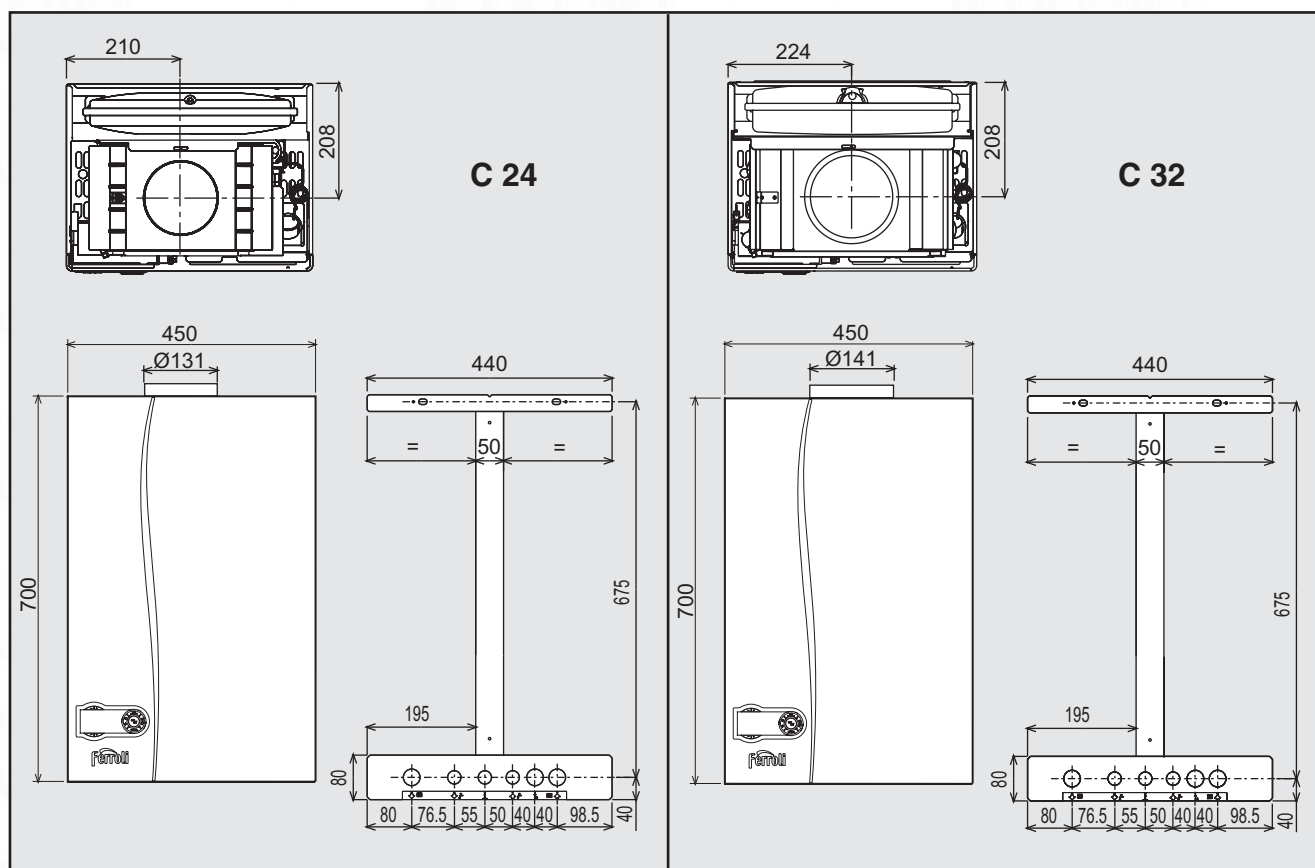


DIVAtop MICRO C

ISO 9001 : 2000
CERTIFIED COMPANY



ISTRUZIONE PER L'USO L'INSTALLAZIONE E LA MANUTENZIONE
INSTRUCCIONES DE USO, INSTALACIÓN Y MANTENIMIENTO
KULLANMA, KURULUM VE BAKIM TALIMATLARI
INSTRUCTIONS FOR USE, INSTALLATION AND MAINTENANCE
INSTRUCTIONS D'UTILISATION, D'INSTALLATION ET D'ENTRETIEN
INSTRUCȚIUNI DE UTILIZARE, INSTALARE ȘI ÎNTREȚINERE
РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ, МОНТАЖУ И ТЕХОБСЛУЖИВАНИЮ

1. GENERAL INSTRUCTIONS

- Carefully read 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, according to current regulations and 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 power supply using the system switch and/or the special cut-off devices.
- In case of a fault and/or poor operation, deactivate the unit and do not attempt to repair it or directly intervene. Contact professionally qualified personnel. Repair/replacement of the products must only be carried out by professionally qualified using original spare 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 considered improper and therefore dangerous.
- The packing materials are potentially hazardous and must not be left within the reach of children.
- 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

Thank you for choosing a wall-mounted boiler featuring **FERROLI** advanced design, cutting-edge technology, high reliability and quality construction. Please read this manual carefully since it provides important information on safe installation, use and maintenance.

DIVAtop MICRO C is a high-efficiency heat generator for heating and domestic hot water production, running on natural gas or LPG, equipped with an open-flue burner with electronic ignition and microprocessor control system, designed for installation indoors or outdoors in a partially protected place (in compliance with EN 297/A6) for temperatures to -5°C (-15°C with optional antifreeze kit)

DIVAtop MICRO C A special internal micro-accumulation device provides extremely fast hot water production: on opening the tap, hot water is immediately available at the boiler outlet.

2.2 Control panel

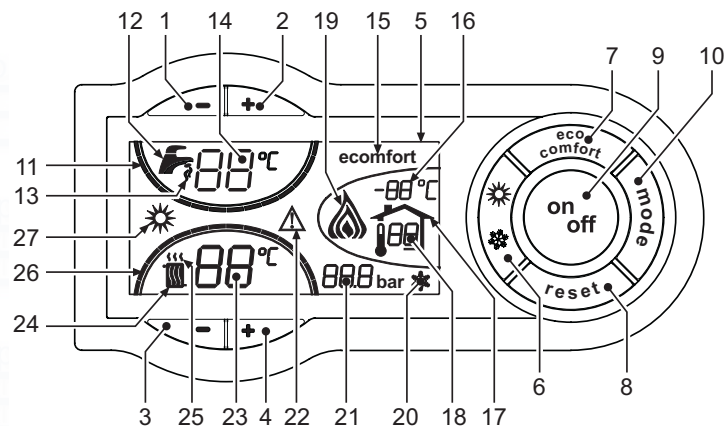


fig. 1 - Control panel

Key

- 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 button
- 7 = Economy / Comfort mode selection button
- 8 = Reset button
- 9 = Unit On / Off button
- 10 = "Sliding Temperature" menu button
- 11 = Set DHW temperature reached
- 12 = DHW symbol
- 13 = DHW mode
- 14 = DHW outlet temperature / setting
- 15 = Eco (Economy) or Comfort mode
- 16 = External sensor temperature (with optional external probe)
- 17 = Appears on connecting the external Probe or the Remote Timer Control (optional)
- 18 = Room temperature (with optional Remote Timer Control)
- 19 = Burner On and actual power
- 20 = Antifreeze operation
- 21 = Heating system pressure
- 22 = Fault
- 23 = Heating delivery temperature / setting
- 24 = Heating symbol
- 25 = Heating mode
- 26 = Set heating delivery temperature reached
- 27 = Summer mode

- 21 = Heating system pressure
- 22 = Fault
- 23 = Heating delivery temperature / setting
- 24 = Heating symbol
- 25 = Heating mode
- 26 = Set heating delivery temperature reached
- 27 = Summer mode

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 (details 24 and 25 - fig. 1).

The heating graduation marks (detail 26 - fig. 1) light up as the heating sensor temperature reaches the set value.

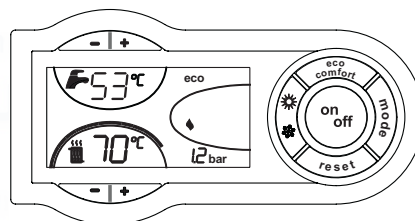


fig. 2

Domestic hot water (DHW)

A DHW demand (generated by drawing domestic hot water) is indicated by flashing of the hot water under the tap (details 12 and 13 - fig. 1).

The DHW graduation marks (detail 11 - fig. 1) light up as the DHW sensor temperature reaches the set value.

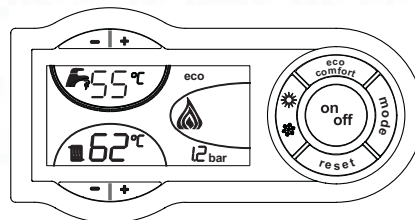


fig. 3

Comfort

A Comfort demand (reinstatement of temperature inside the boiler) is indicated by flashing of the Comfort symbol (details 15 and 13 - fig. 1)

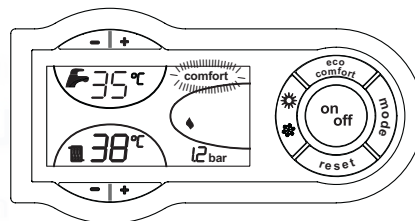


fig. 4

2.3 Lighting and turning off

Boiler not electrically powered

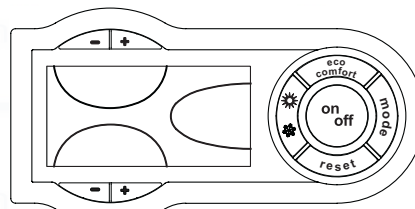


fig. 5 - Boiler not electrically powered



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 idle periods in winter, it is advisable to drain all water from the boiler, DHW circuit and system; or drain just the DHW circuit and add a suitable antifreeze to the heating system.

Boiler lighting

Switch on the power to the unit.

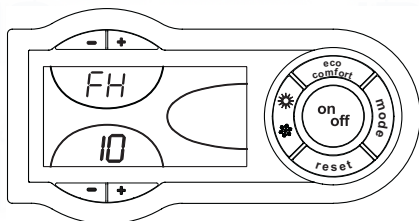


fig. 6 - Boiler lighting

- For the following 120 seconds the display will show FH which identifies the heating system air venting cycle.
- During the first 5 seconds the display will also show the card software version.
- Open the gas cock ahead of the boiler.
- When the message FH disappears, the boiler is ready to operate automatically whenever domestic hot water is drawn or in case of a room thermostat demand.

Turning the boiler off

Press the **on/off** button (detail 9 - fig. 1) for 1 second.

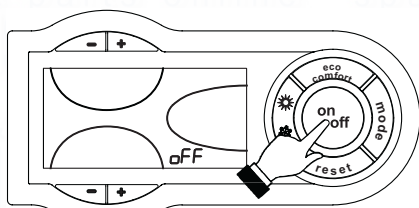


fig. 7 - Turning the boiler off

When the boiler is turned off, the PCB 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 9 fig. 1) again for 1 second.

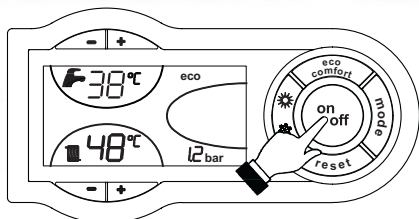


fig. 8

The boiler will be immediately ready to operate whenever domestic hot water is drawn or in case of a room thermostat demand.

2.4 Adjustments

Summer/Winter Switchover

Press the button  (detail 6 - fig. 1) for 1 second.

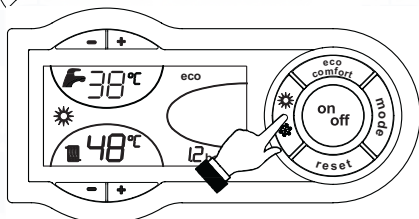


fig. 9

The display activates the Summer symbol (detail 27 - fig. 1): the boiler will only deliver domestic hot water. The antifreeze system remains activated.

To deactivate Summer mode, press the button  (detail 6 - fig. 1) again for 1 second.

Heating temperature setting

Use the heating buttons  (details 3 and 4 - fig. 1) to adjust the temperature from a min. of 30°C to a max. of 85°C; it is advisable not to operate the boiler below 45°C.

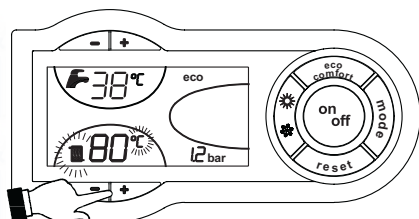


fig. 10

Hot water 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.

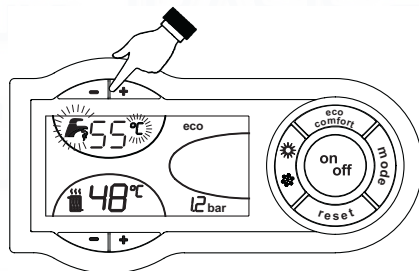


fig. 11

Room temperature adjustment (with optional room thermostat)

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

Room temperature adjustment (with optional remote timer control)

Using the remote timer control, set the temperature desired in the rooms. The boiler unit will set the system water according to the required room temperature. For information on the remote timer control, please refer to its user's manual.

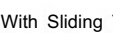
ECO/COMFORT selection

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, therefore ensuring immediate availability of hot water on opening the tap, without waiting times.

The device can be deactivated by the user (ECO mode) by pressing the **eco/comfort** button (detail 7 - fig. 1). To activate the COMFORT mode, press the **eco/comfort** button (detail 7 - fig. 1) again.

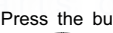
Sliding Temperature

When the optional external probe is installed the control panel display (detail 5 - fig. 1) shows the actual outside temperature read by the probe. The boiler control system operates with "Sliding Temperature". In this mode, the heating system temperature is adjusted according to the outside weather conditions in order to ensure high comfort and energy efficiency throughout the year. In particular, as the outside temperature increases, the system delivery temperature decreases according to a specific "compensation curve".

With Sliding Temperature adjustment, the temperature set with the heating buttons  (details 3 and 4 - fig. 1) becomes the maximum system delivery temperature. It is advisable to set a maximum value to allow system adjustment throughout its useful operating range.

The boiler must be regulated at the time of installation by qualified personnel. Possible adjustments can in any case be made by the user to improve comfort.

Compensation curve and curve offset

Press the button fig. 1 (detail 10 - fig. 12) once to display the compensation curve , which can be modified with the DHW buttons fig. 1 (details 1 and 2 -).

Adjust the required curve from 1 to 10 according to the characteristic (fig. 14).

By setting the curve to 0, sliding temperature adjustment is disabled.

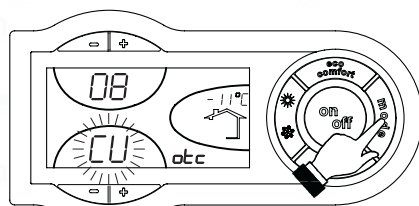
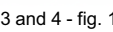


fig. 12 - Compensation curve

Press the heating buttons  (details 3 and 4 - fig. 1) to access parallel curve offset (fig. 15), modifiable with the DHW buttons  (details 1 and 2 - fig. 1).

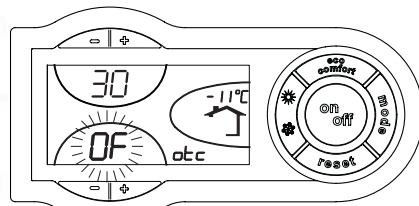


fig. 13 - Curve parallel offset

Press the button fig. 1 (detail 10 -) again to exit the parallel curve adjustment mode.

If the room temperature is lower than the required value, it is advisable to set a higher order curve and vice versa. Proceed by increasing or decreasing in steps of one and check the result in the room.

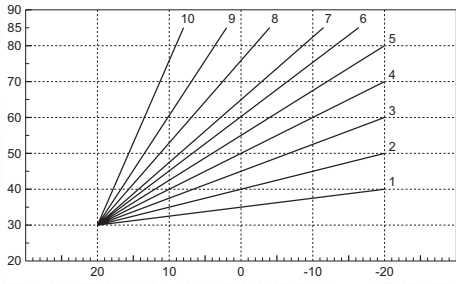


fig. 14 - Compensation curves

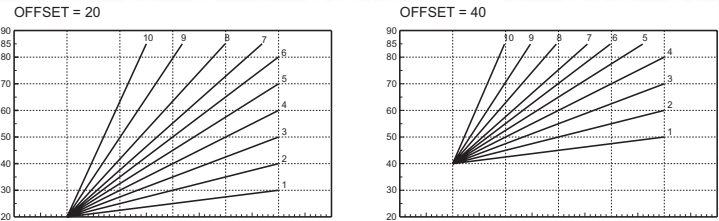


fig. 15 - Example of compensation parallel curve offset

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. Also, the control panel display (detail 5 - fig. 1) shows the actual room temperature read by the Remote Timer Control.

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	On disabling DHW from the Remote Timer Control menu, the boiler selects the Economy mode. In this condition, the button 7 - fig. 1 on the boiler panel is disabled. On enabling DHW from the Remote Timer Control menu, the boiler selects the Comfort mode. In this condition it is possible select one of the two modes with the button 7 - fig. 1 on the boiler panel.
Sliding Temperature	Both the Remote Timer Control and the boiler card manage Sliding Temperature adjustment: of the two, the Sliding Temperature of the boiler card has priority.

Water system pressure adjustment

The filling pressure with system cold, read on the boiler water gauge, must be approx. 1.0 bar. If the system pressure falls to values below minimum, the boiler card will activate fault F37 (fig. 16).

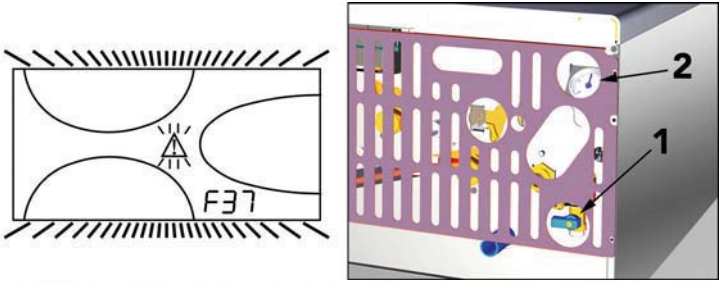


fig. 16 - Low system pressure fault

Operate the filling cock (detail 1 - fig. 16) and bring the system pressure to a value above 1.0 bar.

At the bottom of the boiler there is a pressure gauge (detail 2 - fig. 16) that gives the pressure even in case of no power supply.

Once the system pressure is restored, the boiler will activate the 120-second air venting cycle indicated on the display by FH.

At the end of the operation always close the filling cock (detail 1 - fig. 16)

3. INSTALLATION

3.1 General Instructions

BOILER INSTALLATION MUST ONLY BE PERFORMED BY QUALIFIED PERSONNEL, IN ACCORDANCE WITH ALL THE INSTRUCTIONS GIVEN IN THIS TECHNICAL MANUAL, THE PROVISIONS OF CURRENT LAW, THE PRESCRIPTIONS OF NATIONAL AND LOCAL STANDARDS AND THE RULES OF PROPER WORKMANSHIP.

3.2 Place of installation

This unit is an "open chamber" type and can only be installed and operated in permanently ventilated rooms. An insufficient flow of combustion air to the boiler will affect its normal operation and fume evacuation. Also, the fumes forming under these conditions are extremely harmful to health if dispersed in the domestic environment.

If provided with the optional antiwind grille, the unit is suitable for operation in a partially protected place in compliance with EN 297 pr A6, with min. temperature of -5°C. If equipped with the special antifreeze kit it can be used with minimum temperature as low as -15°C. The boiler must be installed under the slope of a roof, inside a balcony or in a sheltered recess.

Therefore 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 hooking bracket. Fix the bracket to the wall according to the measurements given in the cover drawing and hook the boiler on it. A metal template for marking the drilling points on the wall is available by request. The wall fixing must ensure a stable and effective support for the generator.

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.

3.3 Plumbing connections

Important

The heating capacity of the unit must be previously established by calculating the building's heat requirement according to the current regulations. The system must be provided with all the components for correct and regular operation. It is advisable to install on-off valves between the boiler and heating system allowing the boiler to be isolated from the system if necessary.

The safety valve outlet must be connected to a funnel or collection pipe to prevent water spurting onto the floor in case of overpressure in the heating circuit. Otherwise, if the discharge valve cuts in and floods the room, the boiler manufacturer cannot be held liable.

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

Before installation, carefully wash all the pipes of the system to remove any residuals or impurities that could affect proper operation of the unit.

Carry out the relevant connections according to the diagram in fig. 17 and the symbols given on the unit.

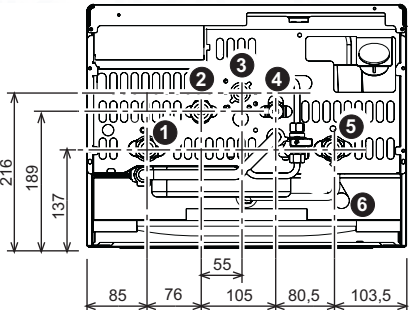


fig. 17 - Plumbing connections

- 1 = System delivery
- 2 = Domestic hot water outlet
- 3 = Gas inlet
- 4 = System return
- 5 = Cold water inlet
- 6 = Safety valve drain

System water characteristics

In the presence of water harder than 25° Fr (1°F = 10ppm CaCO₃), the use of suitably treated water is advisable in order to avoid possible scaling in the boiler. The treatment must not in any case reduce the hardness to values below 15°F (Decree 236/88 for uses of water intended for human consumption). Water treatment is indispensable in the case of very large systems or with frequent replenishing of water in the system. If partial or total emptying of the system becomes necessary in these cases, it is advisable to refill it with treated water.

Antifreeze system, antifreeze fluids, additives and inhibitors

The boiler is equipped with an antifreeze system that turns on the boiler in heating mode when the system delivery water temperature falls under 6°C. The device will not come on if the electricity and/or gas supply to the unit are cut off. If it becomes necessary, it is permissible to use antifreeze fluid, additives and inhibitors only if the manufacturer of these fluids or additives guarantees they are suitable for this use and cause no damage to the heat exchanger or other components and/or materials of the boiler unit and system. It is prohibited to use generic antifreeze fluid, additives or inhibitors that are not expressly suited for use in heating systems and compatible with the materials of the boiler unit and system.

Antifreeze kit for outdoor installation (optional)

In case of installation in a partially protected place, the boiler must be equipped with the special antifreeze kit for protecting the DHW circuit. The kit comprises a thermostat and 4 electric heaters. Connect the kit to the PCB and position the thermostat and heaters on the DHW circuit pipes as indicated in the instructions provided with the kit.

External antiwind grille (optional)

If the boiler is installed outside in a partially protected place, after carrying out the water and gas connections the special antiwind protection grille must be fitted according to the instructions given in the kit.

Connection to solar systems

The unit is arranged use in combination with solar systems (fig. 18). For this type of installation, comply with the following:

1. Contact the local Customer Service Centre for configuring the unit at first lighting.
2. Set a DHW temperature of approx. 50°C on the unit.
3. Make sure to use the special plumbing kits FERROLI.

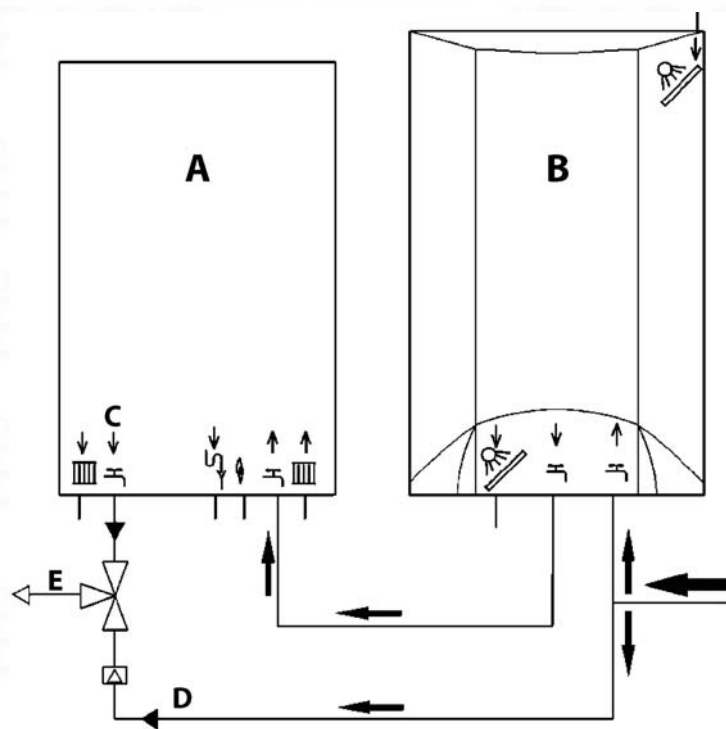


fig. 18 - Solar system diagram

- A Wall-mounted boiler
- B Hot water storage tank
- C Domestic hot water outlet
- D Cold water
- E Mixing

3.4 Gas connection



Before carrying out the connection, make sure the unit is arranged for operation with the type of fuel available and carefully clean all the pipes of the gas system to remove any residues that could affect proper boiler operation.

The gas must be connected to the relevant connection (see fig. 17) in conformity with current standards, with a rigid metal pipe or with a continuous surface flexible s/steel tube, installing a gas cock between the system and boiler. Make sure all the gas connections are tight. The capacity of the gas meter must be sufficient for the simultaneous use of all units connected to it. The diameter of the gas pipe leaving the boiler does not determine the diameter of the pipe between the unit and the meter; it must be chosen according to its length and pressure losses, in conformity with the current standards.



Do not use the gas pipes to earth electrical appliances.

3.5 Electrical connections

Connection to the electrical grid



The unit's electrical safety is only guaranteed when correctly connected to an efficient earthing system executed according to current safety standards. Have the efficiency and suitability of the earthing system checked by professionally qualified personnel. The manufacturer is not responsible for any damage caused by failure to earth the system. Also make sure that the electrical system is adequate for the maximum power absorbed by the unit, as specified on the boiler dataplate.

The boiler is prewired and provided with a Y-cable and plug for connection to the electricity line. The connections to the grid must be made with a permanent connection and equipped with a bipolar switch whose contacts have a minimum opening of at least 3 mm, interposing fuses of max. 3A between the boiler and the line. It is important to respect the polarities (LINE: brown wire / NEUTRAL: blue wire / EARTH: yellow-green wire) in making connections to the electrical line. During installation or when changing the power cable, the earth wire must be left 2 cm longer than the others.



The user must never change the unit's power cable. If the cable gets damaged, switch off the unit and have it changed solely by professionally qualified personnel. If changing the electric power cable, use solely "HAR H05 VV-F" 3x0.75 mm2 cable with a maximum outside 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 electrical terminal block

After removing the boiler front panel (see fig. 22) the terminal block can be accessed for connection of the external probe (detail 1 fig. 19), the room thermostat (detail 3 fig. 19) or the remote timer control (detail 2 fig. 19).

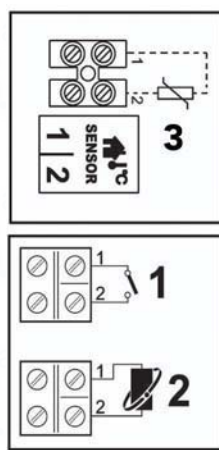


fig. 19 - Accessing the terminal block

3.6 Air/fume ducts

The diameter of the flue connection pipe must not be less than that of the connection on the anti-backflow device. Starting from the anti-backflow device it must have a vertical section at least 50 cm long. Current standards must be complied with regarding sizing and installation of the flues and connection pipe.



The boiler is also equipped with a safety device (fume thermostat) that stops operation of unit in case of inadequate draught or obstruction of the flue. This device must never be tampered with or deactivated.

4. SERVICE AND MAINTENANCE

All adjustment, conversion, startup and maintenance operations described below must only be carried out by Qualified Personnel (meeting the professional technical requirements prescribed by current regulations) such as those of the Local After-Sales Technical Service.

FERROLI declines any liability for damage and/or injury caused by unqualified and unauthorised persons tampering with the unit.

4.1 Adjustments

Gas conversion

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

1. Replace the nozzles at the main burner, fitting the nozzles specified in the technical data table in sec. 5.2, according to the type of gas used
2. Modify the parameter for the type of gas:
 - put the boiler in standby mode
 - Press the **reset** button (detail 8 - fig. 1) for 10 seconds: the display shows "TS" flashing
 - press the **reset** button (detail 8 - fig. 1): the display shows "P01".
 - Press the DHW buttons (details 1 and 2 - fig. 1) to set parameter 00 (for natural gas operation) or 01 (for LPG operation).

- Press the reset button (detail 8 - fig. 1) for 10 seconds.
 - the boiler will return to standby mode
3. Adjust the minimum and maximum pressures at the burner (refer to relevant section), setting the values given in the technical data table for the type of gas used
 4. Apply the sticker contained in the conversion kit, near the dataplate as proof of the conversion.

TEST mode activation

Press the heating buttons (details fig. 13 and 4 -) **at the same time 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 symbol (detail 24 - fig. 1) and DHW symbol (detail 12 - fig. 1) flash on the display; the heating power and lighting power will be displayed alongside.

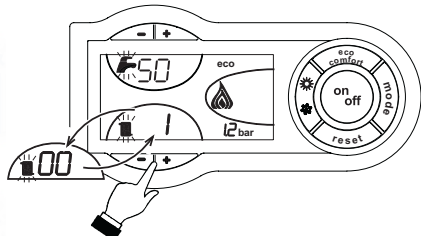


fig. 20 - TEST mode (heating power = 100%)

To deactivate the TEST mode, repeat the activation sequence.

The TEST mode is automatically disabled in any case after 15 minutes.

Adjustment of pressure at 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 the pressure point "B" downstream of the gas valve.
- Remove the protection cap "D".
- Operate the boiler in **TEST** fig. 1 mode.
- Adjust the maximum pressure setting by turning the screw "G" clockwise to increase the pressure and anticlockwise to decrease it.
- Disconnect one of the two fastons "C" from modureg "F" on the gas valve.
- Adjust the minimum pressure setting by turning the screw "E" clockwise to increase the pressure and anticlockwise to decrease it.
- Turn the burner on and off, checking that the minimum pressure remains stable.
- Reconnect the faston "C" detached from the modureg "F" on the gas valve
- Check that the maximum pressure has not changed
- Refit the 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.

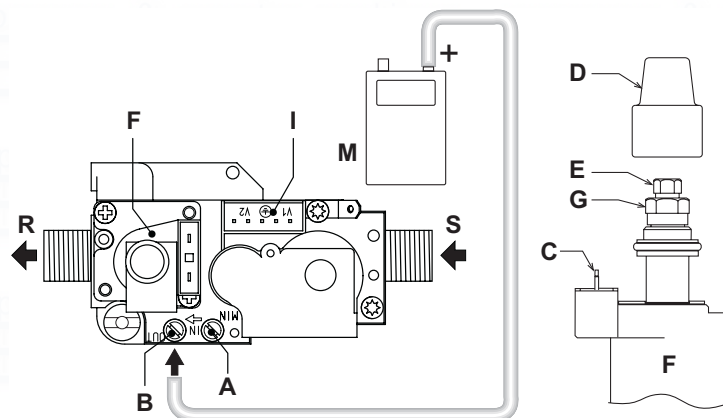


fig. 21 - Gas valve

- to Pressure point upstream
- B Pressure point downstream
- C Modureg electrical connection
- D Protective cap
- E Minimum pressure adjustment
- F Modureg
- G Minimum pressure adjustment
- I Gas valve electrical connection
- M Pressure gauge
- R Gas outlet
- S Gas inlet

Heating power adjustment

To adjust the heating power, set the boiler on TEST operation (see sec. 4.1). Press the heating buttons (part 3 and 4 - fig. 1) to increase or decrease the power (minimum = 00 - Maximum = 100). Press the RESET button within 5 seconds and the maximum power will remain as has just been set. Exit TEST operation (see sec. 4.1).

Ignition power adjustment

To adjust the ignition power, set the boiler on TEST operation (see sec. 4.1). Press the tap water buttons (part 1 and 2 - fig. 1) to increase or decrease the power (minimum = 00 - Maximum = 60). Press the button within 5 seconds and the ignition power will remain as has just been set. Exit TEST operation (see sec. 4.1).

4.2 System start-up



Checks to be made at first ignition, and after all maintenance operations that involved disconnecting from the systems or an intervention on safety devices or parts of the boiler:

Before lighting the boiler

- Open any on-off valves between the boiler and the systems.
- Check the tightness of the gas system, proceeding with caution and using a soap and water solution to detect any leaks in connections.
- Check the correct preloading of the expansion tank (ref. sec. 5.2)
- Fill the water system and make sure that all air contained in the boiler and the system has been vented by opening the air vent valve on the boiler and any vent valves on the system.
- Make sure there are no water leaks in the system, hot water circuits, connections or boiler.
- Check the correct connection of the electric system and the functioning of the earth system. I
- Check that the gas pressure value for heating is as required.
- Make sure there are no flammable liquids or materials in the immediate vicinity of the boiler

Checks during operation

- Ignite the appliance as described in sec. 2.3.
- Check the airtightness of the fuel circuit and water systems.
- Check the efficiency of the flue and air-fume ducts while the boiler is working.
- Check that the water is circulating properly between the boiler and the systems.
- Make sure that the gas valve modulates correctly in both the heating and hot water production phases.
- Check the proper ignition of the boiler by performing various tests, turning it on and off with the room thermostat or remote control.
- Make sure that the fuel consumption indicated on the meter corresponds to that given in the technical data table in sec. 5.2.
- Make sure that with no call for heating the burner correctly ignites on opening a hot water tap. Check that during heating operation, on opening a hot water tap, the heating circulator stops and there is a regular production of hot water.
- Check the parameters are programmed correctly and perform any required customization (compensation curve, power, temperatures, etc.)

4.3 Maintenance

Periodical check

To ensure proper operation of the unit over time, have qualified personnel carry out a yearly check, providing for the following:

- The control and safety devices (gas valve, flowmeter, thermostats, etc.) must function correctly.
- The fume exhaust circuit must be perfectly efficient.
(Sealed chamber boiler: fan, pressure switch, etc. - The sealed chamber must be tight: seals, cable glands, etc.)
(Open chamber boiler: anti-backflow device, fume thermostat, etc.)
- The air/fume terminal and ducts must be free of obstructions and leaks
- The burner and exchanger must be clean and free of deposits. For 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 tight.
- The water pressure in the cold water system must be approx. 1 bar; otherwise bring it to that value.
- The circulating pump must not be blocked.
- The expansion tank must be filled.
- The gas flowrate and pressure must match that given in the respective tables.



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

Opening the casing

To open the boiler casing:

1. Undo the screws A (see fig. 22).
2. Turn the casing (see fig. 22).
3. Lift the casing.



Before carrying out any operation inside the boiler, disconnect the power supply and close the gas cock upstream

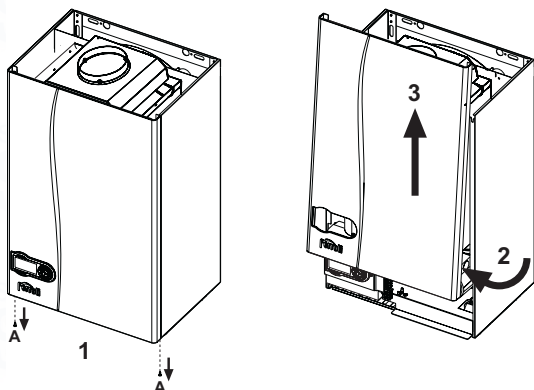


fig. 22 - Opening the casing

Combustion analysis

1. Insert the probe into the flue;
2. Check that the relief valve is connected to a drain funnel;
3. Activate TEST mode;
4. Wait 10 minutes for the boiler to stabilize;
5. Take the measurement.

4.4 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 22 - fig. 1) indicating the fault code.

There are faults that cause permanent shutdown (marked with the letter "A"): to restore operation just press the RESET button (detail 8 - 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 first eliminate the fault.

Other 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. 2

Code fault	Fault	Possible cause	Recommended 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
		Defective gas valve	Check and change the gas valve
		Ignition power too low	Adjust the ignition power
A02	Flame present signal with burner off	Electrode fault	Check the ionisation electrode wiring
		Card trouble	Check the card
toA03	Over-temperature protection trips	Heating sensor damaged	Check the correct positioning and operation of the heating sensor
		No water circulation in the system	Check the circulator
		Air in the system	Vent the system
F04	Fume thermostat activated (after activation of the fume thermostat, boiler operation is prevented for 20 minutes)	Fume thermostat contact open	Check the thermostat
		Wiring disconnected	Check the wiring
		Flue not correctly sized or obstructed	Change the flue
A06	No flame after the ignition phase	Low pressure in the gas system	Check the gas pressure
		Burner minimum pressure setting	Check the pressures
F10	Delivery 1 sensor fault	Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
		Wiring disconnected	
F11	Tap water sensor fault	Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
		Wiring disconnected	

Code fault	Fault	Possible cause	Recommended cure
F14	Delivery 2 sensor fault	Sensor damaged	Check the wiring or replace the sensor
		Wiring shorted	
		Wiring disconnected	
F34	Supply voltage under 170V.	Electric mains trouble	Check the electrical system
F35	Irregular mains frequency	Electric mains trouble	Check the electrical system
F37	Incorrect system water pressure	Pressure too low	Fill the system
		Sensor damaged	Check the sensor
F39	External sensor fault	Probe damaged or wiring shorted	Check the wiring or change the sensor
		Sensor disconnected after activating the sliding temperature	Reconnect the external sensor or disable the sliding temperature
F40	Incorrect system water pressure	Pressure too high	Check the system
			Check the safety valve
			Check the expansion tank
A41	Sensor positioning	Delivery sensor detached from pipe	Check the correct positioning and operation of the heating sensor
F42	Heating sensor fault	Sensor damaged	Change the sensor
F43	Exchanger protection trips.	No system H ₂ O circulation	Check the circulator
		Air in the system	Vent the system
F47	System water pressure sensor fault	Wiring disconnected	Check the wiring
F50	Modureg fault	Wiring disconnected	Check the wiring

5. TECHNICAL DATA AND CHARACTERISTICS

5.1 General view and main components

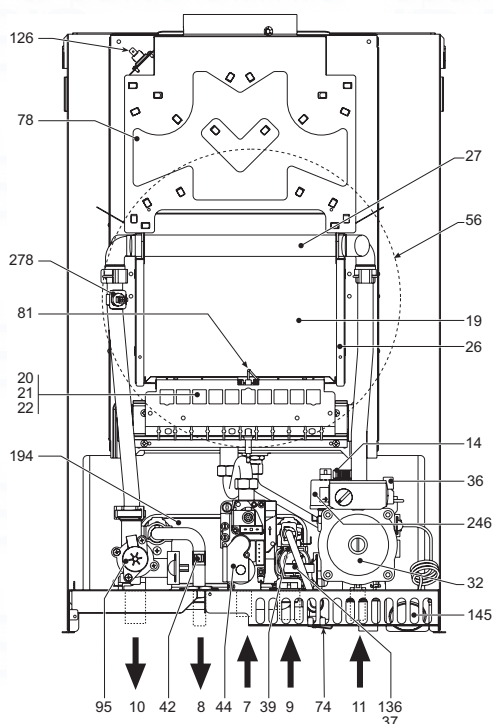


fig. 23 - General view DIVAtop MICRO C 24

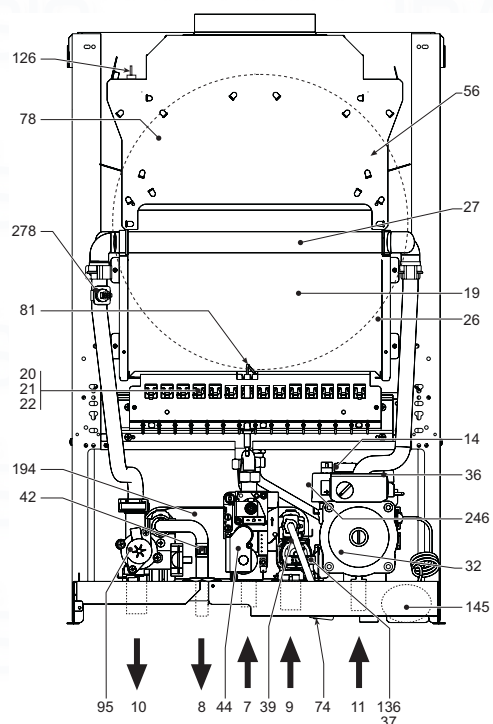


fig. 24 - General view DIVAtop MICRO C 32

Key of figures cap. 5

- 7 Gas inlet
- 8 Domestic hot water outlet
- 9 Cold water inlet
- 10 System delivery
- 11 System return
- 14 Safety valve
- 19 Combustion chamber
- 20 Burner assembly
- 26 Combustion chamber insulation
- 27 Copper exchanger
- 32 Heating circulating pump
- 36 Automatic air vent
- 37 Water inlet filter
- 39 Flow regulator
- 42 DHW temperature sensor
- 44 Gas valve
- 47 Modureg
- 56 Expansion tank

- 72 Room thermostat
- 73 Antifreeze thermostat (optional)
- 74 System filling cock
- 78 Anti-backflow device
- 81 Ignition/Detection electrode
- 95 Diverter valve
- 126 Fume thermostat
- 136 Flow meter
- 138 External probe
- 139 Remote timer control (OpenTherm)
- 145 Pressure gauge
- 194 Exchanger
- 246 Pressure transducer
- 278 Double sensor (Safety + Heating)
- 288 Antifreeze kit (option for outdoor installation)

5.2 Technical data table

The column on the right gives the abbreviation used on the dataplate.

Data	Unit	DIVAtop MICRO C 24	DIVAtop MICRO C 32	
Max. heating capacity	kW	25.8	34.4	(Q)
Min. heating capacity	kW	8.3	11.5	(Q)
Max. Heat Output in heating	kW	23.5	31.3	(P)
Min. Heat Output in heating	kW	7.0	9.7	(P)
Max. Heat Output in hot water production	kW	23.5	31.3	
Min. Heat Output in hot water production	kW	7.0	9.7	
Burner nozzles G20	n° x Ø	11 x 1.35	15 x 1.35	
Gas supply pressure G20	mbar	20	20	
Max. pressure downstream of gas valve (G20)	mbar	12.0	12.0	
Min. pressure downstream of gas valve (G20)	mbar	1.5	1.5	
Max. gas delivery G20	nm ₃ /h	2.73	3.64	
Min. gas delivery G20	nm ₃ /h	0.88	1.22	
Burner nozzles G31	n° x Ø	11 x 0.79	15 x 0.79	
Gas supply pressure G31	mbar	37.0	37	
Max. pressure downstream of gas valve (G31)	mbar	35.0	35.0	
Min. pressure downstream of gas valve (G31)	mbar	5.0	5.0	
Max. gas delivery G31	4.22 kg/h	2.00	2.69	
Min. gas delivery G31	4.22 kg/h	0.65	0.90	
Efficiency class Directive 92/42 EEC	-	★★		
NOx emission class	-	3 (<150 mg/kWh)		(NOx)
Max. working pressure in heating	bar	3	3	(PMS)
Min. working pressure in heating	bar	0.8	0.8	
Max. heating temperature	°C	90	90	(tmax)
Heating water content	litres	1.0	1.2	
Heating expansion tank capacity	litres	8	10	
Heating expansion tank prefilling pressure	bar	1	1	
Max. working pressure in hot water production	bar	9	9	(PMW)
Min. working pressure in hot water production	bar	0,25	0.25	
DHW flowrate Dt 25°C	l/min	13.4	17.9	
DHW flowrate Dt 30°C	l/min	11.2	14.9	(D)
Protection rating	IP	X5D	X5D	
Power supply voltage	V/Hz	230V/50Hz	230V/50Hz	
Electrical power input	W	80	90	
Electrical power input in hot water production	W	80	90	
Empty weight	kg	28	31	
Type of unit		B11BS		
PIN CE		0461BR0843		

5.3 Diagrams

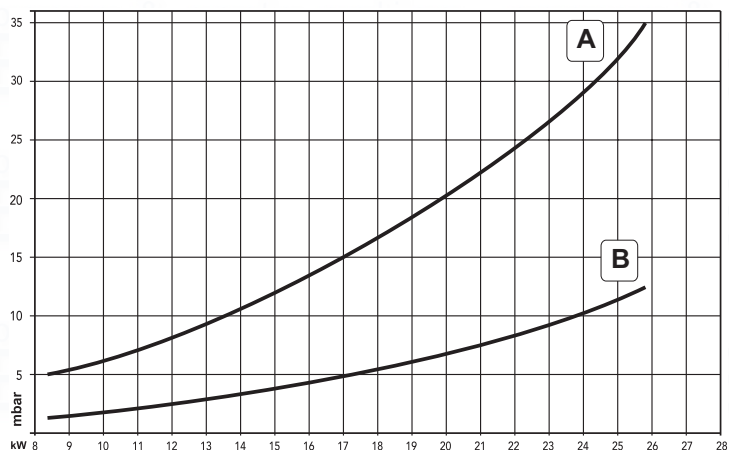


fig. 25 - Pressure/power diagram DIVAtop MICRO C 24

A LPG
B NATURAL GAS

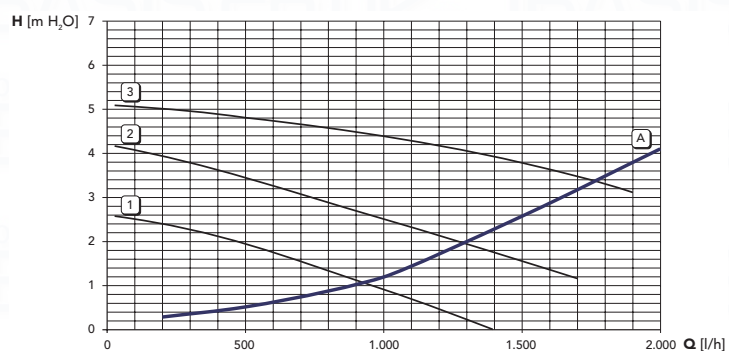


fig. 26 - Circulating pump head / pressure losses DIVAtop MICRO C 24

A Boiler pressure losses
1 - 2 - 3 Circulating pump speed

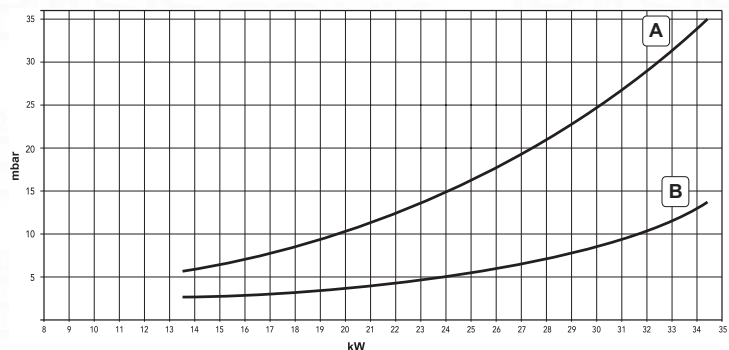


fig. 27 - Pressure/power diagram DIVAtop MICRO C 32

A LPG
B NATURAL GAS

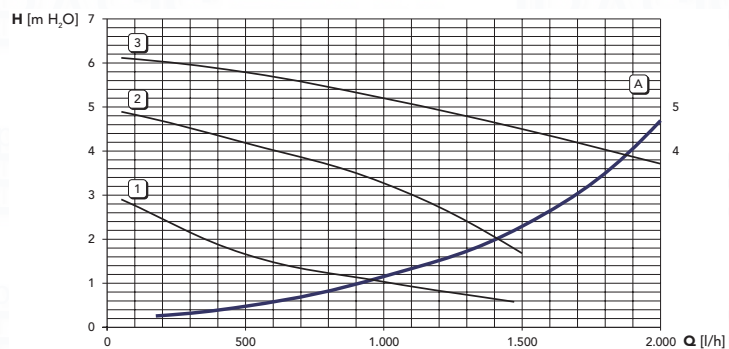


fig. 28 - Circulating pump head / pressure losses DIVAtop MICRO C 32

A Boiler pressure losses
1 - 2 - 3 Circulating pump speed

5.4 Wiring diagram

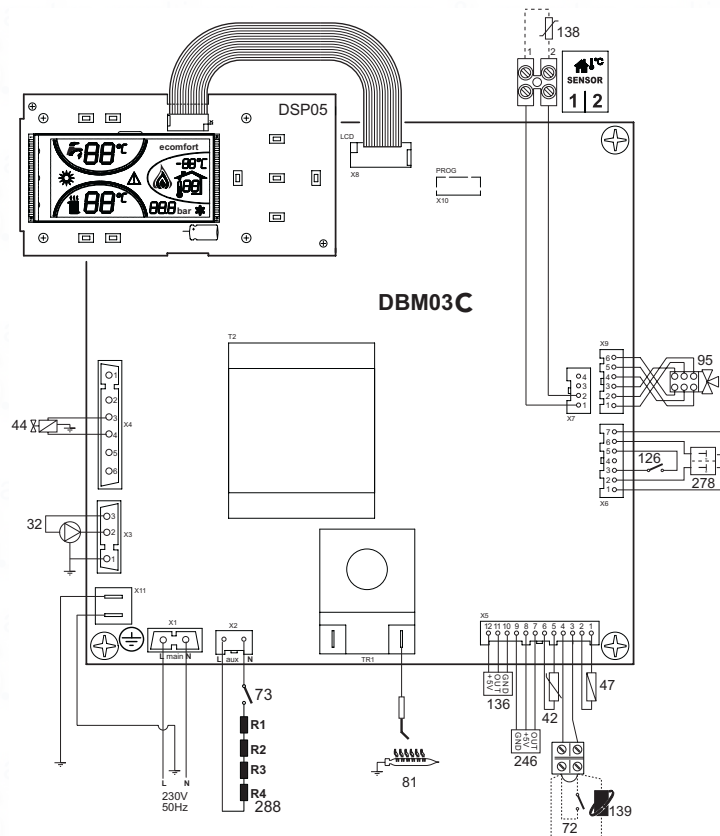


fig. 29 - Wiring diagram

Important: Before connecting the room thermostat or the remote timer control, remove the jumper on the terminal block.



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