Installation and Maintenance Manual for model

SIM

Multizone Hydraulic Separator

SIM-RAD-ING-Manuale-1901.1_CRAD002_firm.L088N2_AHS

Contact Details

Office Address: 10 Frankston Gardens Drive,
Carrum Downs, Victoria, Australia, 3201

Email Address: sales@hydronicsupplies.com.au
Website: www.hydronicsupplies.com.au
Phone: (+61 3) 9708 2600
Fax: (+61 3) 9708 2700

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INTRODUCTION

WARNING

Before starting any operation it is mandatory to read this instruction manual, in relation to the activities to be carried out as described in each relevant section. Proper operation and optimal performance of the appliance are ensured by strict compliance with all the instructions given in this manual.

The installation, use and maintenance manual is an integral and essential part of the product and must be delivered to the user.

MANUAL USERS

The manual users are all those who install, use and maintain the appliance.

The appliance must be used and accessed only by qualified operators that fully read and understood the use and maintenance manual, paying particular attention to the warnings.

READING AND SYMBOLS OF THE MANUAL

To ease the understanding of this manual, recurrent symbols where used, in particular:

› On the outer margin of the page is placed a thumb index indicating the type of user to which the instructions in that section address.

› The titles are differentiated by thickness and size in accordance with their hierarchy.

› The images contain important parts described in the text, marked with numbers or letters.

› (See chap "chapter name"): this entry indicates another section in the Manual that you should refer to.

› Device: this term is used referring to the appliance.

DANGER

It identifies an information related to a general danger that if not complied with, may cause serious personal damage or even death.

ATTENTION

It identifies an information that if not complied with may cause small or medium level lesions to the person or serious deterioration to the appliance.

WARNING

It identifies a precaution information that must be observed in order to avoid damaging the machine or parts of it.

MANUAL STORAGE

The manual must be carefully stored and replaced in case of deterioration and/or low legibility.

If you misplace the use and maintenance manual, you can request it from the Technical Support Centre giving the serial number and model of the appliance indicated on the plate placed on the right side of its casing.

As an alternative, the use and maintenance manual can be downloaded free from the on-line site www.radiant.it, accessing the "download" section and entering the appliance model.

WARNING

DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.

DO NOT USE OR STORE FLAMMABLE MATERIALS IN OR NEAR THIS APPLIANCE.

DO NOT PLACE ARTICLES ON OR AGAINST THIS APPLIANCE.

DO NOT MODIFY THIS APPLIANCE.

MANUFACTURER WARRANTY AND RESPONSIBILITY

The warranty of the Manufacturer is provided only through its own authorized Technical Support Centres, listed for each Region and Provence on the site www.radiant.it, and covers all conformity defects at the moment of sale.

The technical and functional features of the device are ensured by its use in compliance:

1. with the use and maintenance instructions contained in the manuals accompanying the product, the content of which the customer certifies that he is aware;

2. with the conditions and purposes to which assets of the same type are intended.

For more information on the warranty validity, its duration, the obligations and the exemptions, please consult the First start-up certificate attached to this manual.

The manufacturer reserves:

› the right to modify the tools and relative technical documentation without any obligation to third parties; neither will the company be held responsible for any inaccuracies in this handbook deriving from printing or translation errors;

› the material and intellectual ownership of this manual and forbids its distribution and duplication, even partial, without prior written authorization.

1. INSTALLER SECTION

The installation operations described in this section should be performed only by qualified personnel, having the appropriate technical training in the field for the installation and maintenance of components of civil and industrial domestic hot water production and heating plants.

1.1. INSTALLATION

1.1.1. GENERAL INSTALLATION WARNINGS

ATTENTION

This machine may be used only for the purpose for which it has been designed: heat water to a temperature below boiling point at atmospheric pressure. Any other use is considered wrong and dangerous. The manufacturer is excluded from any contractual or out of contract responsibility for damage caused to people, animals or property due to errors during installation.

ATTENTION

This appliance should be installed only by qualified personnel, having the appropriate technical training in the field for the installation and maintenance of components of civil and industrial domestic hot water production and heating plants.

ATTENTION

After having removed the packing, make sure the equipment is intact. In case of doubt, do not use the equipment and contact the supplier.

ATTENTION

This Appliance must be used exclusively in a pressurized central heating system and is not suitable for pool heating.

BEFORE INSTALLING THE APPLIANCE, THE INSTALLER MUST MAKE SURE THAT THE FOLLOWING CONDITIONS ARE MET:

› The device is connected to a heating plant and a water supply network appropriate for its power and performance.

› The location must be properly vented through an air vent.

› The air vent must be placed at floor level to prevent it from being obstructed, protected by a grid that does not hamper the useful section of passage.

› Make sure that the grounding system works properly.

› Make sure that the electrical systems is suitable for the maximum power absorbed by the equipment, value indicated on the data plate.

WARNING

Use only original RADIANT optional or kit accessories (including electrical).

1.1.2. BOILER LOCATION ENVIRONMENTAL REQUIREMENTS

The appliance must be installed only into a heating unit.

The device's installation location should be vented due to the presence of threaded joints on the gas adduction line. The location should be therefore provided with vents as to ensure air exchange, with output grid in the natural accumulation area of eventual gas losses.

WARNING

If the temperature in the appliance installation location goes below -10 centigrades, please fill the plant with anti-freeze liquid and insert and electrical resistances kit (see chapter 'ANTI-FREEZE PROTECTION').

WARNING

The manufacturer will not be held responsible for damages caused by incorrect installation not in conformity with the over mentioned instructions and not protected adequately from the freeze.

1.1.3. REFERENCE LEGISLATION

The installation must be realized according to the requirements of current legislation and in compliance with local technical regulations, according to the indications of the good technique.

This appliance must be installed by an authorised person in accordance with this instruction manual, AS/NZS 5601 – Gas installations (installation and pipe sizing), local gas fitting regulations, local electrical regulations, local water regulations, local health regulations, Building Code of Australia and any other government authority.

1.1.4. POSITIONING AND MINIMAL TECHNICAL SPACES

The appliance must be installed only on a vertical solid wall, able to sustain its weight.

For the recessed installation of the appliance, prepare the masonry works by creating an opening in the wall suitable to contain the kit (see "Overall dimensions").

Position the appliance in its own place, remembering to open the side support wings before inserting it and proceed to fix it to the wall, ensuring the upper and lower minimum spaces for the passage of the hydraulic and electrical pipes.

Protect the side edges and the front cover when installing the device.

N.B .: Since the hydraulic and electrical connections between the system and the kit must take place within the overall dimensions of the device itself, the kit must first be positioned and then the inlet and outlet pipes of the system and the ducting of the electric cables.

Attention: the recessed kit is not a supporting structure and can not replace the removed wall, it is therefore necessary to check its correct positioning inside the wall.

For safety reasons, it is necessary to properly seal the housing compartment of the kit in the masonry wall, in compliance with current regulations.

N.B. To avoid any infiltration, it is advisable to carefully seal the passage of the pipes through the SIM casing.

1.1.5. OVERALL DIMENSIONS

SIM 1A / 1B[1] - no.1 HIGH/LOW [1] ZONE

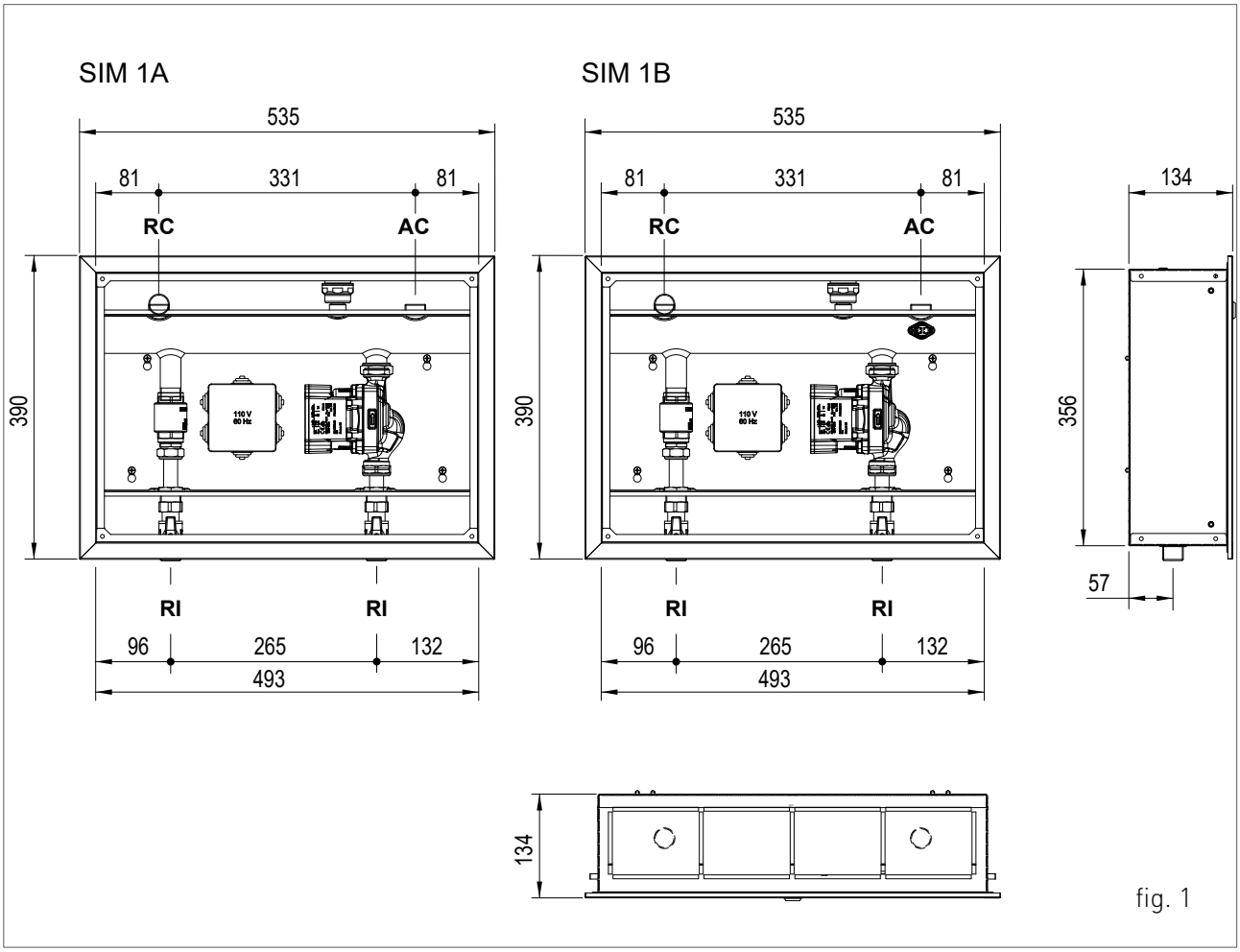


fig. 1

[1] PLEASE SET THE BOILER FOR LOW TEMPERATURE RUNNING (25-45°)

AI	HIGH/LOW TEMPERATURE CIRCUIT FLOW	Ø3/4"
RI	HIGH/LOW TEMPERATURE CIRCUIT RETURN	Ø3/4"
AC	BOILER INLET	Ø3/4"
RC	BOILER RETURN	Ø3/4"

SIM 2A / 2B[1] - no.2 HIGH/LOW [1] ZONES

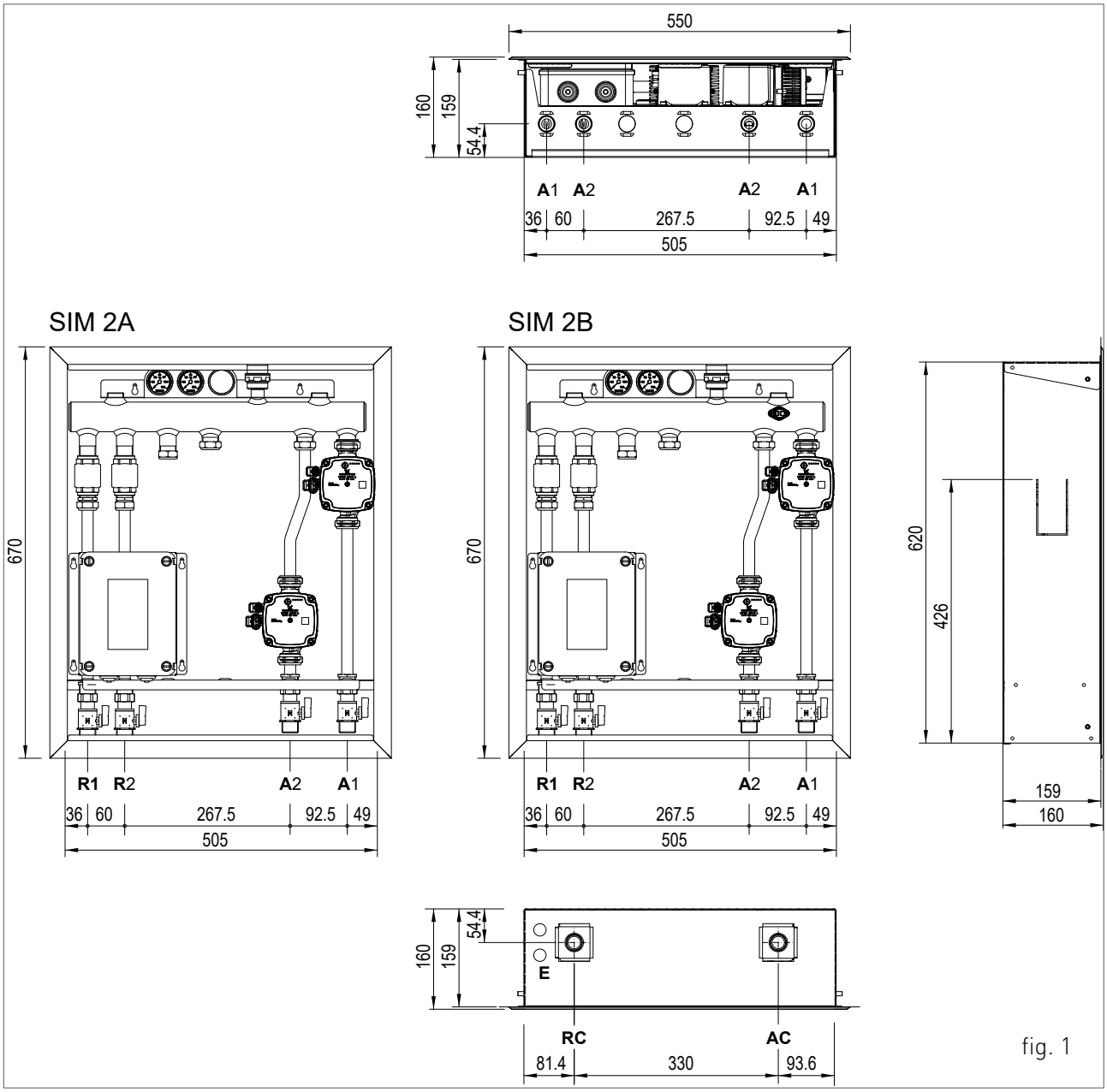


fig. 1

[1] PLEASE SET THE BOILER FOR LOW TEMPERATURE RUNNING (25-45°)

A1	HIGH/LOW TEMPERATURE CIRCUIT N°1 FLOW	Ø3/4"
A2	HIGH/LOW TEMPERATURE CIRCUIT N°2 FLOW	Ø3/4"
R1	HIGH/LOW TEMPERATURE CIRCUIT N°1 RETURN	Ø3/4"
R2	HIGH /LOW TEMPERATURE CIRCUIT N°2 RETURN	Ø3/4"
AC	BOILER INLET	Ø3/4"
RC	BOILER RETURN	Ø3/4"
E	ELECTRICAL CONNECTIONS	Ø20

SIM 3A / 3B[1] - no. 3 HIGH/LOW [1] ZONES

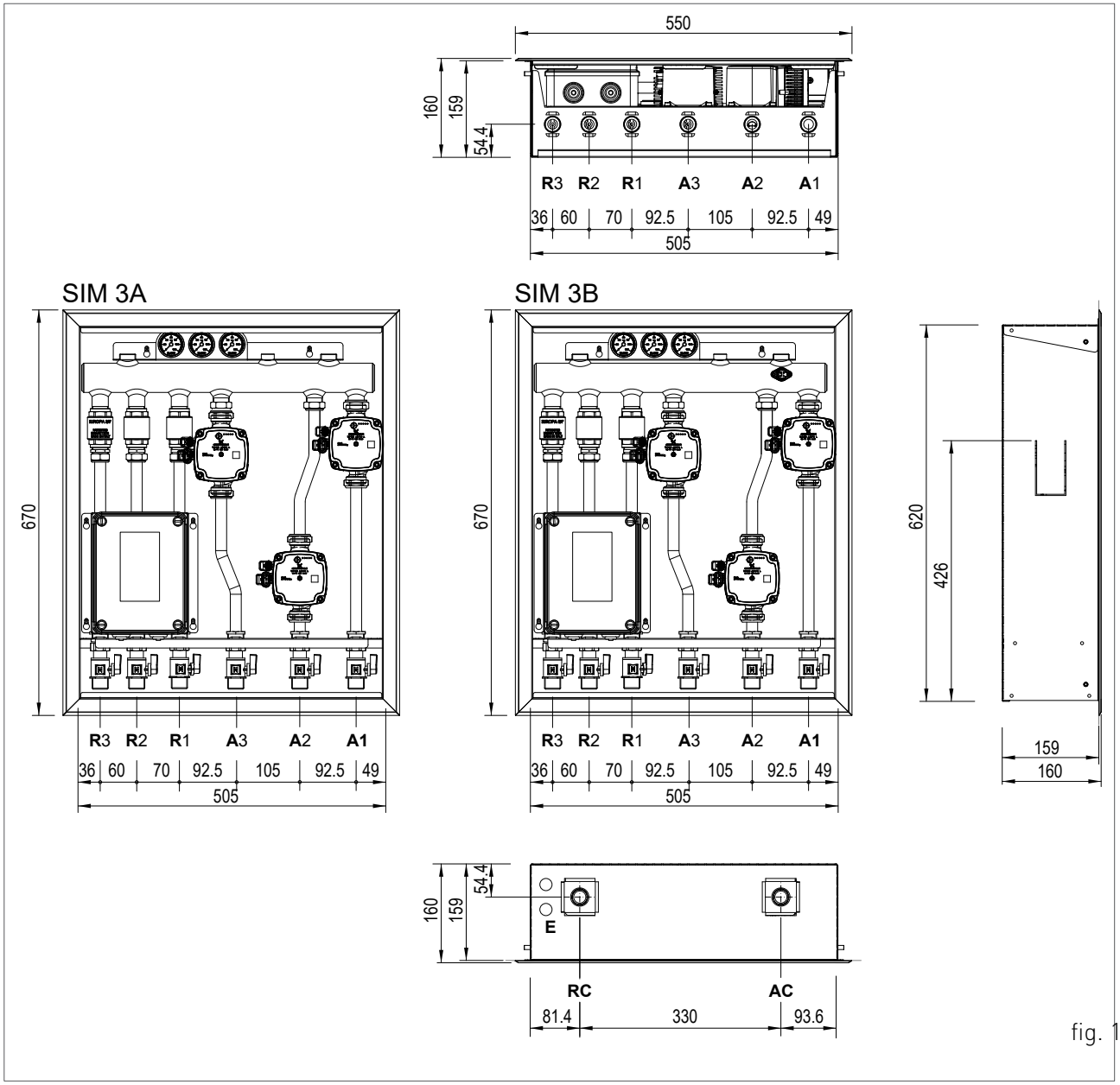


fig. 1

[1] PLEASE SET THE BOILER FOR LOW TEMPERATURE RUNNING (25-45°)

A1	HIGH TEMPERATURE CIRCUIT N°1 FLOW	Ø3/4"
A2	HIGH TEMPERATURE CIRCUIT N°2 FLOW	Ø3/4"
A3	HIGH TEMPERATURE CIRCUIT N°3 FLOW	Ø3/4"
R1	HIGH TEMPERATURE CIRCUIT N°1 RETURN	Ø3/4"
R2	HIGH TEMPERATURE CIRCUIT N°2 RETURN	Ø3/4"
R3	HIGH TEMPERATURE CIRCUIT N°3 RETURN	Ø3/4"
AC	BOILER INLET	Ø3/4"
RC	BOILER RETURN	Ø3/4"
E	ELECTRICAL CONNECTIONS	Ø20

SIM 1A1B - no. 1 HIGH ZONE + no.1 LOW ZONE

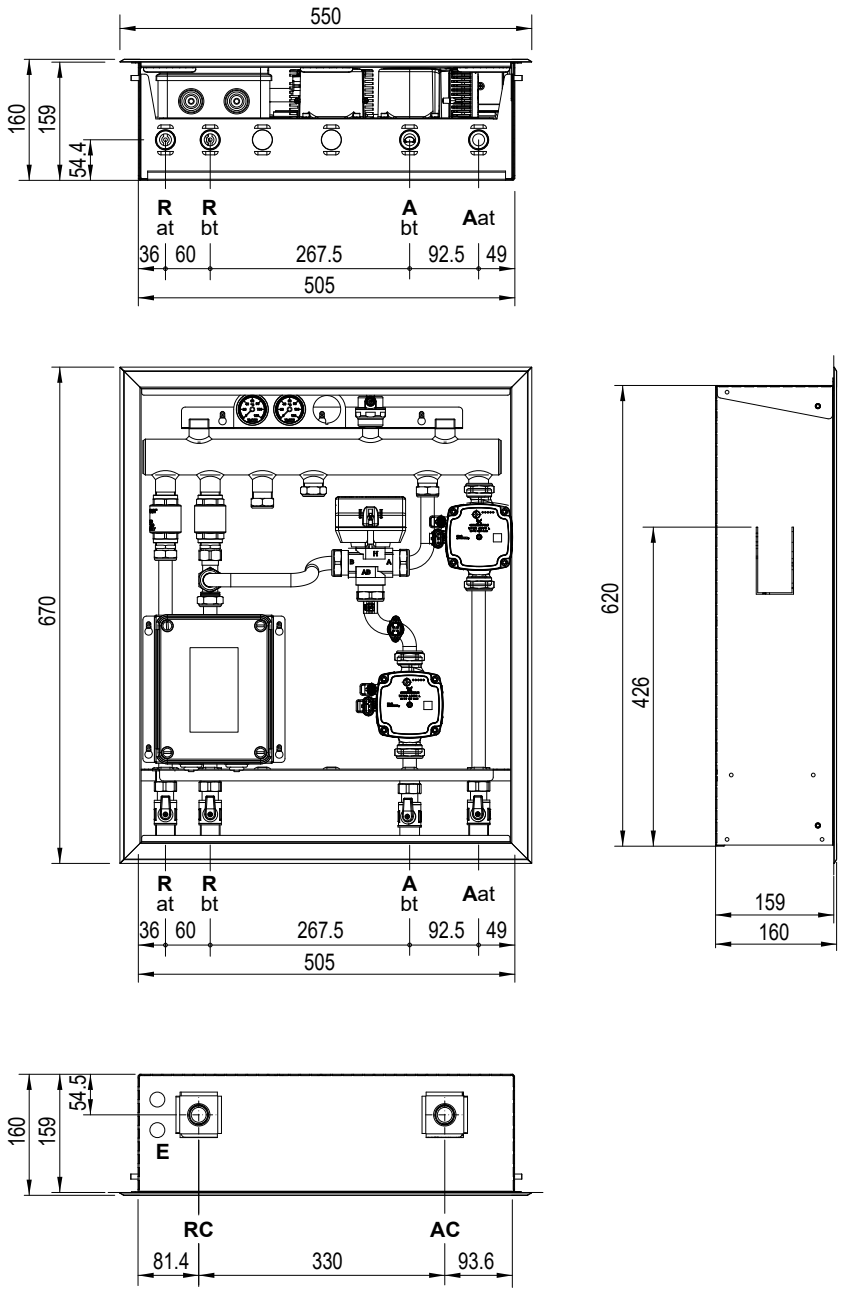


fig. 1

A at	HIGH TEMPERATURE CIRCUIT FLOW	Ø3/4"
R at	HIGH TEMPERATURE CIRCUIT RETURN	Ø3/4"
A bt	HIGH TEMPERATURE CIRCUIT FLOW	Ø3/4"
R bt	HIGH TEMPERATURE CIRCUIT RETURN	Ø3/4"
AC	BOILER INLET	Ø3/4"
RC	BOILER RETURN	Ø3/4"
E	ELECTRICAL CONNECTIONS	Ø20

SIM 2A1B - no. 2 HIGH ZONES + no.1 LOW ZONE

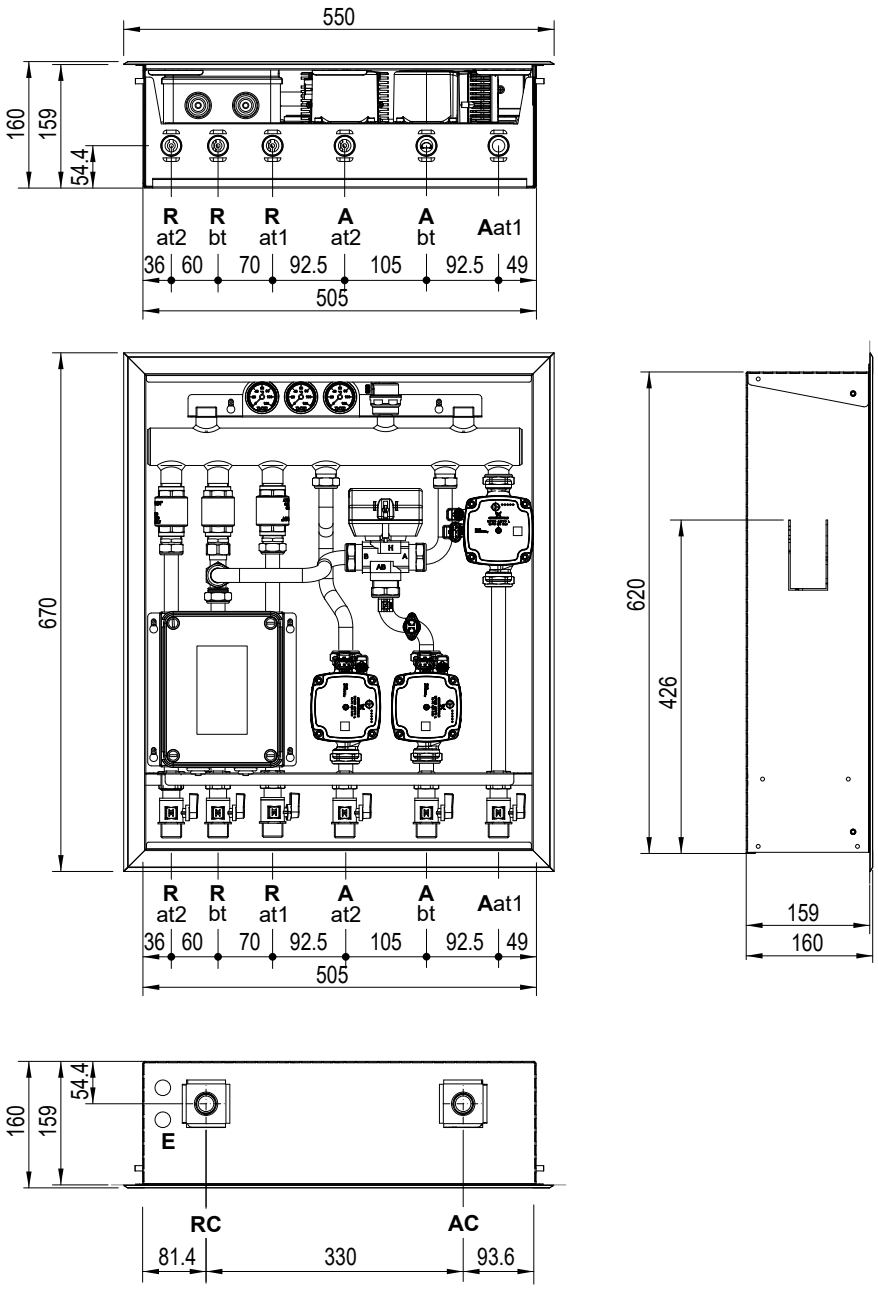


fig. 1

Aat 1	HIGH TEMPERATURE CIRCUIT N°1 FLOW	Ø3/4"
Aat 2	HIGH TEMPERATURE CIRCUIT N°2 FLOW	Ø3/4"
Abt	LOW TEMPERATURE CIRCUIT INPUT	Ø3/4"
Rat 1	HIGH TEMPERATURE CIRCUIT N°1 RETURN	Ø3/4"
Rat 2	HIGH TEMPERATURE CIRCUIT N°2 RETURN	Ø3/4"
Rbt	LOW TEMPERATURE CIRCUIT RETURN	Ø3/4"
AC	BOILER INLET	Ø3/4"
RC	BOILER RETURN	Ø3/4"
E	ELECTRICAL CONNECTIONS	Ø20

SIM 1A2B - no.1 HIGH ZONE + no. 2 LOW ZONES

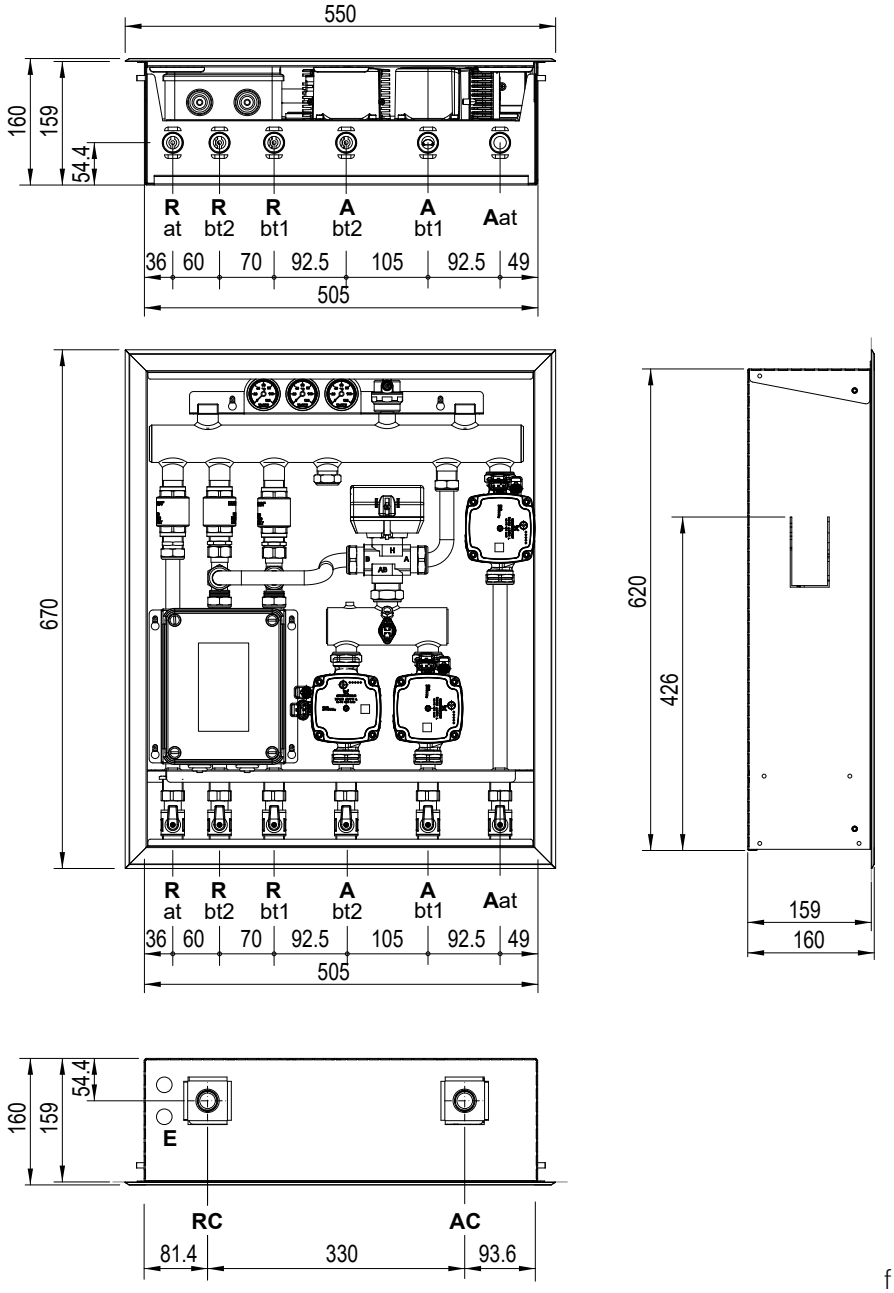


fig. 1

Aat	HIGH TEMPERATURE CIRCUIT FLOW	Ø3/4"
Abt1	LOW TEMPERATURE CIRCUIT N°1 FLOW	Ø3/4"
Abt2	LOW TEMPERATURE CIRCUIT N°2 FLOW	Ø3/4"
Rat	HIGH TEMPERATURE CIRCUIT RETURN	Ø3/4"
Rbt1	LOW TEMPERATURE CIRCUIT N°1 RETURN	Ø3/4"
Rbt2	LOW TEMPERATURE CIRCUIT N°2 RETURN	Ø3/4"
AC	BOILER INLET	Ø3/4"
RC	BOILER RETURN	Ø3/4"
E	ELECTRICAL CONNECTIONS	Ø20

1.1.6. HEAD/FLOW DIAGRAM

MIXING VALVE

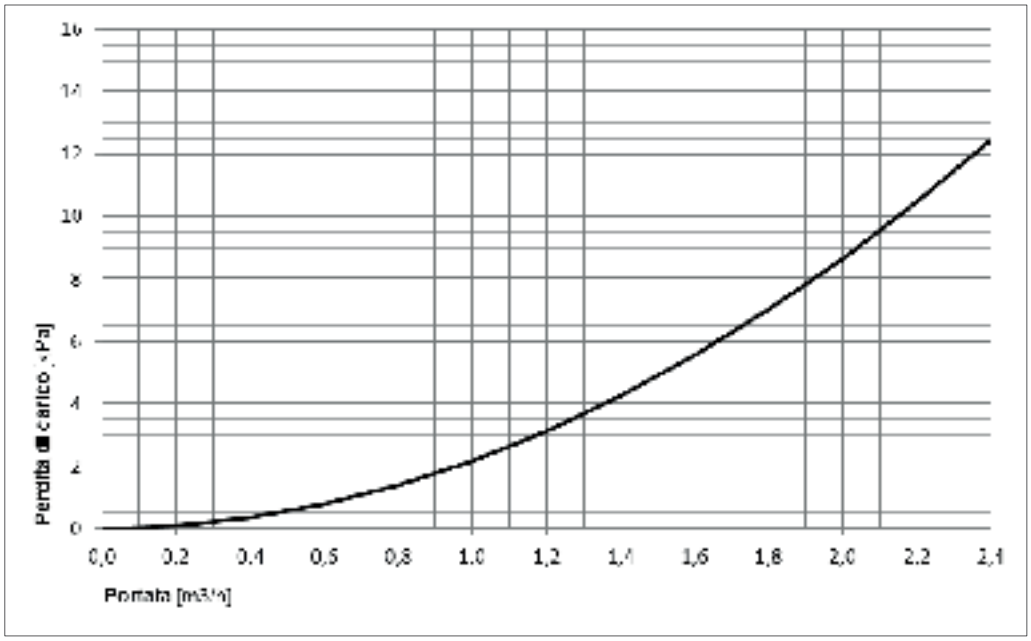


fig.1

CIRCULATOR

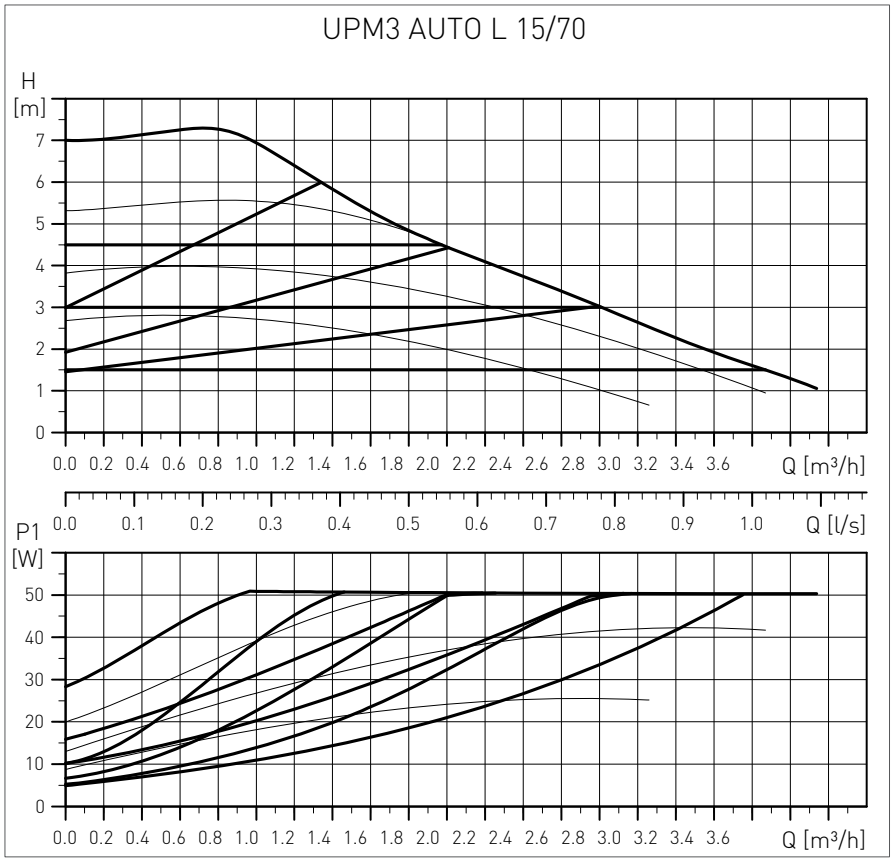


fig.2

1.1.7. HYDRAULIC CONNECTION

DANGER

Make sure that the tubes of the water and heating plant are not used as grounding system for the electrical plant. There are not suitable for such use.

WARNING

To prevent voiding the warranty and to ensure the proper operation of the appliance, please wash the plant (if possible when hot) with suitable pickling or descaling solutions in order to remove the impurities coming from tubes and radiators.

WARNING

When connecting the equipment to water supply, avoid excessive bending and recovery operations from any off axis positioning that may damage the tubes causing leaks, malfunction or early wear.

WARNING

In order to avoid any vibrations and noises, do not use tubes with small diameters or elbows with small radius and significant cut-off of the passage sections.

1.1.8. ELECTRICAL CONNECTION

DANGER

The equipment is electrically safe only if it is properly connected to an efficient grounding system, performed in compliance with the safety standards in force. You should check this essential safety requirement. If in doubt, request an accurate check of the electrical system performed by qualified staff, as the manufacturer is not responsible for any damages caused by lack of grounding system.

› Make sure that the electrical systems is suitable for the maximum power absorbed by the equipment, value indicated on the data plate.

› make sure that the cables section is appropriate for the maximum power absorbed by the equipment and that it is however not lower than 1 mm^2.

› The equipment works with alternating current of 230 V and 50 Hz. The electrical connection must be performed using an all-pole switch with an opening of at least 3 millimetres between contacts placed upstream from the device.

WARNING

Make sure that the phase and neutral cables connection is performed in compliance with the wiring diagram (see chapter POWER SUPPLY).

WARNING

It is strictly forbidden the use of adaptors, multiple plugs and/or extensions for the general power supply of the equipment from the electrical network.

1.1.9. POWER SUPPLY

SIM 1A-1B

To power the device connect the electrical cables to the terminal inside the electrical connections box as follows:

DANGER
Cut off the voltage from the main switch.

› open the front panel of the appliance (see chapter ACCESSORIES TO THE APPLIANCE).

› remove the cover of the electrical box and make the following connections on the terminal board (see Fig. 1):

› remove the cover of the electrical box and make the following connections on the terminal board (see Fig. 1):

- the yellow/green cable to the terminal marked with grounding symbol "⏚".
- the blue cable to the terminal marked with "N".
- the brown cable to the terminal marked with "L".

After performing these operations, remount the cover of the electrical box and the front panel.

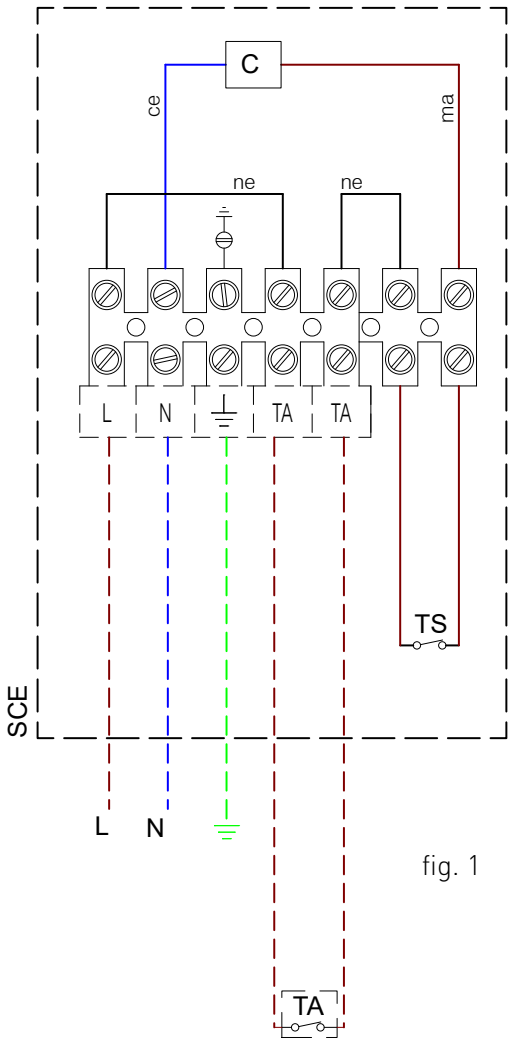


fig. 1

L:	LINE
N:	NEUTRAL
ne:	Black
ce:	Light-blue
ma:	Brown
TA	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.1
TA2	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.2
C	HIGH / LOW TEMPERATURE CIRCUIT PUMP
TS	SAFETY THERMOSTAT (ONLY FOR LOW TEMPERATURE VERSION)
SCE	ELECTRICAL CONNECTIONS BOX

SIM 2A/2B-3A/3B-1A1B-2A1B-1A2B

To power the device connect the electrical cables to the terminal of the electronic board as follows:

DANGER

Cut off the voltage from the main switch.

› open the front panel of the appliance (see chapter ACCESSORIES TO THE APPLIANCE).

› remove the cover of the electrical box and make the following connections on the terminal board (see Fig. 1):

› remove the cover of the electrical box and make the following connections on the terminal board (see Fig. 1):

- the yellow/green cable to the terminal marked with grounding symbol "⏚".
- the blue cable to the terminal marked with "N".
- the brown cable to the terminal marked with "L".

After performing these operations, remount the cover of the electrical box and the front panel.

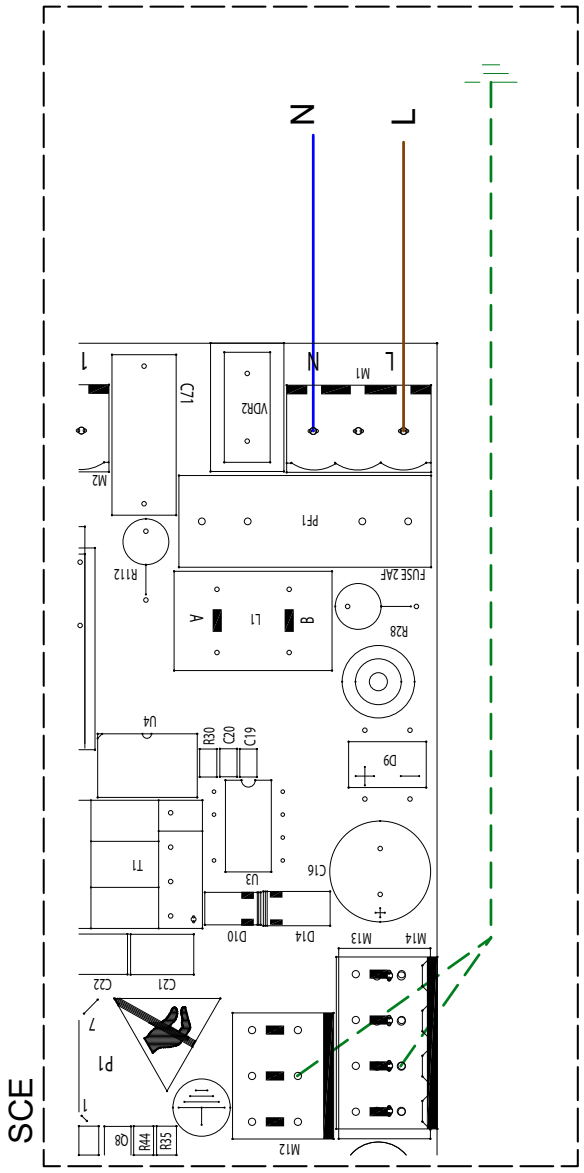


fig. 1

L:	LINE
N:	NEUTRAL
SCE	ELECTRICAL CONNECTIONS BOX

2. SUPPORT CENTRE SECTION

All operations described below relative to first start-up, maintenance and replacement should be performed only by qualified personnel and authorized by RADIANT BRUCIATORI S.p.A.

Gas leakage and operation of the appliance must be tested by the installer before leaving. When satisfied with the operation, please instruct the consumer on the correct method of operation.

2.1. FIRST START-UP

2.1.1. PRELIMINARY OPERATIONS FOR FIRST START-UP

The first start-up operations consist in checking the correct installation, adjustment and operation of the device. Proceed as follows:

- in case of low temperature device version, check the intervention of the safety device in case of overheating of the system;
- make sure that the device supply voltage corresponds with that on the plate (230 V – 50 Hz) and that the wiring is correct;
- make sure that the grounding system works properly;
- make sure that the heating system gate valves are open;

2.1.2. START UP

WARNING

For system filling use only clean tap water.

WARNING

The operations described below must be carried out by professionally qualified personnel authorised by Radiant Bruciatori s.p.a.

Preliminary operations

The appliance first start-up operations consist of verifying if installation, regulation and operation of the appliance are correct:

› Check that the power supply voltage of the appliance corresponds to the voltage indicated on the rating plate (230 V - 50 Hz), that the live neutral and earth wires are connected correctly and that the appliance grounding is efficient.

› Make sure that any shut-off valves of the heating system are open.

Filling the system

Once all water connections are carried out, proceed to fill the plant, as follows:

1. Cut-out electric power supply to the SIM module and heat generator.

2. Make sure that the cap on the jolly valve is slightly loose to allow air to escape from the system.

3. Act manually on the 3-way mixing valve by positioning lever C of the mixing valve electrical actuator (fig. 1) from position A (fig. 2) to position B (fig. 3).

4. Open the domestic water inlet main valve.

5. Open the boiler filling tap.

6. Open the air bleed valve on the radiators and check the process of air elimination. When the water flows out, close the air bleed valves on the radiators.

7. Check that the pressure of the plant reaches a value between 1÷1.2 bars.

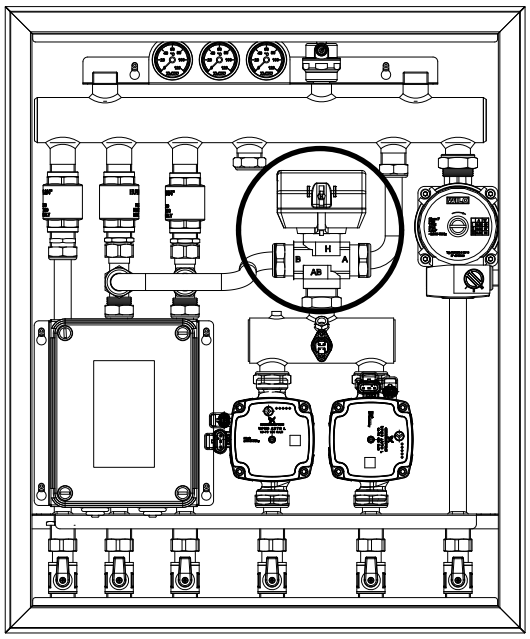


fig. 1

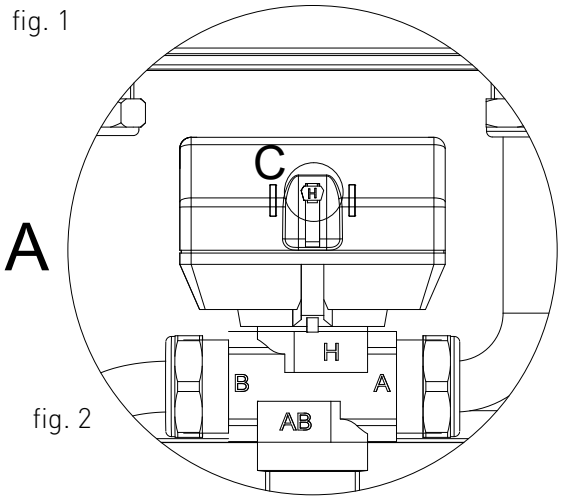


fig. 2

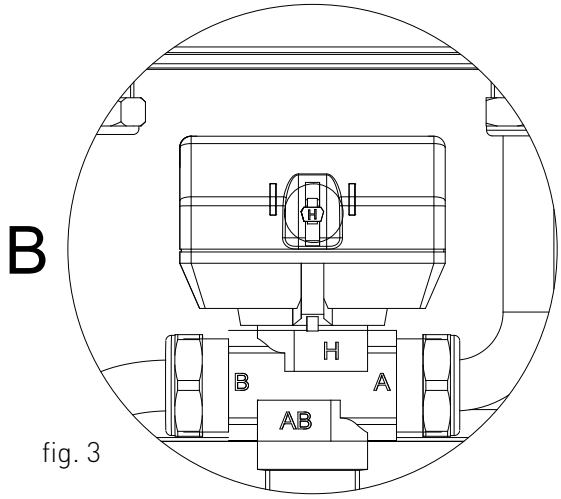


fig. 3

Once the operation is completed, make sure that the plant filling tap is closed and position the lever C of each mixing valve back to their original positions indicated in position A of Fig. 1, proceeding with dismantling and remounting the motor on the mixing valve body as follows:

1. Press the release device placed under the motor 1 (fig. 1).

2. Keep the release mechanism pressed and apply a light pressure toward the valve body then rotate the motor body 2 by 45° anticlockwise.

3. Re-assemble the motor body by proceeding in reverse order.

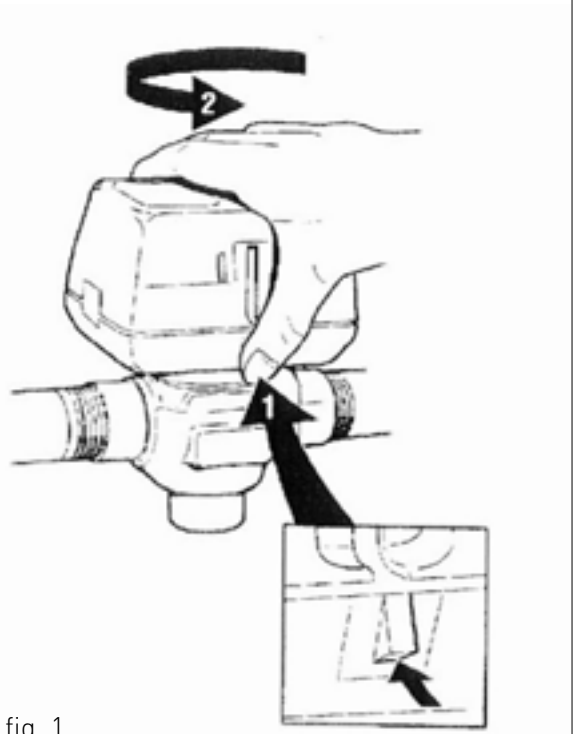
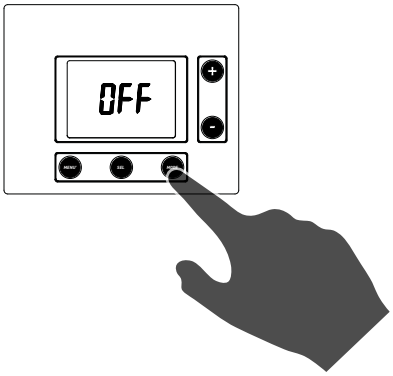


fig. 1

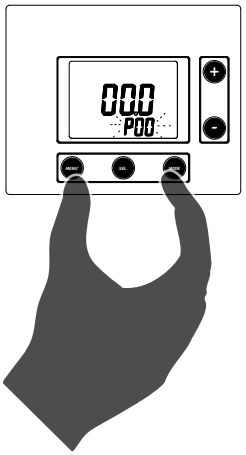
2.1.3. ACCESSING AND PROGRAMMING THE PARAMETERS

To access the parameters menu and adjust their values, follow the procedure below:

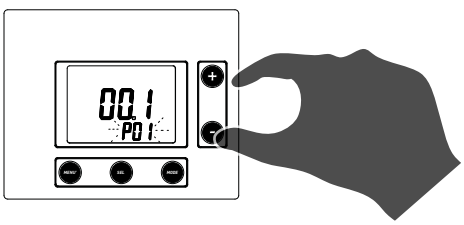
1. Press the button 'MODE' to select the OFF



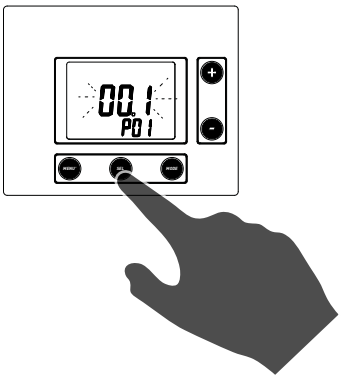
2. Press and hold the "MENU" and "MODE" buttons simultaneously and wait for the number of the flashing parameter 'P00' and the value of the selected parameter to appear on the display, then release the "MENU" and "MODE" buttons.



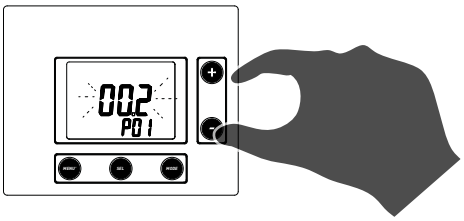
3. Use the keys '⊕' and '⊖' to change the value of the parameter.



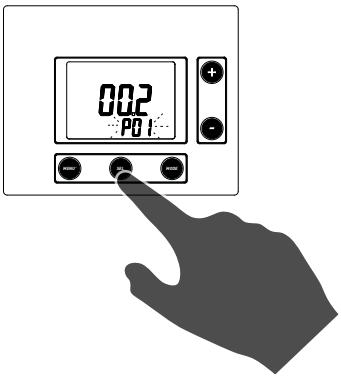
4. Press the "SEL" button to modify the value of the selected parameter. At this point, the number of the selected parameter will become steady, while the value of the parameter to be modified will flash.



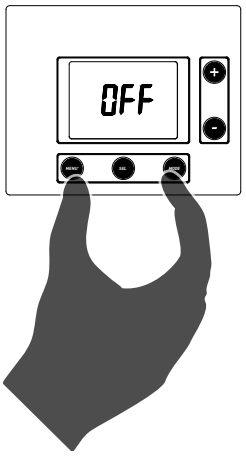
5. Use the keys '⊕' and '⊖' to change the value of the parameter.



6. Press the "SEL" button to confirm and wait for the flashing number of the modified parameter and the steady selected parameter value to appear on the display to make the adjustment made operational.



7. To exit the parameters menu, hold at the same time the keys 'MENÙ" and "MODE" and wait for the OFF to appear on the display.

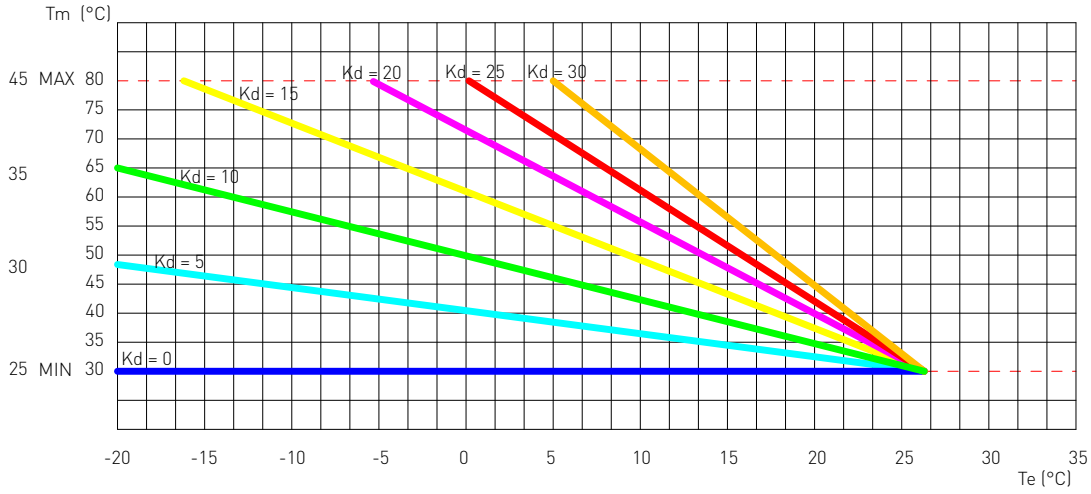


2.1.4. CRAD0 PARAMETERS TABLE

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P00	***CONFIGURATION OF SYSTEM TYPE***	000 - 001	000 = ZONE CONTROL UNIT (CANNOT BE MODIFIED)
P01	***CONFIGURATION OF ZONE 1 HEATING*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE HEATING OPERATION FOR THIS ZONE.	000 - 003	000 = ZONE DISABLED 001 = ZONE IN HIGH TEMPERATURE 002 = ZONE IN LOW TEMPERATURE 003 = MIXED HIGH/LOW ZONE (PRE-SET BY DEFAULT, DO NOT MODIFY ON MODEL R2K HY)
P02	***CONFIGURATION OF ZONE 2 HEATING*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE HEATING OPERATION FOR THIS ZONE.	000 - 003	000 = ZONE DISABLED 001 = ZONE IN HIGH TEMPERATURE 002 = ZONE IN LOW TEMPERATURE 003 = MIXED HIGH/LOW ZONE
P03	***CONFIGURATION OF ZONE 3 HEATING*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE HEATING OPERATION FOR THIS ZONE.	000 - 003	000 = ZONE DISABLED 001 = ZONE IN HIGH TEMPERATURE 002 = ZONE IN LOW TEMPERATURE 003 = MIXED HIGH/LOW ZONE

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P04	***CONFIGURATION OF MAIN REMOTE ZONE*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SELECT THE ZONE IN WHICH THE MAIN REMOTE IS INSTALLED, FROM WHERE IT IS POSSIBLE TO SET THE OPERATING MODE OF THE ENTIRE SYSTEM AND THE TEMPERATURE OF THE DOMESTIC HOT WATER.	001 - 003	001 = ZONE 1 002 = ZONE 2 003 = ZONE 3
P05	***HEATING POSTCIRCULATION TIMER*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE OPERATING DURATION OF THE BOOSTER PUMP AFTER ROOM THERMOSTAT INTERVENTION.	000 001 - 240	000 = DISABLED VALUE EXPRESSED IN SECONDS (PRE-SET TO 120 SECONDS)
P06	***MIXING VALVE MAXIMUM TRAVEL TIME*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE TIME USED BY THE MIXING VALVE TO SWITCH FROM CLOSED TO COMPLETELY OPEN.	000 - 180	VALUE EXPRESSED IN SECONDS (PRE-SET TO 120 SECONDS, DO NOT MODIFY)
P07	***MAIN PCB ANTICYCLE DELAY TIMER***	000 - 240	VALUE EXPRESSED IN SECONDS (DO NOT MODIFY)

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P08	***CLIMATE COMPENSATION CURVE*** ***(ONLY WITH EXTERNAL PROBE CONNECTED)*** YOU CAN CONNECT AN EXTERNAL TEMPERATURE PROBE (SEE CHAPTER 'ELECTRICAL CONNECTIONS') THAT AUTOMATICALLY CHANGES THE DELIVERY TEMPERATURE BASED ON THE EXTERNAL MEASURED TEMPERATURE. THE NATURE OF THE CORRECTION DEPENDS ON THE THERMO-ADJUSTMENT VALUE KD SET (SEE CHART). THE SELECTION OF THE CURVE IS DETERMINED BY THE MAXIMUM DELIVERY TEMPERATURE TM AND THE MINIMUM EXTERNAL TEMPERATURE TE TAKING INTO ACCOUNT THE HOUSE INSULATION DEGREE. THE VALUES OF THE DELIVERY TEMPERATURES TM, REFER TO STANDARD SYSTEMS 30-80 °C OR FLOOR SYSTEMS 25-45 °C. THE SYSTEM TYPE CAN BE SET FROM PARAMETER P03.	000 - 030	((SET BY DEFAULT AT 25) THE NUMBERING OF THE VALUE CORRESPONDS TO 'KD' CURVES ON THE CHART (SEE CHART BELOW).



P09	PUMP MODE SETTING FOR ZONE 1 BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE OPERATING TYPE OF THE PUMP FOR THIS ZONE.	000 - 001	000 = STANDARD OPERATING MODE 001 = PERMANENT OPERATING MODE
P10	***PUMP MODE SETTING ZONE 2*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE OPERATING TYPE OF THE PUMP FOR THIS ZONE.	000 - 001	00 = STANDARD OPERATING MODE 01 = PERMANENT OPERATING MODE

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P11	***PUMP MODE SETTING ZONE 3*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE OPERATING TYPE OF THE PUMP FOR THIS ZONE.	000 - 001	00 = STANDARD OPERATING MODE 01 = PERMANENT OPERATING MODE
P12	***SCREED HEATING FUNCTION CYCLE START TEMPERATURE*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE START TEMPERATURE FOR THE SCREED HEATING FUNCTION HEATING CYCLE. (TO ACTIVATE THE SCREED HEATING FUNCTION, SEE THE "CRAD CONTROL UNIT ACTIVE FUNCTION SIGNALLING CODES" CHAPTER).	025 - 034	VALUES EXPRESSED IN C°
P13	***SCREED HEATING FUNCTION CYCLE END TEMPERATURE*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE END TEMPERATURE FOR THE SCREED HEATING FUNCTION HEATING CYCLE. (TO ACTIVATE THE SCREED HEATING FUNCTION, SEE THE "CRAD CONTROL UNIT ACTIVE FUNCTION SIGNALLING CODES" CHAPTER).	035 - 045	VALUES EXPRESSED IN C°
P14	***SCREED HEATING FUNCTION TIMER*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE DURATION OF THE HEATING CYCLE OF THE SCREED HEATING FUNCTION. (TO ACTIVATE THE SCREED HEATING FUNCTION, SEE THE "CRAD CONTROL UNIT ACTIVE FUNCTION SIGNALLING CODES" CHAPTER).	120 - 240	VALUES EXPRESSED IN HOURS

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P15	***CONFIGURATION OF HEATING SENSOR TYPE (DO NOT MODIFY***	000 - 001	000 = 10K β3435 (PRE-SET BY DEFAULT, DO NOT MODIFY) 001 = 10K β3977
P16	(NOT MODIFY)	000 - 001	(DO NOT MODIFY)
P17	***ENABLING THE BOILER CONTROL PANEL AS THE MASTER*** BY USING THIS PARAMETER, IT IS POSSIBLE TO ENABLE THE BOILER CONTROL PANEL AS THE MASTER SO AS TO MAKE ADJUSTMENTS OF HIGH, LOW AND D.H.W. TEMPERATURES DIRECTLY FROM IT).	000 - 001	000 = DISABLED 001 = ENABLED
P18	***CONTROL PCB OPERATION MODE*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE CONTROL PCB OPERATING MODE ACCORDING TO THE SEVERAL SYSTEMS INTEGRATION, WITH OR WITHOUT THE HEAT PUMP	000 - 002	000 = ONLY BOILER MODE (WITHOUT HEAT PUMP) 001 = HYBRID SOLARBOX SYSTEM MODE 002 = HYBRID DOMESTIC SYSTEM MODE
P19	***DT SETTING FOR 3-WAY VALVE ENABLING, IN HEAT RECOVERY (IN HYBRID BOX SYSTEM OPERATING MODE, ONLY)*** ONLY IF THE PARAMETER P18 IS SET ON THE '001' VALUE, BY USING THIS PARAMETER IT IS POSSIBLE TO SET THE ΔT BETWEEN THE INERTIAL STORAGE TANK AND THE RETURN CIRCUIT TEMPERATURE. IF THE INERTIAL STORAGE TANK TEMPERATURE IS HIGHER THAN THAT DETECTED ON THE RETURN CIRCUIT, FOR A VALUE EQUAL OR HIGHER THAN THE ONE SET IN THIS PARAMETER, THE 3-WAY VALVE DEVIATES THE HEATING CIRCUIT RETURN WATER ON THE INERTIAL STORAGE TANK AND AFTER THAT ON THE DISTRIBUTION MANIFOLD. BY PROCEEDING IN THIS WAY, IT WILL BE POSSIBLE TO WITHDRAW RENEWABLE THERMAL ENERGY. IF THE FLOW SETPOINT OF THE MIXED CIRCUITS IS SATISFIED, THE BOILER DOES NOT SWITCH ON.	001 - 010	EXPRESSED IN °C (DEFAULT VALUE 3°C)

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P20	***D.H.W SENSOR (OPTIONAL), FROM REMOTE STORAGE TANK TO THE BOILER ACTIVATION. (FOR SYSTEMS WITH REMOTE STORAGE TANK ONLY).*** ONLY IF THE VALUE SET IN THE PARAMETER P18 IS DIFFERENT FROM '000' AND THE 'S1' SENSOR IS INSTALLED (AS INDICATED IN THE CHAPTER.....), BY USING THIS PARAMETER IT IS POSSIBLE TO ENABLE THE SENSOR DETECTING THE D.H.W FROM THE REMOTE STORAGE TANK TO THE BOILER, TO MANAGE THE BOILER INTEGRATION.	000 - 001	000 = DISABLED 001 = ENABLED
P21	***BOILER STARTING UP DELAY*** ONLY IF THE VALUE SET IN THE PARAMETER P18 IS DIFFERENT FROM '000', BY USING THIS PARAMETER IT IS POSSIBLE TO SET THE TIME OF THE BOILER STARTING UP DELAY FROM THE ROOM-THERMOSTAT CONTACT CLOSURE.	000 - 015	EXPRESSED IN MINUTES
P22	***3-WAY VALVE / 3-WAY VALVE + ZONE 1 CIRCULATING PUMP ENABLING*** BY USING THIS PARAMETER IT IS POSSIBLE TO ENABLE, BY MEANS OF A CONTACT, THE 3-WAY VALVE OR THE 3WAY-VALVE TOGETHER WITH THE ZONE 1 CIRCULATING PUMP.	000 - 002	000 = DISABLED 001 = 3-WAY VALVE ENABLING 002 = 3-WAY VALVE + ZONE 1 CIRCULATION ENABLING
P23	***FLOW TEMPERATURE SETPOINT*** ONLY IF THE VALUE SET IN THE PARAMETER P22 IS DIFFERENT FROM '000' OR THE PARAMETER P26 IS ENABLED, BY USING THIS PARAMETER IS POSSIBLE TO SET A FLOW TEMPERATURE DIFFERENT FROM THAT PRE-SET IN THE BOILER.	045 - 080	EXPRESSED IN °C
P24	***LOW TEMPERATURE SETPOINT MAX. VALUE ACTIVATION*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE MAX. TEMPERATURE (ADJUSTABLE BY THE END USER) OF THE LOW TEMPERATURE CIRCUIT.	045 - 060	EXPRESSED IN °C
P25	***FLOWMETER INTERVENTION*** BY ENABLING THIS PARAMETER, IT IS POSSIBLE TO EXCLUDE THE FLOWMETER OPERATION WHEN THE HYBRID DOMESTIC SYSTEM MODE IS SET (PARAMETER P18 ON 002 VALUE).	000 - 001	000 = DISABLED 001 = ENABLED

PARAMETER	DESCRIPTION	RANGE	FUNCTION
P26	***FLOW TEMPERATURE SETPOINT, SET AT PARAMETER P23, ENABLING*** WITH INERTIAL STORAGE TANK IN THE SYSTEM, BY USING THIS PARAMETER IT IS POSSIBLE TO ENABLE A FIX FLOW TEMPERATURE IN THE BOILER (SET AT PARAMETER P23) REGARDLESS OF THE TEMPERATURE SET IN THE MIXED CIRCUIT.	000 - 001	000 = DISABLE 001 = ENABLE
P27	***COOLING ZONE SELECTION*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SELECT THE COOLING ZONE.	001 - 004	001 = ZONE 1 ENABLED (DEFAULT VALUE) 002 = ZONE 2 ENABLED 003 = ZONE 3 ENABLED 004 = ZONES 1-2-3 ENABLED
P28	***TEMPERATURE LIMIT SELECTION TO PREVENT RADIANT PANELS FROM SUPERFICIAL CONDENSATION.*** WITH RADIANT PANELS (IN FLOOR, WALL OR CEILING INSTALLATIONS) FOR SUMMER COOLING INSTALLED, THE PCB ALLOWS TO AVOID SUPERFICIAL CONDENSATION PHENOMENA IN THE STRUCTURE. BY USING THIS PARAMETER, IT IS POSSIBLE TO SET THE TEMPERATURE LIMIT OF THE COOLING SYSTEM (GENERALLY THE DEW POINT IS 14 °C) WHICH IF EXCEEDED, BRINGS TO THE CLOSURE OF THE MIXING VALVE BY MEANS OF THE PCB, UNTIL THE FLOW TEMPERATURE TO THE RADIANT PANELS OVERCOMES OF 2°C THE PRE-SET LIMIT VALUE.	008 - 020	EXPRESSED IN °C (DEFAULT VALUE 14 °C) ***ATTENTION! THE VALUE OF THIS PARAMETER MUST NOT BE SET BELOW 14 °C.***
P29	***COOLING SYSTEM TYPE SELECTION (IN HYBRID DOMESTIC SYSTEM OPERATING MODE ONLY)*** BY USING THIS PARAMETER, IT IS POSSIBLE TO SELECT THE SYSTEM TYPE USED FOR THE COOLING.	000 - 001	000 = COOLING BY MEANS OF SPLIT (DEFAULT VALUE) 001 = COOLING BY RADIANT PANELS

2.2. MAINTENANCE

2.2.5. GENERAL MAINTENANCE WARNINGS

DANGER

Before each components cleaning or replacement operation, ALWAYS cut off the POWER, WATER and GAS supply of the appliance.

WARNING

To ensure greater life span and proper operation of the device, during the maintenance operations use only original spare parts.

ATTENTION

To ensure the efficiency and safety of the device, the maintenance operations must be realized on an annual basis. The operations described below, are essential to the validity of the standard RADIANT warranty and must be performed by professionally qualified personnel in accordance with current legislation and authorized by RADIANT.

Please perform the following operations once a year:

- Check that the system's water PH is between 7 and 8.5;
- check the sealing of the water components, and replace if necessary the gaskets;
- check the primary exchanger, if necessary, clean it;
- check the operation of the gas light up and safety systems. If necessary, remove and clean the flame detection and light up electrodes from incrustations paying attention to respect the distances with respect to the burner;
- check the heating circuit safety systems: limit temperature safety thermostat; limit pressure safety;
- check that the wiring is performed in compliance with the requirements in the appliance instruction manual;
- check the wiring inside the control panel;

2.2.6. TECHNICAL DATA

Models		**SIM 1A**	**SIM 2A**	**SIM 3A**
High temperature circuits	no.	1	2	3
Technical specifications				
Max. working pressure in heating circuit	bar	3	3	3
Max. working temperature	°C	80	80	80
Dimensions				
Width	mm	535	550	550
Height	mm	390	670	670
Depth	mm	134	160	160
Water Connections				
Boiler flow	Ø	3/4"	3/4"	3/4"
Boiler return	Ø	3/4"	3/4"	3/4"
High temperature circuit flow	Ø	3/4"	3/4"	3/4"
High temperature circuit return	Ø	3/4"	3/4"	3/4"
Electrical specifications				
Electric power supply	V/Hz	230/50	230/50	230/50
Electrical power consumption	W	52	104	156
Electrical protection	IP	X4D	X4D	X4D

Models		SIM 1B	SIM 2B	SIM 3B
Low temperature circuits	no.	1	2	3
Technical specifications				
Max. working pressure in heating circuit	bar	3	3	3
Max. working temperature	°C	80	80	80
Safety temperature	°C	50	50	50
Dimensions				
Width	mm	535	550	550
Height	mm	390	670	670
Depth	mm	134	160	160
Water Connections				
Boiler flow	Ø	3/4"	3/4"	3/4"
Boiler return	Ø	3/4"	3/4"	3/4"
Low temperature circuit flow	Ø	3/4"	3/4"	3/4"
Low temperature circuit return	Ø	3/4"	3/4"	3/4"
Electrical specifications				
Electric power supply	V/Hz	230/50	230/50	230/50
Electrical power consumption	W	52	104	156
Electrical protection	IP	X4D	X4D	X4D

Models		SIM 1A1B	SIM 1A2B	SIM 2A1B
High temperature circuits	no.	1	1	2
Low temperature circuits (with mixing valve)	no.	1	2	1
Technical specifications				
Max. working pressure in heating circuit	bar	3	3	3
Max. working temperature	°C	80	80	80
High temperature heating circuit temperature setting (min-max)	°C	30-80	30-80	30-80
Low temperature heating circuit temperature setting (min-max)	°C	25-45	25-45	25-45
Dimensions				
Width	mm	550	550	550
Height	mm	670	670	670
Depth	mm	160	160	160
Water Connections				
Boiler flow	Ø	3/4"	3/4"	3/4"
Boiler return	Ø	3/4"	3/4"	3/4"
High temperature circuit flow	Ø	3/4"	3/4"	3/4"
High temperature circuit return	Ø	3/4"	3/4"	3/4"
Low temperature circuit flow (with mixing valve)	Ø	3/4"	3/4"	3/4"
Low temperature circuit return (with mixing valve)	Ø	3/4"	3/4"	3/4"
Electrical specifications				
Electric power supply	V/Hz	230/50	230/50	230/50
Electrical power consumption	W	107	159	159
Electrical protection	IP	X4D	X4D	X4D

2.2.7. TECHNICAL ASSEMBLY

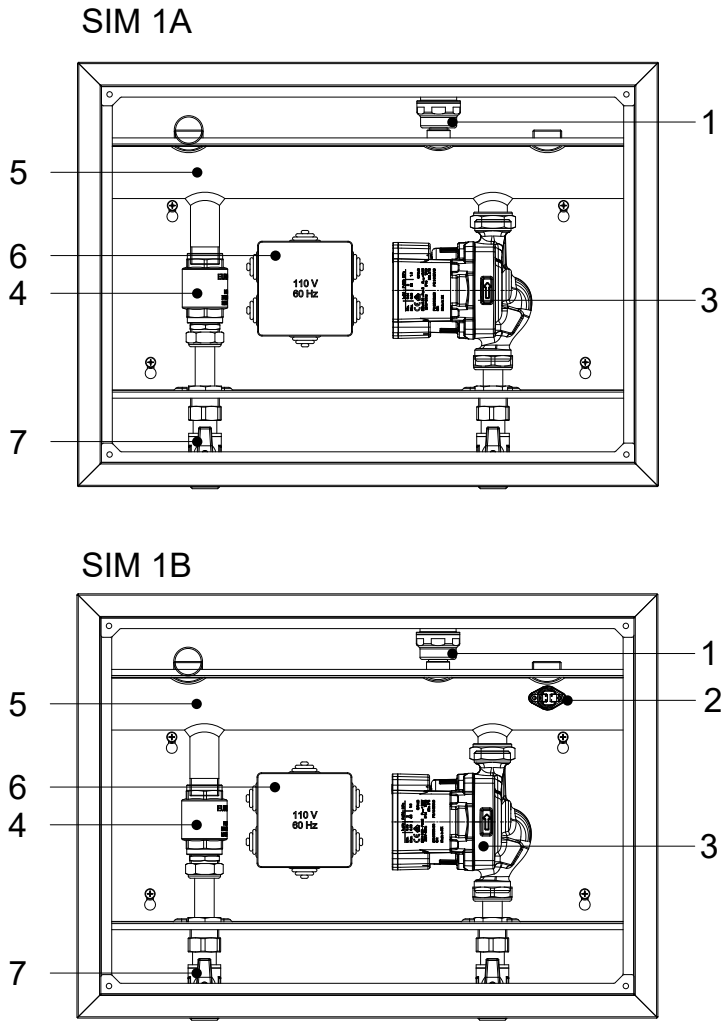


fig. 1

KEY

1. AUTOMATICA AIR VENT
2. SAFETY THERMOSTAT
3. ELECTRONIC PUMP
4. NON-RETURN VALVE
5. HYDRAULIC SEPARATOR (Ø1"1/2 equivalent hydraulic diameter)
6. ELECTRICAL CONNECTIONS BOX
7. BALL VALVE

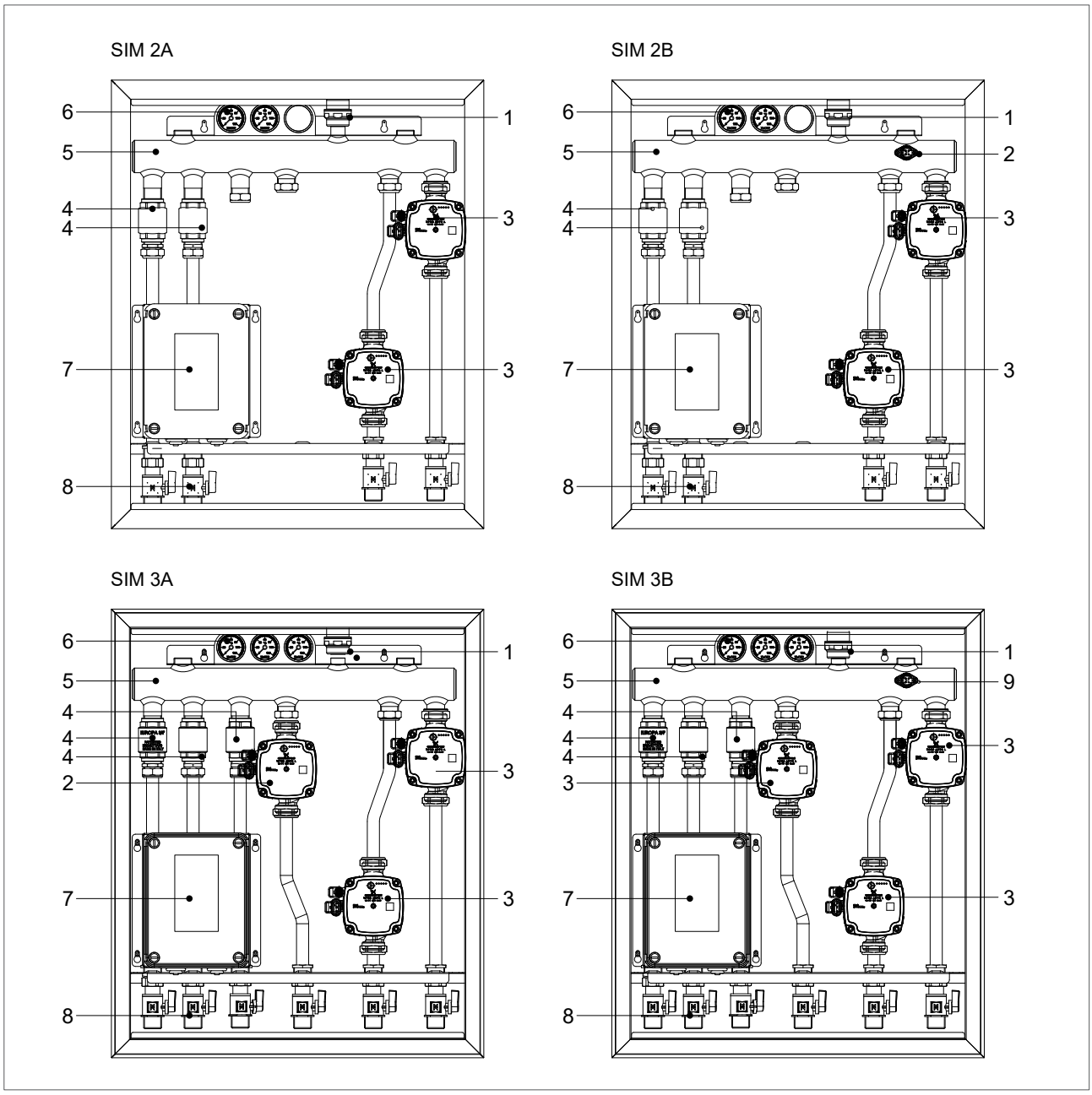


fig. 1

KEY

1. AUTOMATICA AIR VENT
2. SAFETY THERMOSTAT
3. ELECTRONIC PUMP
4. NON-RETURN VALVE
5. HYDRAULIC SEPARATOR (Ø1"1/2 equivalent hydraulic diameter)
6. THERMOMETER
7. ELECTRONIC BOARD PANEL - ELECTRICAL CONNECTIONS
8. BALL VALVE

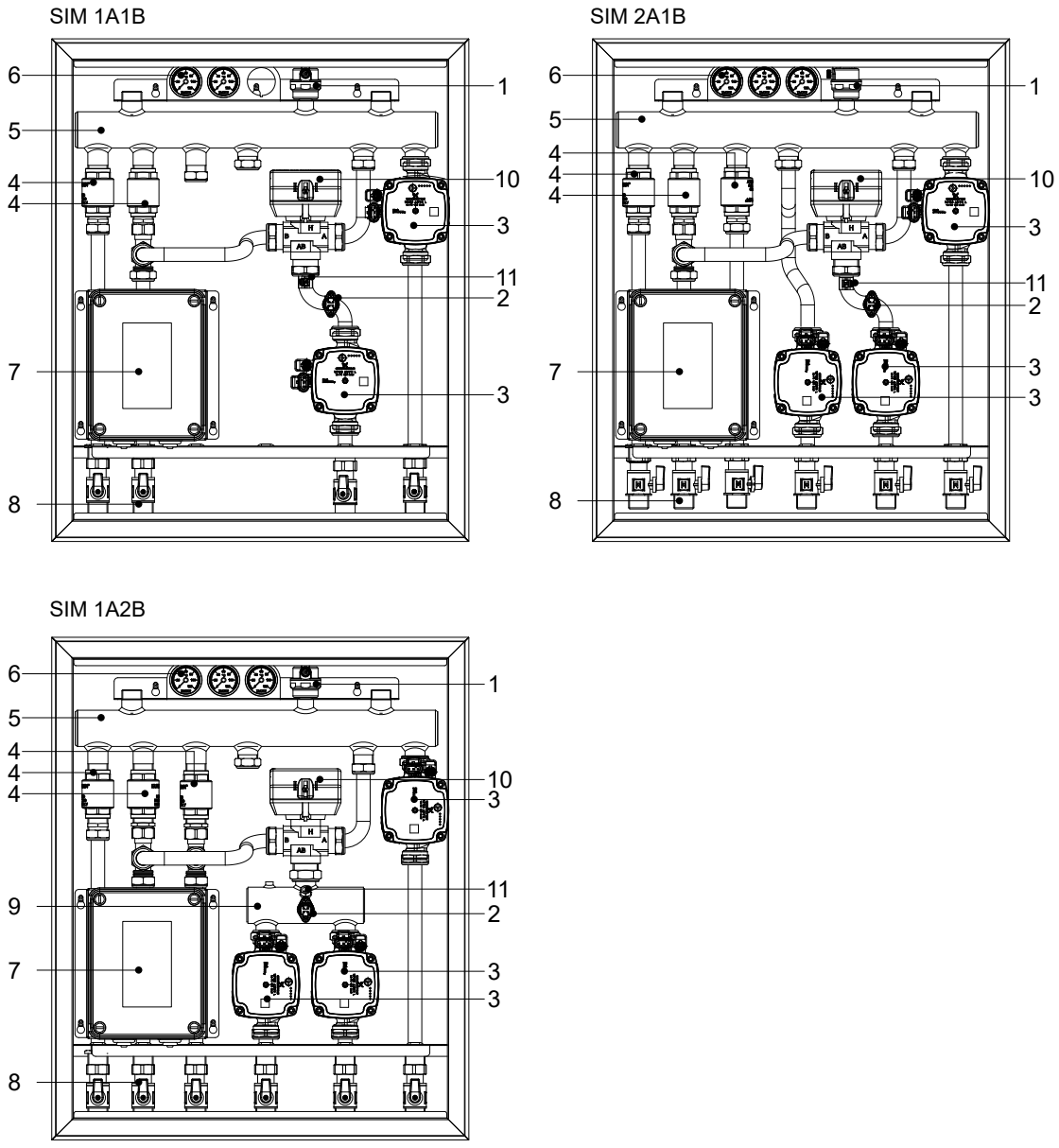


fig. 1

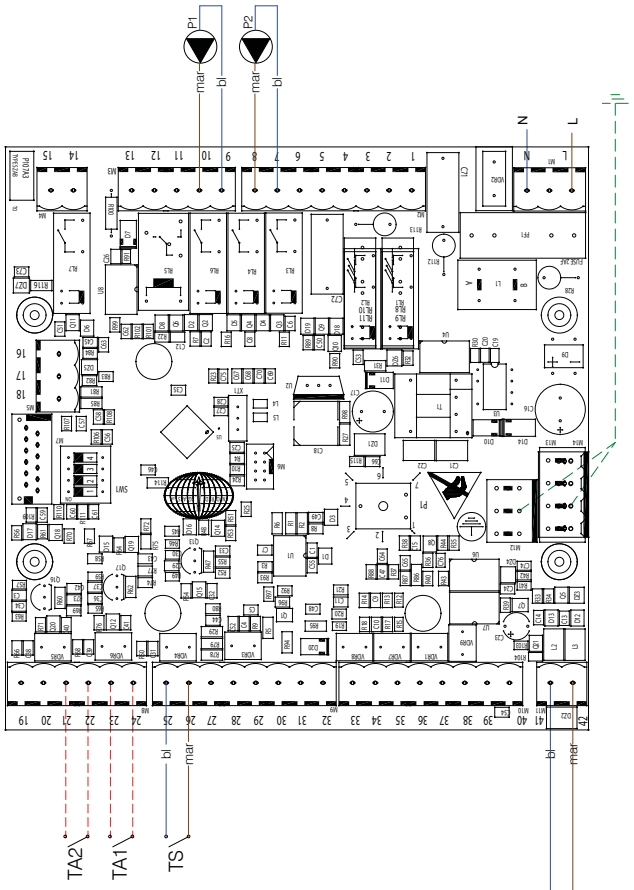
KEY

1. AUTOMATICA AIR VENT
2. SAFETY THERMOSTAT
3. ELECTRONIC PUMP
4. NON-RETURN VALVE
5. HYDRAULIC SEPARATOR (Ø1"1/2 equivalent hydraulic diameter)
6. THERMOMETER
7. ELECTRONIC BOARD PANEL - ELECTRICAL CONNECTIONS
8. BALL VALVE
9. FLOW MANIFOLD (Ø1"1/2 equivalent hydraulic diameter)
10. LOW TEMPERATURE CIRCUIT MIXING VALVE
11. HEATING SENSOR

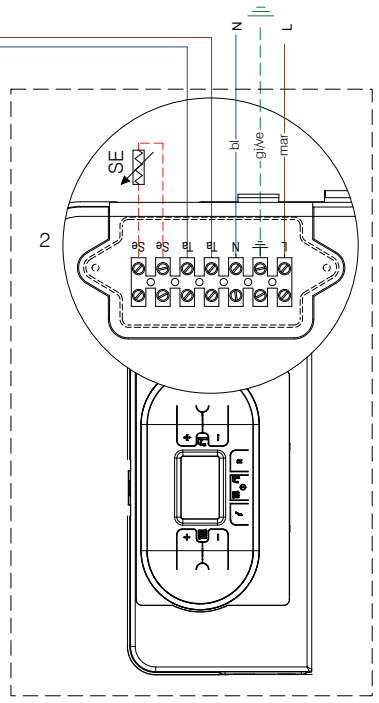
SUPPORT CENTRE

2.2.8. WIRING DIAGRAM

SIM 2A / 2B - no.2 HIGH/LOW (1) ZONES



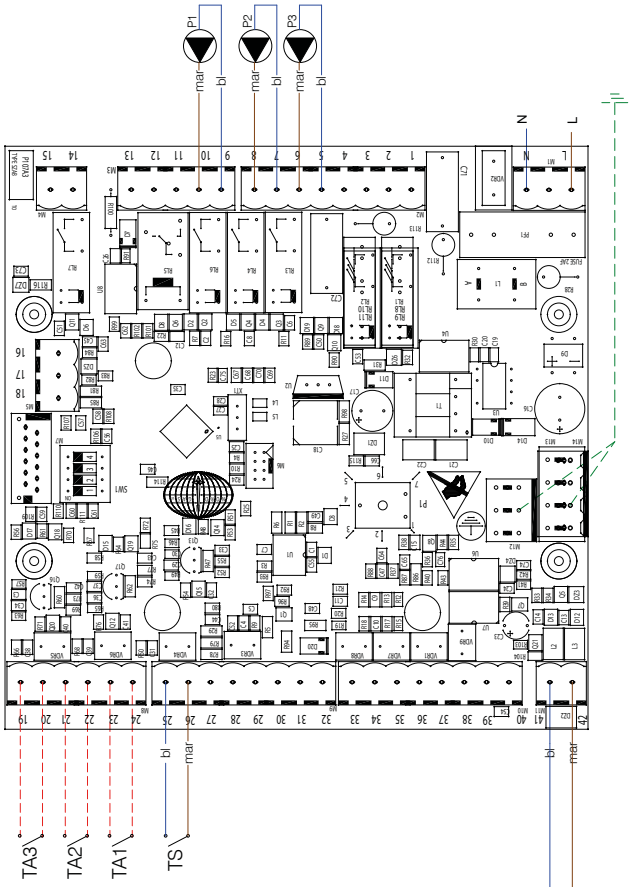
L:	Line
N:	Neutral
ne:	Black
ce:	Light-blue
ma:	Brown
ar:	Orange
gi:	Yellow
bi:	White
gr:	Grey
bl:	Blue
ge:	Green
gi/ve:	Yellow /green (hearth)



TA1	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.1
TA2	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.2
P1	HIGH / LOW TEMPERATURE CIRCUIT PUMP NO.1
P2	HIGH / LOW TEMPERATURE CIRCUIT PUMP NO.2
TS	SAFETY THERMOSTAT (ONLY FOR SIM 2B MODEL)
SE	OUTDOOR TEMPERATURE SENSOR
1	CONTROL PANEL
2	CONTROL BLOCK
NOTE	IF PROVIDED, INSTALL ONLY THE EXTERNAL SENSOR INTO THE TERMINAL OF THE BOILER CONTROL PANEL.

fig. 1

SIM 3A / 3B - no.3 HIGH/LOW ZONES



L:	Line
N:	Neutral
ne:	Black
ce:	Light-blue
ma:	Brown
ar:	Orange
gi:	Yellow
bi:	White
gr:	Grey
bl:	Blue
ge:	Green
gi/ve:	Yellow /green (hearth)

TA1	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.1
TA2	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.2
TA3	ROOM THERMOSTAT / OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.3
P1	HIGH / LOW TEMPERATURE CIRCUIT PUMP NO.1
P2	HIGH / LOW TEMPERATURE CIRCUIT PUMP NO.2
P3	HIGH / LOW TEMPERATURE CIRCUIT PUMP NO.3
TS	SAFETY THERMOSTAT (ONLY FOR SIM 3B MODEL)
SE	OUTDOOR TEMPERATURE SENSOR
1	CONTROL PANEL MASTER
2	CONTROL BLOCK
NOTE	IF PROVIDED, INSTALL ONLY THE EXTERNAL SENSOR INTO THE TERMINAL OF THE BOILER CONTROL PANEL.

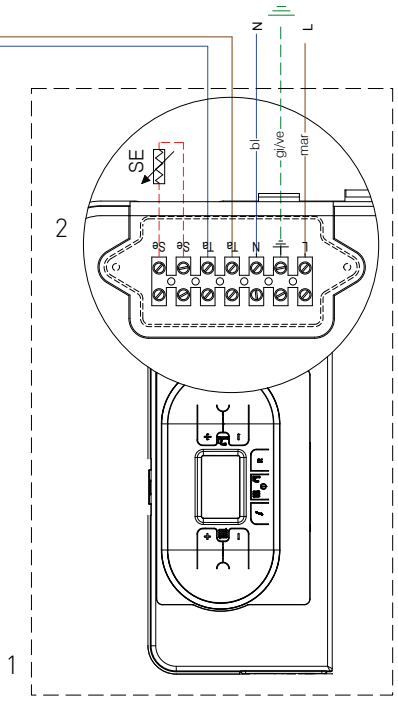
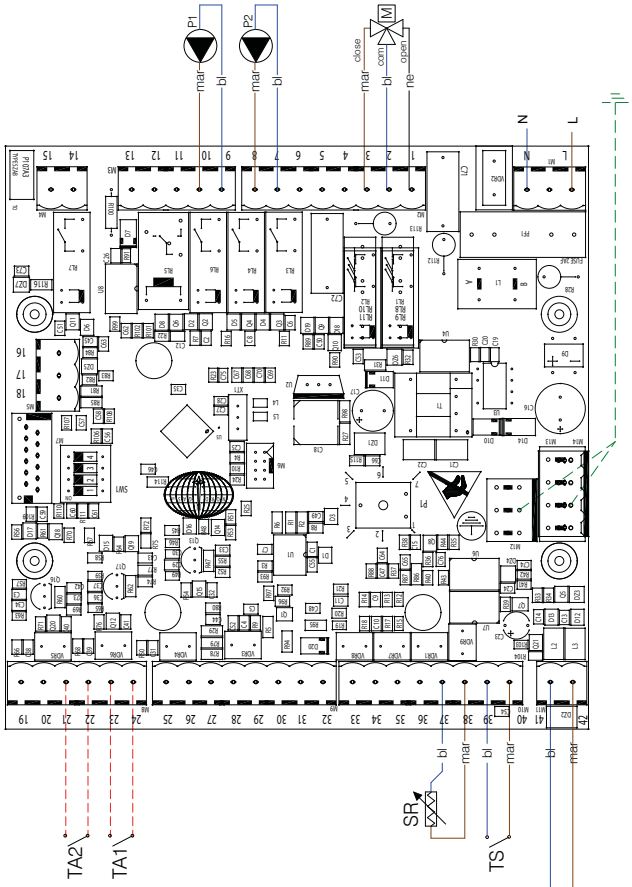
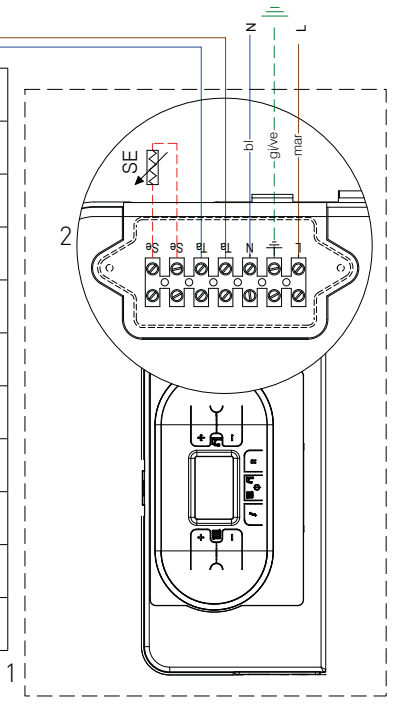


fig. 1

SIM 1A1B - no. 1 HIGH ZONE + no. 1 LOW ZONE



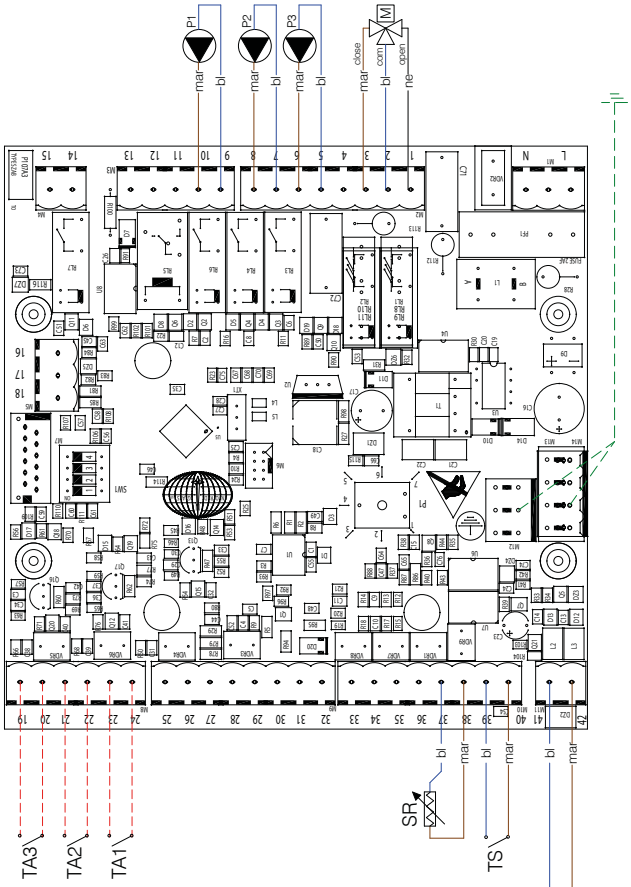
L:	Line
N:	Neutral
ne:	Black
ce:	Light-blue
ma:	Brown
ar:	Orange
gi:	Yellow
bi:	White
gr:	Grey
bl:	Blue
ge:	Green
gi/ve:	Yellow /green (hearth)



TA1	ROOM THERMOSTAT /OR REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.1
TA2	ROOM THERMOSTAT / REMOTE LCD HIGH/LOW TEMPERATURE CIRCUIT NO.2
P1	HIGH TEMPERATURE CIRCUIT PUMP
P2	LOW TEMPERATURE CIRCUIT PUMP
M	MIXING VALVE
SR	HEATING SENSOR
TS	SAFETY THERMOSTAT
SE	OUTDOOR TEMPERATURE SENSOR
1	CONTROL PANEL MASTER
2	CONTROL BLOCK
NOTE	IF PROVIDED, INSTALL ONLY THE EXTERNAL SENSOR INTO THE TERMINAL OF THE BOILER CONTROL PANEL.

fig. 1

SIM 2A1B - no. 2 HIGH ZONE + no. 1 LOW ZONE



L:	Line
N:	Neutral
ne:	Black
ce:	Light-blue
ma:	Brown
ar:	Orange
gi:	Yellow
bi:	White
gr:	Grey
bl:	Blue
ge:	Green
gi/ve:	Yellow /green (hearth)

TA1	ROOM THERMOSTAT /OR REMOTE LCD HIGH TEMPERATURE CIRCUIT NO.1
TA2	ROOM THERMOSTAT /OR REMOTE LCD HIGH TEMPERATURE CIRCUIT NO.2
TA3	ROOM THERMOSTAT / OR REMOTE LCD LOW TEMPERATURE CIRCUIT
P1	HIGH TEMPERATURE CIRCUIT PUMP NO. 1
P2	HIGH TEMPERATURE CIRCUIT PUMP NO. 2
P3	LOW TEMPERATURE CIRCUIT PUMP
M	MIXING VALVE
SR	HEATING SENSOR
TS	SAFETY THERMOSTAT (ONLY FOR SIM 2B MODEL)
SE	OUTDOOR TEMPERATURE SENSOR
1	CONTROL PANEL MASTER
2	CONTROL BLOCK
NOTE	IF PROVIDED, INSTALL ONLY THE EXTERNAL SENSOR INTO THE TERMINAL OF THE BOILER CONTROL PANEL.

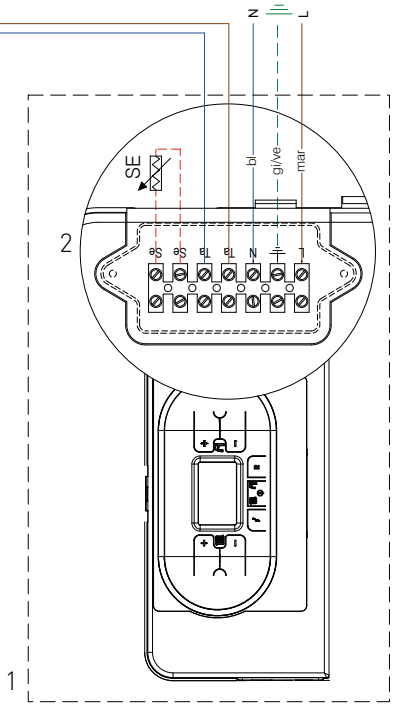
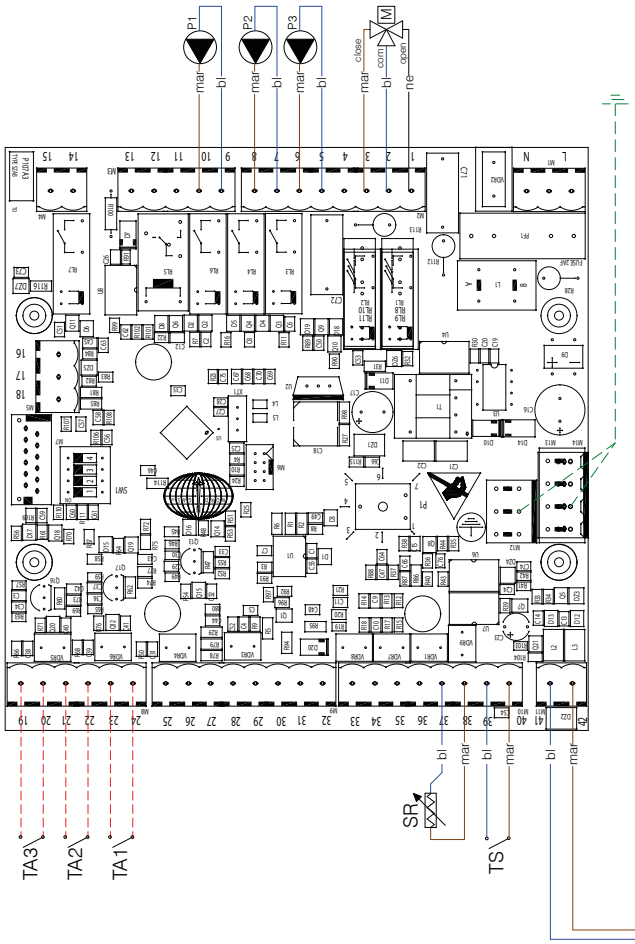


fig. 1

SIM 1A2B - no. 1 HIGH ZONE + no. 2 LOW ZONE



L:	Line
N:	Neutral
ne:	Black
ce:	Light-blue
ma:	Brown
ar:	Orange
gi:	Yellow
bi:	White
gr:	Grey
bl:	Blue
ge:	Green
gi/ve:	Yellow /green (hearth)

TA1	ROOM THERMOSTAT / OR REMOTE LCD HIGH TEMPERATURE CIRCUIT
TA2	ROOM THERMOSTAT / OR REMOTE LCD LOW TEMPERATURE CIRCUIT NO. 1
TA3	ROOM THERMOSTAT / OR REMOTE LCD LOW TEMPERATURE CIRCUIT NO. 2
P1	HIGH TEMPERATURE CIRCUIT PUMP
P2	LOW TEMPERATURE CIRCUIT PUMP NO. 1
P3	LOW TEMPERATURE CIRCUIT PUMP NO. 2
M	MIXING VALVE
SR	HEATING SENSOR
TS	SAFETY THERMOSTAT
SE	OUTDOOR TEMPERATURE SENSOR
1	CONTROL PANEL MASTER
2	CONTROL BLOCK
NOTE	IF PROVIDED, INSTALL ONLY THE EXTERNAL SENSOR INTO THE TERMINAL OF THE BOILER CONTROL PANEL.

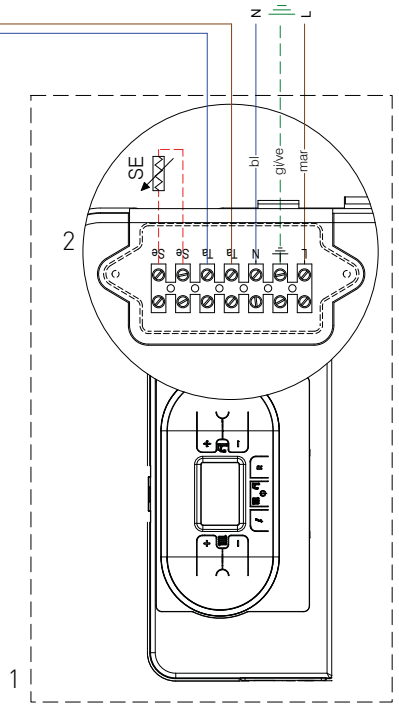


fig. 1

2.2.9. ACCESSING THE DEVICE

Proceed as follows to make electrical connections:

1. Cut off power supply from the main switch
2. Rotate lock **1** (fig. 1), rotate front panel **2** and remove it by lifting upwards **3.**
3. Set the zone management board according to the type of module (fig.2).

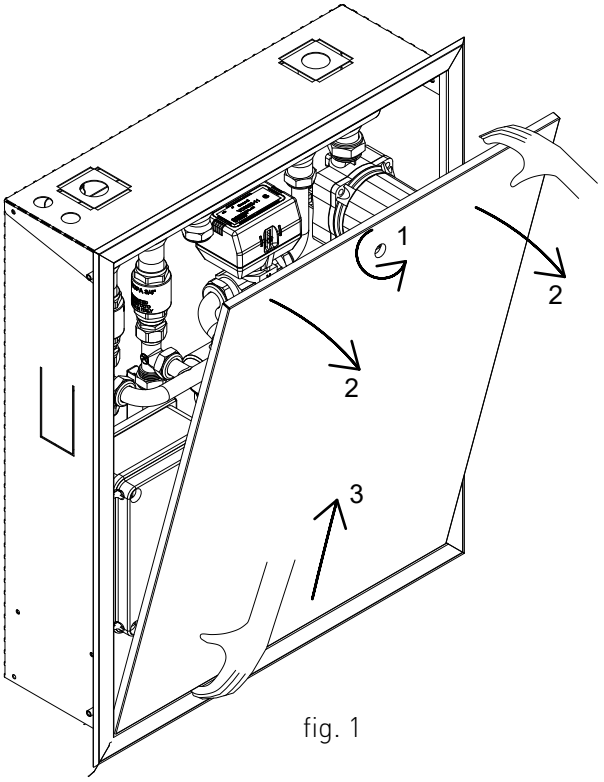


fig. 1

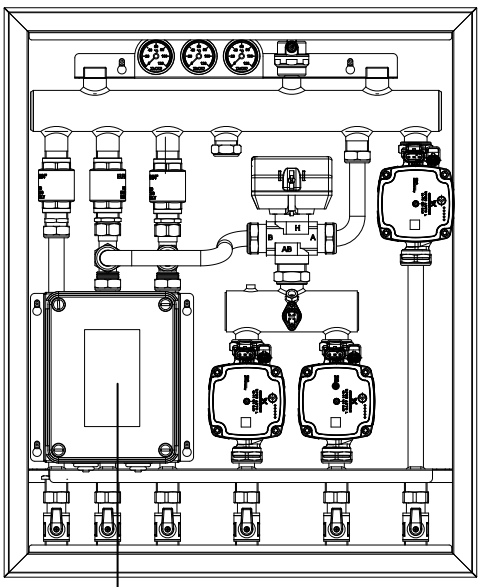


fig. 2

ELECTRONIC BOARD
CRAD CONTROL UNIT

2.2.10. ACCESSING THE ELECTRONIC BOARD CRAD CONTROL UNIT

In order ot intervene on the wirings of the control panel, please proceed as follows:

DANGER
Cut off the voltage from the main switch.

› unscrew the four fastening screws 1 - fig. 1;

› remove the carter (fig.2).

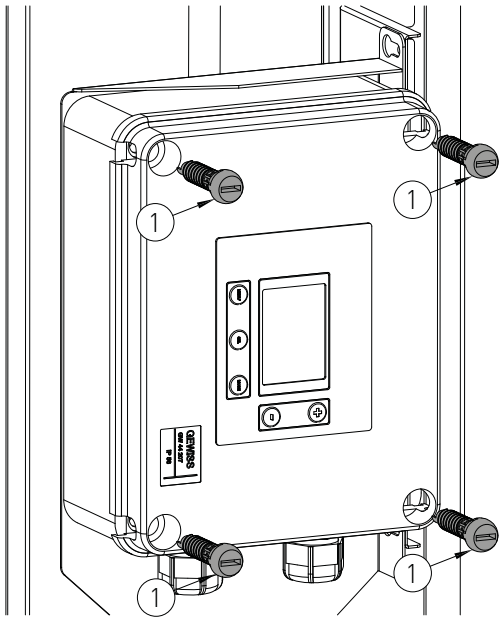


fig. 1

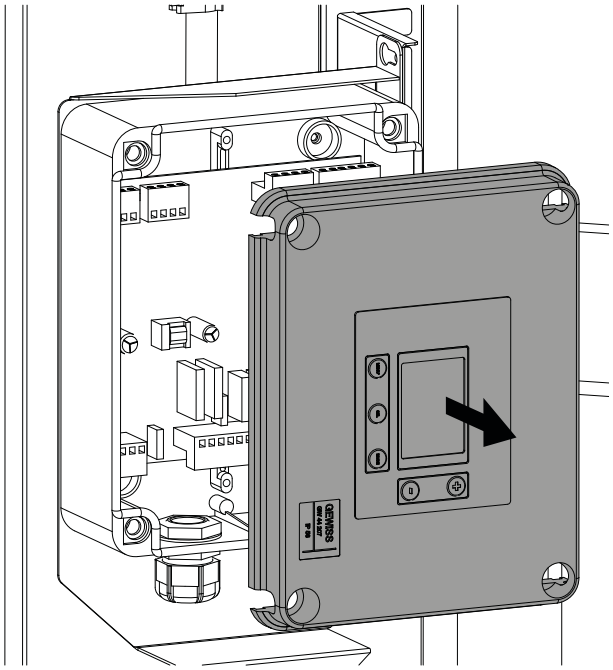


fig. 2

2.2.11. FAULT SIGNALLING CODES

Safety intervention signalling is shown on the LCD display.

In the main menu, in the presence of an intervention to be signalled, the display is abandoned and the intervention signal is triggered, flashing the relevant error code. The error codes are also sent to the remote control.

The following are the safety codes in order of priority:

CODE	FAULT	POSSIBLE CAUSE	SOLUTION	RESET
E67	***MIXED SUPPLY PROBE***	PROBE BROKEN OR CALIBRATED INCORRECTLY (RESISTANCE VALUE 10 KOHM AT 25°C NTC);	REPLACE IT;	AUTOMATIC.
		PROBE CONNECTOR WET OR DISCONNECTED.	CHECK ELECTRICAL CONNECTION.	
E69	***LOW TEMPERATURE SYSTEM SAFETY THERMOSTAT (OPTIONAL)***	THERMOSTAT CABLE BROKEN OR DISCONNECTED;	CHECK ELECTRICAL CONNECTION;	AUTOMATIC.
		THERMOSTAT BROKEN	REPLACE IT.	
E70	***LOW TEMPERATURE SYSTEM SAFETY THERMOSTAT. ONLY FOR MODELS 2B-3B (OPTIONAL)***	THERMOSTAT CABLE BROKEN OR DISCONNECTED;	CHECK ELECTRICAL CONNECTION;	AUTOMATIC
		THERMOSTAT BROKEN	REPLACE IT.	
E71	***CRAD BOARD PARAMETERS PROGRAMMING REQUEST***	CRAD BOARD MICROPROCESSOR MEMORY LOSS.	CRAD BOARD PARAMETERS PROGRAMMING.	MANUAL RESET (CUT OFF POWER).

SUPPORT CENTRE

2Codicidisegnalazioneanomalie_CRAD_SIM_EN

2.2.12. ACTIVE FUNCTIONS SIGNALLING CODES ON THE CRAD ZONE CONTROL UNIT

CODE	FUNCTION	DESCRIPTION
SCM	***ACTIVE SCREED HEATING***	THIS SPECIAL FUNCTION IS PROVIDED TO FACILITATE THE SET-UP OPERATIONS OF FLOOR SYSTEMS AT LOW TEMPERATURE. ACTIVATION IS PERFORMED BY PRESSING THE "+" AND "SEL" CRAD CONTROL UNIT BUTTONS SIMULTANEOUSLY FOR 10 SECONDS. THE VALUE OF THE LOW TEMPERATURE, ALTERNATING WITH THE MESSAGE "SCM" (SCREED HEATING), IS SHOWN ON THE DISPLAY. UPON ACTIVATION, A HEATING CYCLE IS FORCED ON ALL THE ZONES CONFIGURED AT LOW TEMPERATURE, WITH A MODULATING SETPOINT FOR THE MIXING VALVE CORRESPONDING TO THE VALUE SET IN PARAMETER 'P12' (SCREED HEATING FUNCTION CYCLE START TEMPERATURE, SEE "CRAD PARAMETERS TABLE" CHAPTER). DURING IMPLEMENTATION, THE MIXING VALVE SETPOINT IS INCREMENTED AT REGULAR INTERVALS UNTIL IT REACHES THE VALUE SET IN THE PARAMETER 'P13' (SCREED HEATING FUNCTION CYCLE END TEMPERATURE, SEE "CRAD PARAMETERS TABLE" CHAPTER), THEN RETURNING TO THE TEMPERATURE SET IN PARAMETER 'P12'. THE CYCLE CONTINUES UNTIL THE END OF THE PERIOD CORRESPONDING TO THE SCREED HEATING FUNCTION TIMER, SET BY MEANS OF PARAMETER 'P14' (SEE "CRAD PARAMETERS TABLE" CHAPTER).

3. USER SECTION

The operations described in this section are addressed to all those who will use the machine. The machine must be used and accessed only by qualified operators that fully read and understood the User section, paying particular attention to the warnings.

3.1. USE

3.1.1. GENERAL USE WARNINGS

WARNING

Before starting the device the User must make sure that the First start-up certificate has the stamp of the technical Support Centre proving the testing and the first start-up of the boiler.

WARNING

To validate the warranty, the device must be started by a technical Support Centre authorized by RADIANT no later than 30 days from the date of installation.

WARNING

In order to take advantage of the guarantee provided by the manufacturer, the customer should carefully and exclusively observe the instructions given in the USER section of the manual.

ATTENTION

This machine may be used only for the purpose for which it has been designed: heat water to a temperature below boiling point at atmospheric pressure. Any other use is considered wrong and dangerous. The manufacturer is excluded from any contractual or out of contract responsibility for damage caused to people, animals or property due to incorrect use.

DANGER

The device should not be used by persons (including children) with reduced physical, sensory or mental capacities or without suitable knowledge or experience unless they are instructed on the device use or monitored by a person responsible for their safety.

DANGER

The use of the electrical power, implies respecting some fundamental rules such as:

- DO NOT touch the device with wet and/or humid parts and/or with bare feet;
- DO NOT pull the electrical cables;
- DO NOT leave the device exposed to atmospheric agents (rain, sun, etc.) unless specifically intended;
- in case of cable damage, turn off the device and contact qualified professional staff to replace it.

USER

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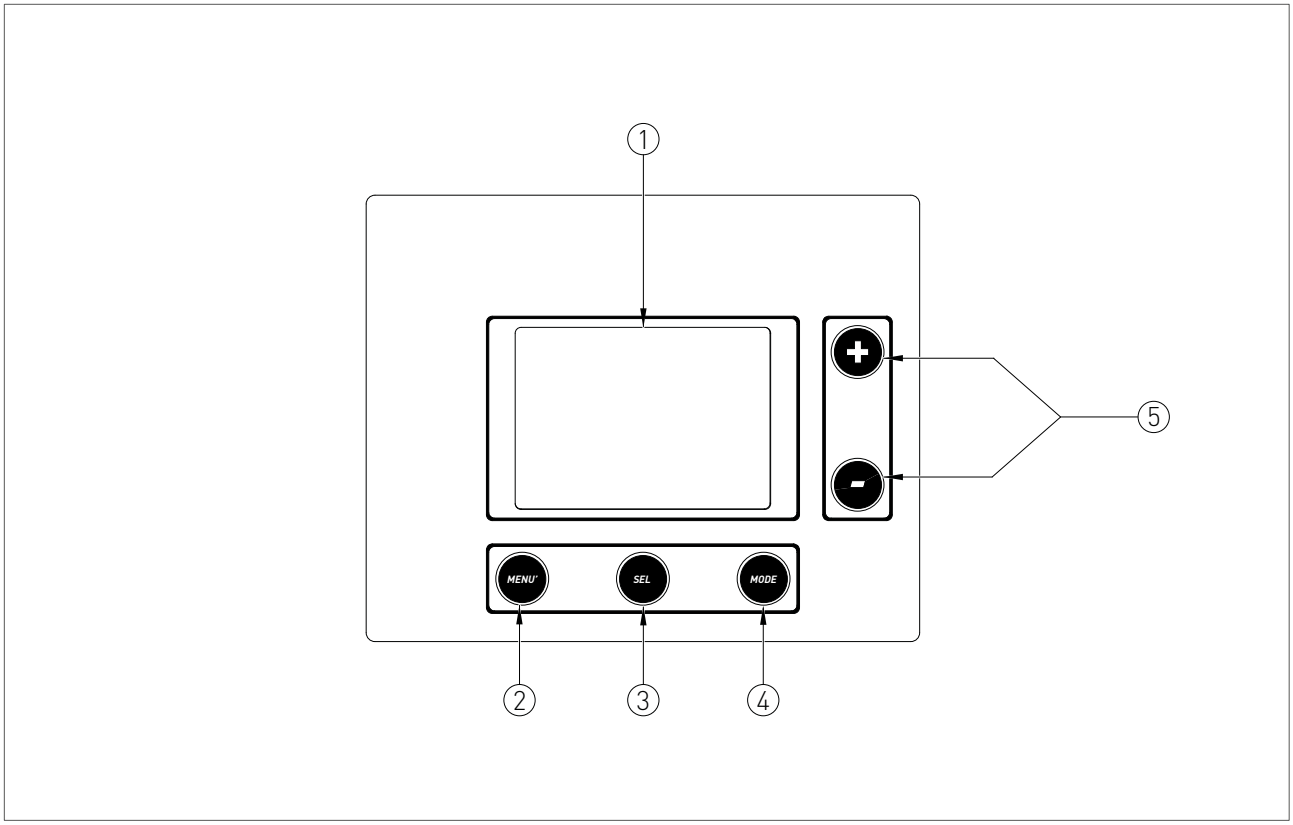
3.1.2. CONTROL PANEL



KEY

1. DISPLAY.

2. MENU BUTTON: IF PRESSED TWICE, ALLOWS YOU TO ACCESS THE CRAD CONTROL UNIT INFO MENU. IF THE VALUE OF PARAMETER 'P17' OF THE CRAD CONTROL UNIT IS SET TO '000', PRESS THE 'MENU' BUTTON ONCE TO MODIFY THE HEATING SETPOINT OF THE ZONES AT HIGH TEMPERATURE USING THE ADJUSTMENT BUTTONS.

3. SELECTION BUTTON: AFTER HAVING ACCESSED THE CRAD CONTROL UNIT INFO MENU BY MEANS OF THE 'MENU' BUTTON, PRESS THE 'SEL' BUTTON TO SCROLL THROUGH THE LIST OF VIEWABLE DATA. IF THE VALUE OF PARAMETER 'P17' OF THE CRAD CONTROL UNIT IS SET TO '000', PRESS THE 'SEL' BUTTON ONCE TO MODIFY THE HEATING SETPOINT VALUE OF THE ZONES AT LOW TEMPERATURE USING THE ADJUSTMENT BUTTONS. OR ELSE, PRESS THE 'SEL' BUTTON TWICE TO MODIFY THE SETPOINT D.H.W. VALUE BY MEANS OF THE ADJUSTMENT BUTTONS.

4. OPERATING MODE BUTTON: IF THE VALUE OF PARAMETER 'P17' OF THE CRAD CONTROL UNIT IS SET TO '000', YOU CAN MODIFY THE OPERATING MODE TO SUMMER / HEATING ONLY / WINTER / OFF.

5. ADJUSTMENT BUTTONS.

3.1.3. DISPLAY ICONS

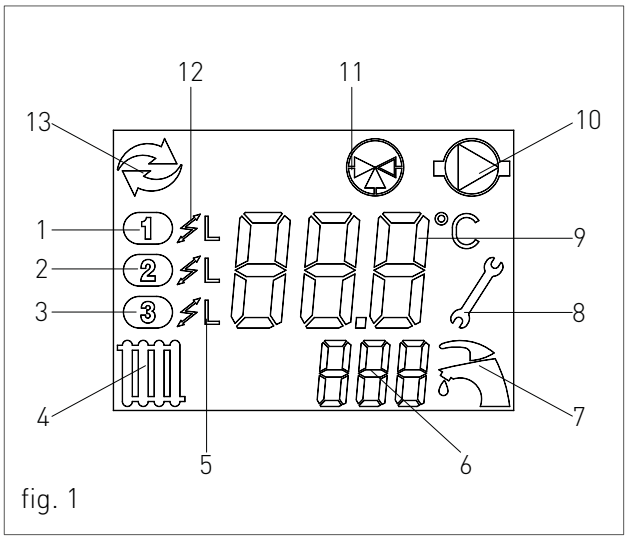


fig. 1

KEY

1. ZONE 1 ENABLED.
2. ZONE 2 ENABLED.
3. ZONE 3 ENABLED.
4. HEATING MODE OPERATION ENABLED.
5. ASSOCIATED ZONE CONFIGURED IN LOW TEMPERATURE.
6. INDICATION OF PARAMETER NUMBER OF DISPLAYED INFO CODE.
7. D.H.W. MODE OPERATION ENABLED.
8. DISPLAY ERROR NOT RESETTABLE.
9. TEMPERATURE / SETPOINT / PARAMETER VALUE DISPLAY.
10. IN HYBRID DOMESTIC SYSTEM OPERATING MODE, THE ACTIVE ICON INDICATES THAT THE HEAT PUMP CIRCULATOR IS RUNNING.
11. MIXED HIGH/LOW ZONE ENABLED.
12. ASSOCIATED ZONE CONNECTED TO REMOTE CONTROL.
13. OPEN THERM COMMUNICATION PRESENT (REMOTE CONTROL / ZONE CONTROL UNIT).

USER

3 Icone del display_CRAD_EN

3.1.4. INFO MENU DISPLAY DATA

To view the control unit data in the info menu, first press the 'MENU' button twice and then the 'SEL' button to scroll through the list. To exit the display environment, press the 'MENU' button once or wait 1 minute for automatic exit.

LIST OF VIEWABLE DATA

CODE INFO	DESCRIPTION
3_1	DELIVERY TEMPERATURE OF THE MIXED CIRCUIT
3_2	HYBRID SYSTEM BOX STORAGE D.H.W. PROBE TEMPERATURE - HOT WATER TEMPERATURE AT OUTPUT FROM REMOTE BOILER TO BOILER (ONLY FOR HYBRID DOMESTIC SYSTEM WITH OPTIONAL PROBE)
3_3	LOW HEATING CIRCUIT RECOVERY PROBE TEMPERATURE (IN HYBRID SYSTEM BOX OPERATING MODE) - RECOVERY PROBE TEMPERATURE AT HEAT PUMP (IN HYBRID DOMESTIC SYSTEM OPERATING MODE)
3_4	INERTIAL STORAGE PROBE TEMPERATURE
3_5	PDC FLOW IN L/MIN (ONLY FOR HYBRID DOMESTIC SYSTEM)
3_6	POWER OUTPUT FROM PDC IN KW/H (ONLY FOR HYBRID DOMESTIC SYSTEM)

3.1.5. FAULT SIGNALLING CODES

The boiler can signal any faults by means of a code shown on the display. The following is a list of fault codes that can be viewed and operations that the user can perform to restore the boiler.

CODE	ICON	FAULT	INTERVENTION
E67		***MIXED SUPPLY PROBE***	CALL THE TECHNICAL SUPPORT CENTRE.
E69		***LOW TEMPERATURE SYSTEM SAFETY THERMOSTAT (OPTIONAL)***	CALL THE TECHNICAL SUPPORT CENTRE.
E70		***LOW TEMPERATURE SYSTEM SAFETY THERMOSTAT. ONLY FOR MODELS 2B-3B (OPTIONAL)***	CALL THE TECHNICAL SUPPORT CENTRE.
E71		***CRAD BOARD PARAMETERS PROGRAMMING REQUEST***	CUT OFF ELECTRICAL POWER FROM THE MAIN SWITCH AND THEN RESET IT. WHEN THE FAULT CODE SHUTS OFF ON THE DISPLAY THE BOILER WILL RESTART AUTOMATICALLY. IF THE BLOCK PERSISTS, CALL THE TECHNICAL SUPPORT CENTRE.

3.1.6. MAINTENANCE

To ensure proper boiler safety and efficiency, please contact RADIANT technical support network to check the device every year.

An accurate maintenance should improve system management.

3.1.7. COVER CLEANING

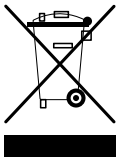
Clean the cover of the device using a wet cloth and come neutral soap.

WARNING

DO NOT use abrasive or powder detergents as they might damage the plastic cover and control elements.

3.1.8. DISPOSAL

The boiler and all its accessories must be differentiated, suitably disposed of in accordance with the standards in force.



The use of the symbol WEEE (Waste Electrical and Electronic Equipment) shows that this product can not be dismantled as domestic waste. Proper dismantle of this product helps preventing potentially negative consequences on human health and environment.

RADIANT BRUCIATORI s.p.a.

Via Pantanelli, 164/166 - 61025 Loc. Montelabbate (PU)

Tel. +39 0721 9079.1 • fax. +39 0721 9079279

e-mail: info@radiant • Internet: http://www.radiant.it