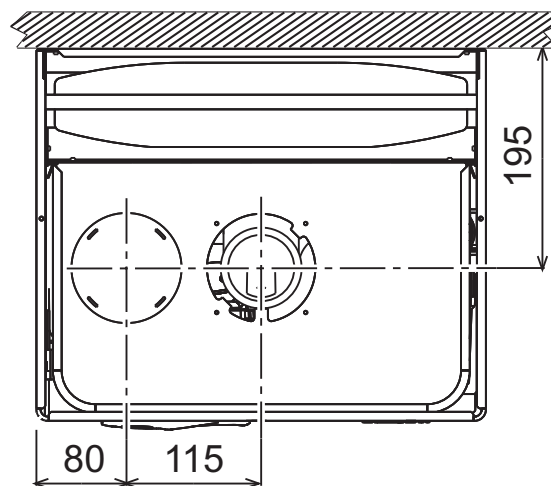


fig. 24 - Top view

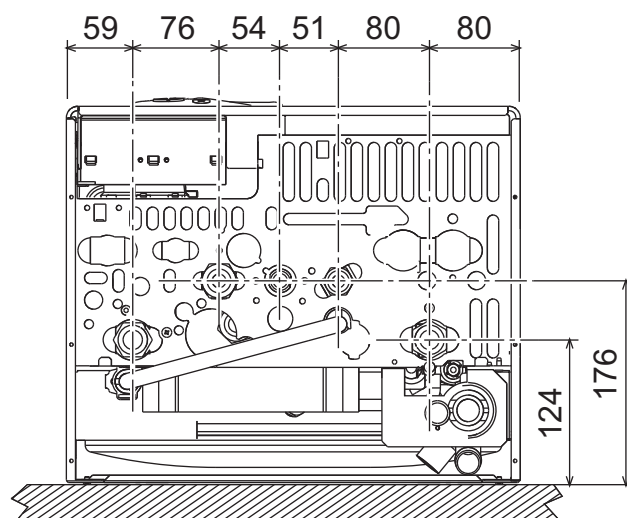


fig. 25 - Bottom view

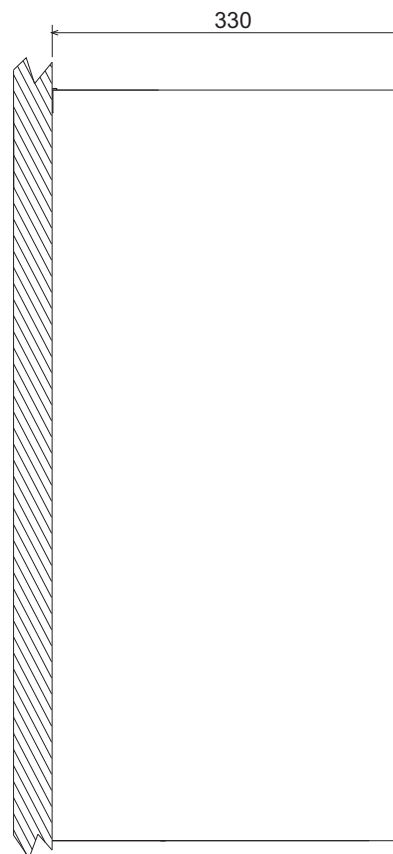


fig. 26 - Side view

5.2 General view and main components

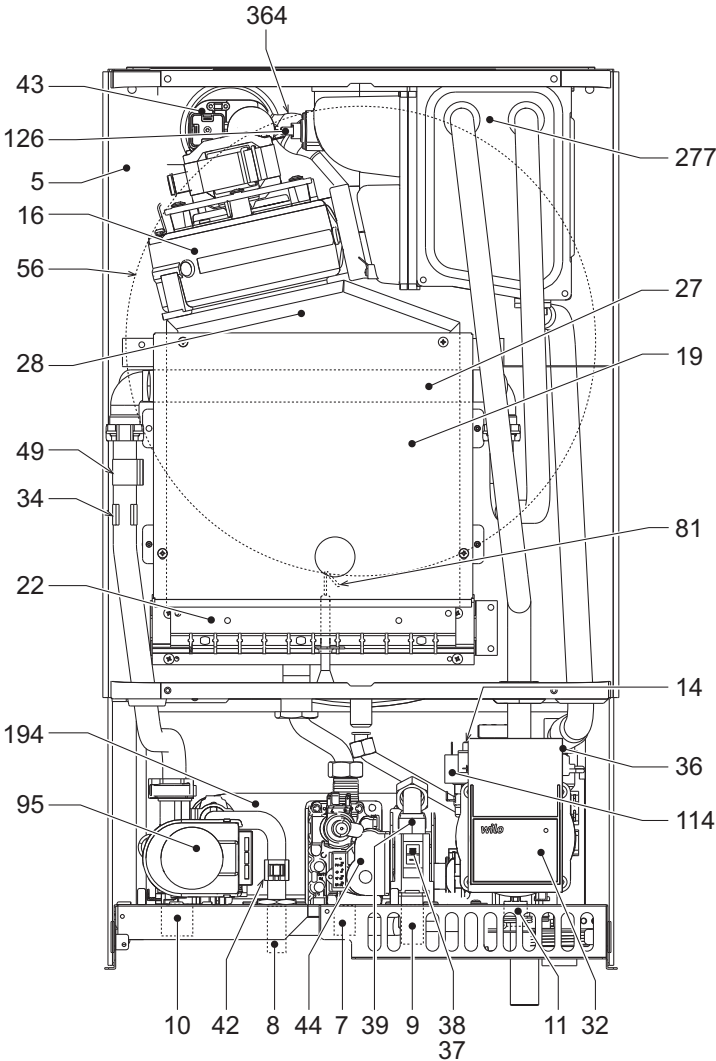


fig. 27 - General view

5.3 Hydraulic circuit

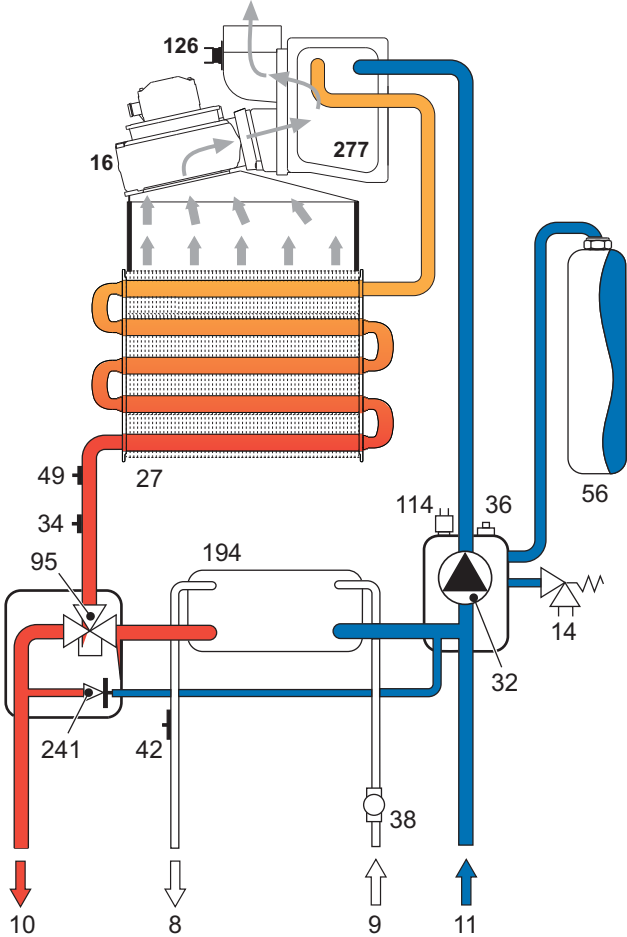


fig. 28 - Heating circuit

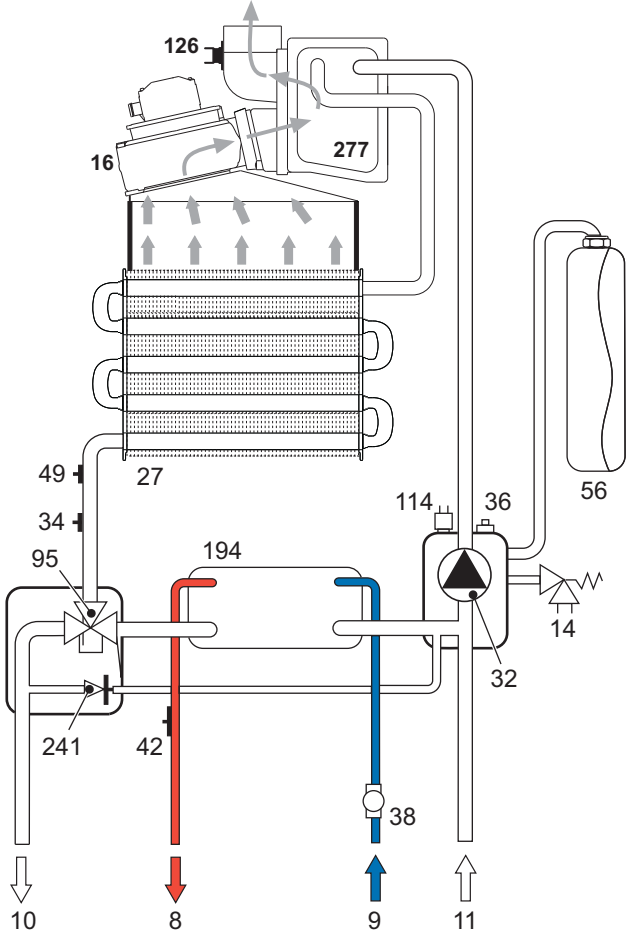


fig. 29 - DHW circuit

5.4 Technical data table

Date	Unit	i25	i29
Nominal CH heat input	kW	Hs=27.7 - Hi=25.0	Hs=31.1 - Hi=28.0
Minimum CH heat input	kW	Hs=11.1 - Hi=10.0	Hs=11.1 - Hi=10.0
Nominal CH input (80/60°C)	kW	24.1	27
Minimum CH input (80/60°C)	kW	9.2	9.2
Nominal condensing output (50/30°C)	kW	25.9	29
Minimum condensing output (50/30°C)	kW	9.6	9.6
Nominal DHW heat input	kW	Hs=27.8 - Hi=25.0	Hs=31.1 - Hi=28.0
Minimum DHW heat input	kW	Hs=11.1 - Hi=10.0	Hs=11.1 - Hi=10.0
Nominal DHW input	kW	24.3	24.3
Minimum DHW input	kW	9.2	9.2
Nominal useful efficiency (80-60°C)	%	Hs=86.9 - Hi=96.5	Hs=86.9 - Hi=96.5
Minimum useful efficiency (80-60°C)	%	Hs=82.8 - Hi=92.0	Hs=82.8 - Hi=92.0
Nominal useful efficiency (50-30°C)	%	Hs=93.2 - Hi=103.5	Hs=93.2 - Hi=103.5
Minimum useful efficiency (50-30°C)	%	Hs=86.4 - Hi=96.0	Hs=86.4 - Hi=96.0
Efficiency 30%	%	Hs=91.5 - Hi=101.6	Hs=91.5 - Hi=101.6
Burner nozzles G20	no. x Ø	11 x 1.35	11 x 1.35
Gas inlet pressure G20	mbar	20	20
Max. pressure at burner G20	mbar	11	13.5
Min. pressure at burner G20	mbar	2	2
Nominal gas rate G20	m³/h	2.64	2.96
Minimum gas rate G20	m³/h	1.06	1.06
Burner nozzles G31	no. x Ø	11 x 0.82	11 x 0.82
Gas inlet pressure G31	mbar	37	37
Max. pressure at burner G31	mbar	29	35
Min. pressure at burner G31	mbar	5	5
Nominal gas rate G31	kg/h	1.96	2.19
Minimum gas rate G31	kg/h	0.78	0.78
Efficiency class Directive 92/42 EEC	-	★★★★	
NOx emissions class	-	3	3
Max. working pressure in heating	bar	3	3
Min. working pressure in heating	bar	0.8	0.8
Max. heating temperature	°C	90	90
CH water content	litres	1.5	1.5
CH expansion vessel capacity	litres	8	8
CH expansion vessel charge pressure	bar	1	1
Max. working pressure in DHW	bar	9	9
Min. working pressure in DHW	bar	0.25	0.25
Water flow rate Dt 25°C	l/min	14	15.7
Water flow rate Dt 30°C	l/min	11.6	13.0
Protection rating	IP	X5D	X5D
Supply voltage	V/Hz	230V/50Hz	230V/50Hz
Electrical power input	W	99	123
Empty weight	kg	35	35
Type of unit		C ₁₂ -C ₂₂ -C ₃₂ -C ₄₂ -C ₅₂ -C ₆₂ -C ₇₂ -C ₈₂ B ₂₂ -B ₃₂	
PIN CE		0461CP1030	

ErP product fiche

MODEL: I25

Trademark: FERROLI			
Condensing boiler: NO			
Low-temperature boiler (**): NO			
B1 Boiler: NO			
Combination heater: YES			
Cogeneration space heater: NO			
Item	Symbol	Unit	Value
Seasonal space heating energy efficiency class			B
Rated heat output	Pn	kW	24
Seasonal space heating energy efficiency	η_s	%	87
Useful heat out put			
Useful heat output at rated heat output and high-temperature regime (*)	P4	kW	24,1
Useful heat output at 30% of rated heat output and low-temperature regime (**)	P1	kW	5,3
Useful efficiency			
Useful efficiency at rated heat output and high-temperature regime (*)	η_4	%	86,9
Useful efficiency at 30% of rated heat output and low-temperature regime (**)	η_1	%	91,5
Auxiliary electricity consumption			
At full load	elmax	kW	0,058
At part load	elmin	kW	0,030
In standby mode	PSB	kW	0,003
Other items			
Standby heat loss	Pstby	kW	0,060
Ignition burner power consumption	Pign	kW	0,000
Annual energy consumption	QHE	GJ	55
Sound power level	LWA	dB	57
Emissions of nitrogen oxides	NOx	mg/kWh	130
For combination heaters			
Declared load profile			XL
Water heating energy efficiency class			A
Daily electricity consumption	Qelec	kWh	0,099
Annual electricity consumption	AEC	kWh	22
Water heating energy efficiency	η_{wh}	%	82
Daily fuel consumption	Qfuel	kWh	24,156
Annual fuel consumption	AFC	GJ	19

(*) High-temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.

(**) Low temperature means for condensing boilers 30°C, for low-temperature boilers 37°C and for other heaters 50°C return temperature (at heater inlet).

ErP product fiche

MODEL: I29

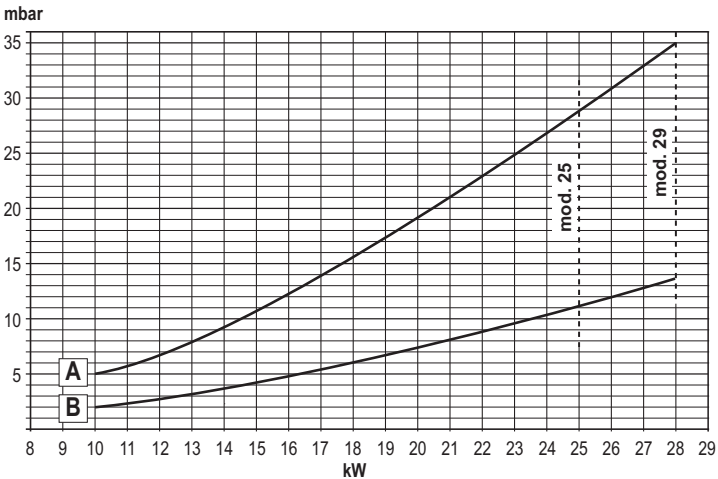
Trademark: FERROLI			
Condensing boiler: NO			
Low-temperature boiler (**): NO			
B1 Boiler: NO			
Combination heater: YES			
Cogeneration space heater: NO			
Item	Symbol	Unit	Value
Seasonal space heating energy efficiency class			B
Rated heat output	P _n	kW	27
Seasonal space heating energy efficiency	η_{ls}	%	86
Useful heat out put			
Useful heat output at rated heat output and high-temperature regime (*)	P ₄	kW	27,0
Useful heat output at 30% of rated heat output and low-temperature regime (**)	P ₁	kW	5,8
Useful efficiency			
Useful efficiency at rated heat output and high-temperature regime (*)	η_{4}	%	86,9
Useful efficiency at 30% of rated heat output and low-temperature regime (**)	η_{1}	%	91,5
Auxiliary electricity consumption			
At full load	el _{max}	kW	0,082
At part load	el _{min}	kW	0,035
In standby mode	PSB	kW	0,003
Other items			
Standby heat loss	P _{stby}	kW	0,060
Ignition burner power consumption	P _{ign}	kW	0,000
Annual energy consumption	Q _{HE}	GJ	60
Sound power level	L _{WA}	dB	58
Emissions of nitrogen oxides	NO _x	mg/kWh	130
For combination heaters			
Declared load profile			XL
Water heating energy efficiency class			A
Daily electricity consumption	Q _{elec}	kWh	0,125
Annual electricity consumption	AEC	kWh	28
Water heating energy efficiency	η_{wh}	%	81
Daily fuel consumption	Q _{fuel}	kWh	24,637
Annual fuel consumption	AFC	GJ	20

(*) High-temperature regime means 60°C return temperature at heater inlet and 80°C feed temperature at heater outlet.

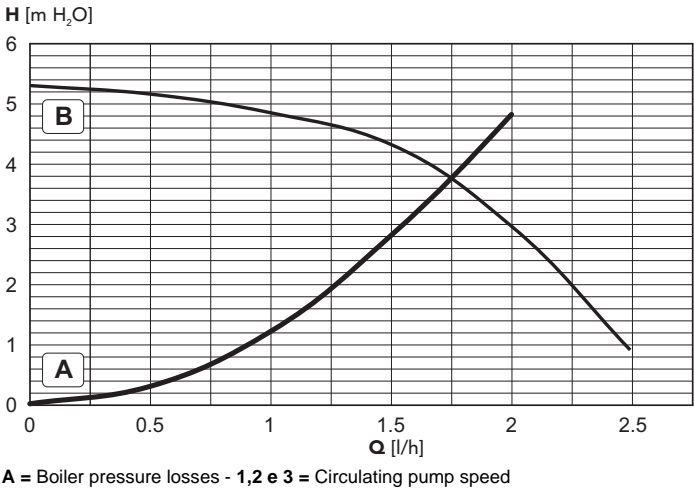
(**) Low temperature means for condensing boilers 30°C, for low-temperature boilers 37°C and for other heaters 50°C return temperature (at heater inlet).

5.5 Diagrams

Pressure - flow diagrams



Circulating pump head / pressure losses



5.6 Wiring diagram

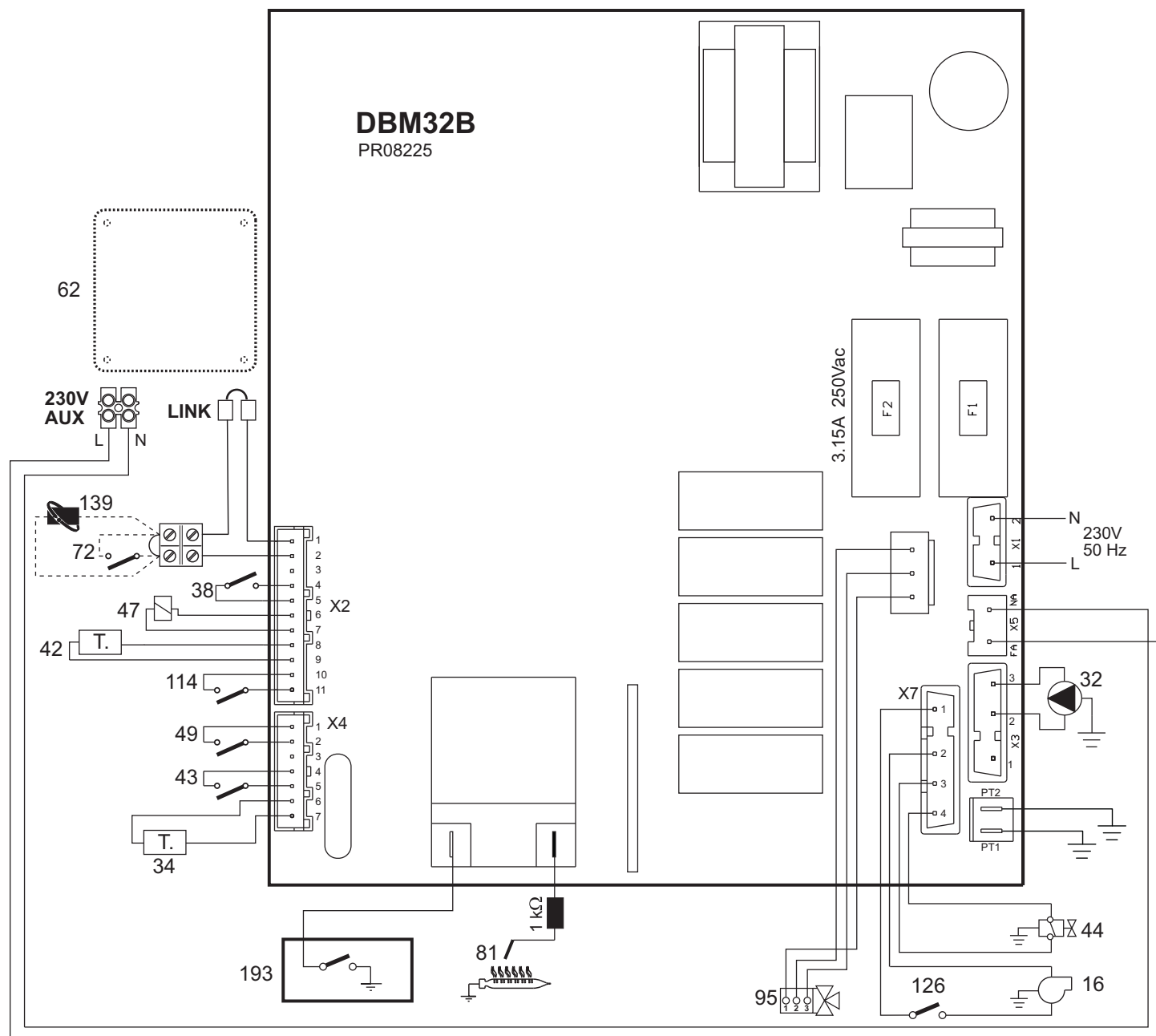


fig. 30 - Wiring diagram

Attention: Remove the jumper on the terminal block before connecting the **room thermostat** or **remote timer control**.

- 16 Fan
- 32 Heating circulating pump
- 34 C.H. flow temperature sensor
- 38 Flowswitch
- 42 DHW temperature sensor
- 43 Air pressure switch
- 44 Gas valve
- 47 Modureg
- 49 Overheat cut-off thermostat
- 62 Time clock (not fitted)
- 72 Room thermostat (not fitted)
- 81 Ignition and detection electrode
- 95 Diverting valve
- 114 Water pressure switch
- 126 Contact fume thermostat
- 139 Remote timer control (not fitted)
- 193 Trap

Benchmark Commissioning and Servicing Section

It is a requirement that the boiler is installed and commissioned in accordance with manufacturer's instructions and the data fields on the commissioning checklist are completed in full.

To validate the boiler guarantee the boiler needs to be registered with the manufacturer within one month of the installation.

To maintain the boiler guarantee it is essential that the boiler is serviced annually by a Gas Safe registered engineer who has been trained on the boiler installed. The service details should be recorded on the Benchmark Service Interval Record and left with the householder.



www.centralheating.co.uk

GAS BOILER SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the boiler as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission according to the manufacturer's instructions and complete this Benchmark Commissioning Checklist will invalidate the warranty. This does not affect the customer's statutory rights.

Customer name:										Telephone number:																			
Address:																													
Boiler make and model:																													
Boiler serial number:																													
Commissioned by (PRINT NAME):										Gas Safe register number:																			
Company name:										Telephone number:																			
Company address:																													
										Commissioning date:																			
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*																													
Building Regulations Notification Number (if applicable):																													
CONTROLS (tick the appropriate boxes)																													
Time and temperature control to heating										Room thermostat and programmer/timer					Programmable room thermostat														
										Load/weather compensation					Optimum start control														
Time and temperature control to hot water										Cylinder thermostat and programmer/timer					Combination Boiler														
Heating zone valves										Fitted					Not required														
Hot water zone valves										Fitted					Not required														
Thermostatic radiator valves										Fitted					Not required														
Automatic bypass to system										Fitted					Not required														
Boiler interlock										Provided																			
ALL SYSTEMS																													
The system has been flushed and cleaned in accordance with BS7593 and boiler manufacturer's instructions																		Yes											
What system cleaner was used?																													
What inhibitor was used?																		Quantity		litres									
Has a primary water system filter been installed?																		Yes		No									
CENTRAL HEATING MODE measure and record:																													
Gas rate										m ³ /hr					OR					ft ³ /hr									
Burner operating pressure (if applicable)										mbar					OR Gas inlet pressure					mbar									
Central heating flow temperature																				°C									
Central heating return temperature																				°C									
COMBINATION BOILERS ONLY																													
Is the installation in a hard water area (above 200ppm)?																		Yes		No									
If yes, has a water scale reducer been fitted?																		Yes		No									
What type of scale reducer has been fitted?																													
DOMESTIC HOT WATER MODE Measure and Record:																													
Gas rate										m ³ /hr					OR					ft ³ /hr									
Burner operating pressure (at maximum rate)										mbar					OR Gas inlet pressure at maximum rate					mbar									
Cold water inlet temperature																				°C									
Hot water has been checked at all outlets																		Yes		Temperature		°C							
Water flow rate																				l/min									
CONDENSING BOILERS ONLY																													
The condensate drain has been installed in accordance with the manufacturer's instructions and/or BS5546/BS6798																		Yes											
ALL INSTALLATIONS																													
Record the following:										At max. rate:					CO					ppm									
										AND					CO/CO ₂					Ratio									
										At min. rate: (where possible)					CO					ppm									
										AND					CO/CO ₂					Ratio									
Mandatory Requirement										CO ₂ @Max Rate					%					CO ₂ @Min Rate					%				
The heating and hot water system complies with the appropriate Building Regulations																		Yes											
The boiler and associated products have been installed and commissioned in accordance with the manufacturer's instructions																		Yes											
The operation of the boiler and system controls have been demonstrated to and understood by the customer																		Yes											
The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer																		Yes											
Commissioning Engineer's Signature																													
Customer's Signature																													
(To confirm satisfactory demonstration and receipt of manufacturer's literature)																													

All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a *Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

SERVICE INTERVAL RECORD

It is necessary that your heating system is serviced annually to validate your warranty and that the appropriate Service Interval Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions. Always use the manufacturer's specified spares when replacing parts.

<h3 style="margin: 0;">SERVICE 01</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %	<h3 style="margin: 0;">SERVICE 02</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
<h3 style="margin: 0;">SERVICE 03</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %	<h3 style="margin: 0;">SERVICE 04</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
<h3 style="margin: 0;">SERVICE 05</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %	<h3 style="margin: 0;">SERVICE 06</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
<h3 style="margin: 0;">SERVICE 07</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %	<h3 style="margin: 0;">SERVICE 08</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
<h3 style="margin: 0;">SERVICE 09</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %	<h3 style="margin: 0;">SERVICE 10</h3> <div style="border: 1px solid black; padding: 2px;"> Engineer name: _____ Company name: _____ Telephone No: _____ Gas safe register No: _____ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Record:</td> <td style="width: 15%;">At max. rate:</td> <td style="width: 15%;">CO</td> <td style="width: 10%;">ppm</td> <td style="width: 10%; text-align: center;">AND</td> <td style="width: 10%;">CO₂ %</td> </tr> <tr> <td></td> <td>At min. rate:</td> <td>CO</td> <td>ppm</td> <td style="text-align: center;">AND</td> <td>CO₂ %</td> </tr> </table> CO/CO₂ Ratio min. rate max rate Comments: _____ Signature _____ </div>	Record:	At max. rate:	CO	ppm	AND	CO ₂ %		At min. rate:	CO	ppm	AND	CO ₂ %
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				
Record:	At max. rate:	CO	ppm	AND	CO ₂ %																				
	At min. rate:	CO	ppm	AND	CO ₂ %																				

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.



Notes

* All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

Before contacting Ferroli please have available the completed BENCHMARK document (located in the back of this manual), boiler serial number and model detail.

For Technical assistance during the installation, call our
Technical Helpline on 0843 479 0479.
You will be required to provide your Gas Safe Register Number.

Should you require a Service Engineer to visit, call our
Service Centre on 0843 479 0479.

Calls to these numbers are charged at National Rate from BT landlines.
Calls made from mobile networks may be considerable more.

Phone numbers:

Installer _____

Service Engineer _____

**BECAUSE OF OUR CONSTANT ENDEAVOUR FOR IMPROVEMENT DETAILS
MAY VARY SLIGHTLY FROM THOSE QUOTED IN THESE INSTRUCTIONS.**



ALL SPECIFICATIONS SUBJECT TO CHANGE

Please note - to avoid incurring unnecessary expense, in the event of a boiler shut down, check this is not caused by lack of electricity supply, gas supply or low water pressure before calling our Customer Service Helpline.