USER'S MANUAL

IMMERGAS

Instructions and warnings **IE**
Installer
User
Maintenance technician

TRIO V2
TRIO MONO V2

Base
Combi
Plus
Pro

1.042679ENG

Dear Customer,

Congratulations for having chosen a top-quality Immergas product, able to assure well-being and safety for a long period of time. As an Immergas Customer, you can also count on a qualified after-sales service, prepared and updated to guarantee constant efficiency of your product. Read the following pages carefully: you will be able to draw useful tips on the proper use of the device, compliance with which will confirm your satisfaction with the Immergas product.

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

General warnings

All Immergas products are protected with suitable transport packaging.

The material must be stored in a dry place protected from the weather.

The instruction booklet is an integral and essential part of the product and must be given to the new user in the case of transfer or succession of ownership.

It must be stored with care and consulted carefully, as all of the warnings provide important safety indications for installation, use and maintenance stages.

This instruction manual provides technical information for installing the Immergas pack. As for the other issues related to pack installation (e.g. safety in the work site, environment protection, injury prevention), it is necessary to comply with the provisions specified in the regulations in force and good practice rules.

In compliance with legislation in force, the systems must be designed by qualified professionals, within the dimensional limits established by the Law. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, intended as staff with specific technical skills in the system sector, as envisioned by the Law.

Improper installation or assembly of the Immergas appliance and/or components, accessories, kits and devices can cause unexpected problems for people, animals and objects. Read the instructions provided with the product carefully to ensure proper installation.

Maintenance must be carried out by skilled technical staff. The Authorised After-sales Service represents a guarantee of qualifications and professionalism.

The appliance must only be destined for the use for which it has been expressly declared. Any other use will be considered improper and therefore potentially dangerous.

If errors occur during installation, operation and maintenance, due to non-compliance with technical laws in force, standards or instructions contained in this book (or however supplied by the manufacturer), the manufacturer is excluded from any contractual and extra-contractual liability for any damage and the appliance warranty is invalidated.

The Trio V2 system consists of separate units, some of which are excluded from this supply to allow the correct combination of features. Below are the possible combinations through which the system is able to meet the winter central heating / C.H., summer cooling requirements, as well as the production of domestic hot water.

	Trio Base V2 **Trio Base Mono V2**	**Trio Combi V2** **Trio Combi Mono V2**	**Trio Plus V2** **Trio Plus Mono V2**	**Trio Pro V2** **Trio Pro Mono V2**
Standard supply	Hydronic group 1 or 2 zones	Hydronic group 1 or 2 zones	Hydronic group 1 or 2 zones	Hydronic group 1 or 2 zones
	160 litre storage tank unit	160 litre storage tank unit	160 litre storage tank unit	160 litre storage tank unit
	Electronics with management board	Electronics with management board	Electronics with management board	Electronics with management board
Excluded from this supply	Hydronic module kit for Audax Top ErP	Audax Top ErP coupling kit for instantaneous boilers	Audax Top ErP coupling kit for Plus boilers	Magis Pro coupling kit
	Solar Container or Domus Container	Solar Container or Domus Container	Solar Container or Domus Container	Solar Container or Domus Container
	Audax 6 - 8 - 12	Audax 6 - 8 - 12	Audax 6 - 8 - 12	Magis Pro 5 - 8 - 10 ErP
	-	Boilers which can be coupled: Victrix 28 - 35 kW TT Victrix Tera 24 - 28 Victrix Omnia	Boilers which can be coupled: Victrix 12 - 24 - 32 kW TT Plus Victrix Tera 24 Plus	-
	System resistance kit DHW (Domestic hot water) 1.5 kW resistance kit Solar heating coupling kit Inertial storage tank kit	Solar heating coupling kit Inertial storage tank kit	Solar heating coupling kit Inertial storage tank kit	DHW (Domestic hot water) 1.5 kW resistance kit System 3.0 kW resistance kit Solar heating coupling kit Inertial storage tank kit

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

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

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1 INSTALLATION TRIO V2

1.1 DESCRIPTION OF THE DEVICE.

The Trio V2 pack described below allows you to install in a special recessed frame called "Solar Container" (not included in the supply) a hydronic unit designed to be coupled with different energy sources (heat pump, boiler, solar, excluded from this supply), able to meet the winter central heating / C.H., summer cooling needs, as well as the production of domestic hot water, possibly with solar integration (via special optional kit).

1.2 INSTALLATION RECOMMENDATIONS.

The Trio pack has been designed solely for wall installation using the special "Solar Container" (recessed frame).

The place of installation of the appliance and relative Immergas accessories must have suitable features (technical and structural), such as to allow for (always in safe, efficient and comfortable conditions):

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

Only a professionally qualified heating/plumbing technician is authorised to install the Trio V2.

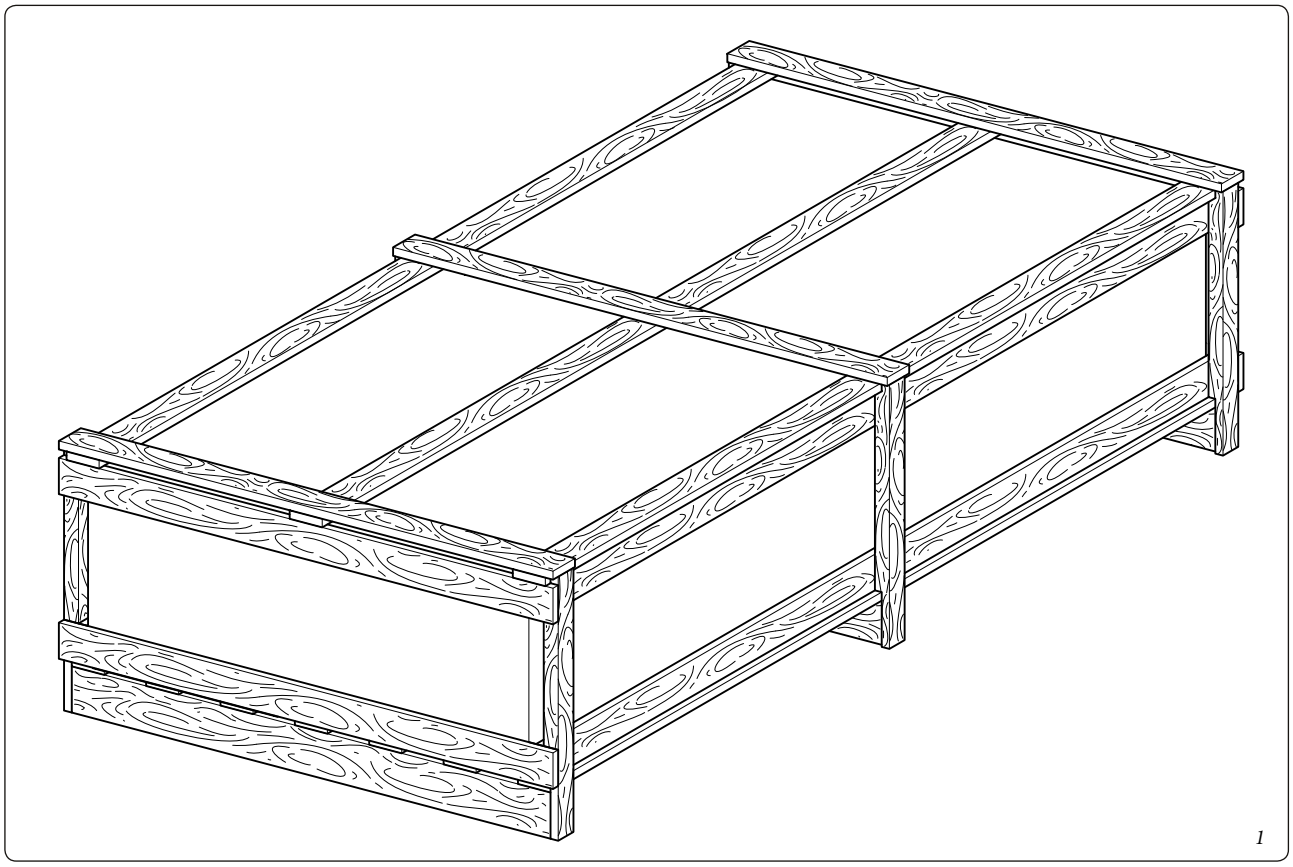
Installation must be carried out according to regulation standards, current legislation and in compliance with local technical regulations and the required technical procedures. Before installing the pack, ensure that it is delivered in perfect condition; if in doubt, contact the supplier immediately. Packing materials (staples, nails, plastic bags, polystyrene foam, etc.) constitute a hazard and must be kept out of the reach of children. Keep all flammable objects away from the appliance (paper, rags, plastic, polystyrene, etc.). In the event of malfunctions, faults or incorrect operation, turn the device off immediately and contact an authorised company (e.g. the Authorised Technical Assistance Centre, which has specifically trained staff and original spare parts). Do not attempt to modify or repair the appliance alone. Failure to comply with the above implies personal responsibility and invalidates the warranty.

- Installation Standards: this pack must be installed inside an external wall using the special "Solar Container" and securing it with the support brackets supplied together with the pack itself. It was not designed to be installed on plinths or floors and without the special recessed frame.

Attention: installation of the "Solar Container" in the wall must ensure a stable and efficient support of the Trio V2 pack. The "Trio V2" ensures appropriate support only if installed correctly (according to the rules of good practice), following the instructions on its instructions leaflet. The "Solar Container" for the Trio V2 pack is not a supporting structure and must not replace the removed wall; it is therefore verify its position in the wall. For safety reasons against any leaks it is necessary to plaster the pack housing in the brick wall. This pack is used to heat water to below boiling temperature in atmospheric pressure. It must be connected to a central heating system and domestic hot water circuit suited to its performance and capacity.

"Anti-legionella" heat treatment of the Immergas storage tank (activated by the specific function present on the predisposed thermoregulation systems): during this stage, the temperature of the water inside the storage tank exceeds 60°C with a relative risk of burns. Keep this domestic hot water treatment under control (and inform the users) to prevent unforeseeable damage to people, animals, things.

1.3 PACKAGING.



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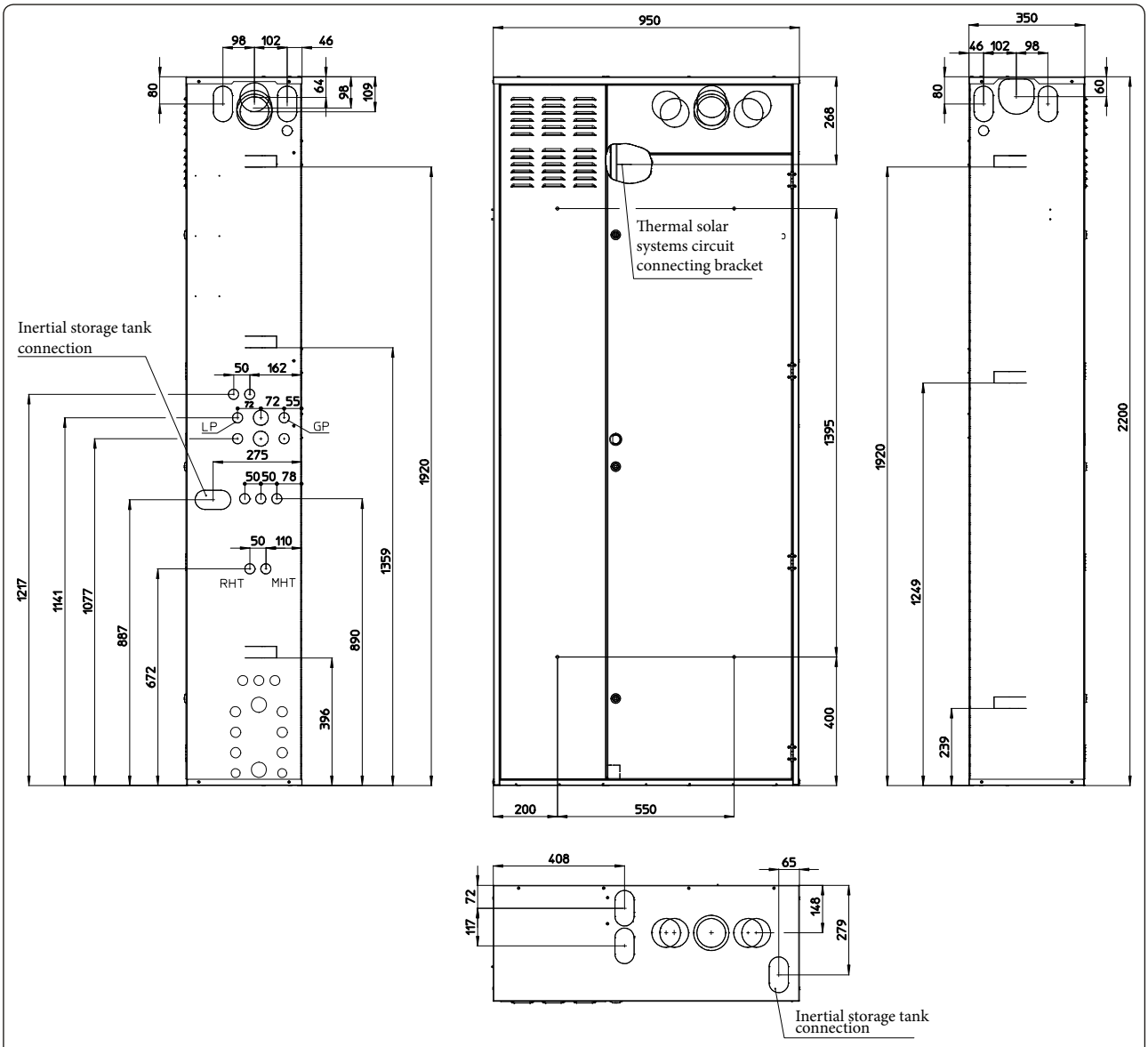
1.4 OVERALL DIMENSIONS.



Height (mm)	Width (mm)	Depth (mm)
2200	950	350

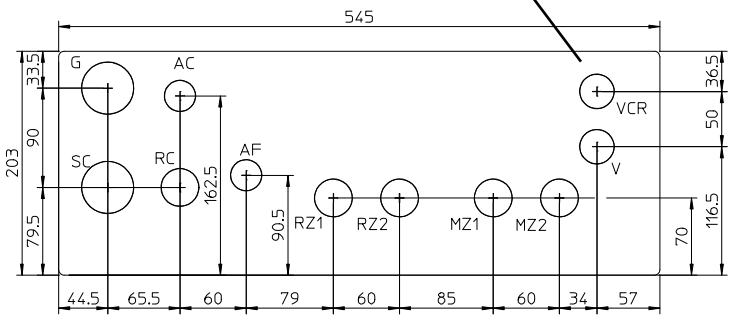
2

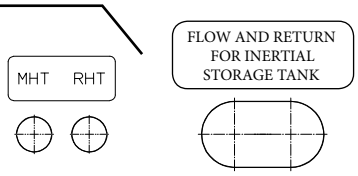
1.5 CONNECTION TEMPLATE.

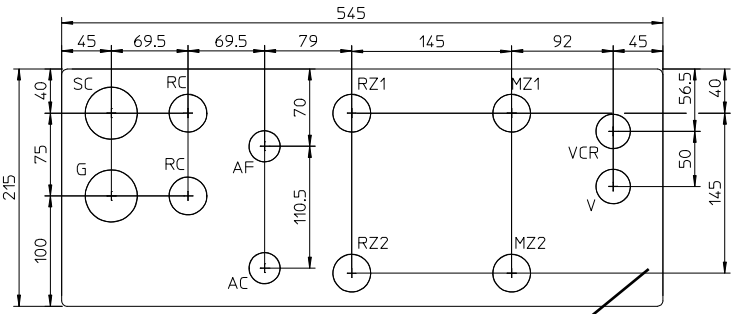
Attention: *the indicated values refer to the stickers applied inside the recessed frame.*

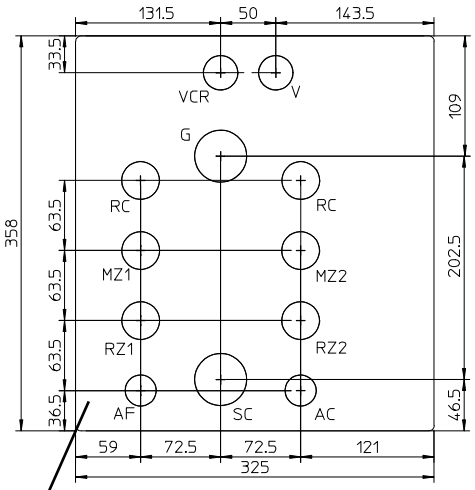
REAR CONNECTION

HEAT PUMP CONNECTION
(For details of values see Fig. 2)









LOWER CONNECTION

RIGHT HAND SIDE CONNECTION

Key:
- *G - Gas supply*
- *AC - Domestic hot water outlet*
- *AF - Domestic hot water inlet*
- *MHT - Flow from heat pump*
- *RHT - Return to heat pump*
- *LP - Chiller line - liquid phase*
- *GP - Chiller line - gaseous phase*
- *MZ1 - Zone 1 system flow*
- *MZ2 - Zone 2 system flow*
- *RZ1 - Zone 1 system return*
- *RZ2 - Zone 2 system return*
- *RC - DHW (Domestic hot water) recirculation (excluding Combi version)*
- *SC - Condensate drain*
- *V - Electrical connection*
- *VCR - Remote control electrical connection*
- *VS - 3 bar discharge valve*

ZONE CONNECTION TABLE.

	Zone 1	**Zone 2**
Trio V2	Low temperature zone (mixed zone)	High temperature zone (direct zone)
Trio Mono V2	Not Present	Direct zone

Connections										
GAS	DOMESTIC HOT WATER / D.H.W.		SYSTEM				AUDAX TOP ERP		MAGIS PRO	
G	AC	AF	RZ1	MZ1	RZ2	MZ1	MHT	RHT	LP	GP
1/2”	1/2”	1/2”	3/4”	3/4”	3/4”	3/4”	3/4”	3/4”	G 3/8” SAE	G 5/8” SAE

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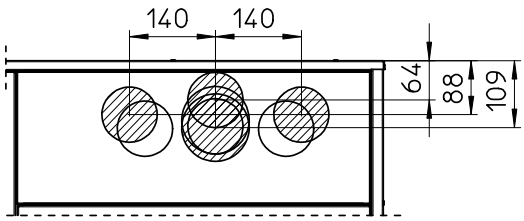
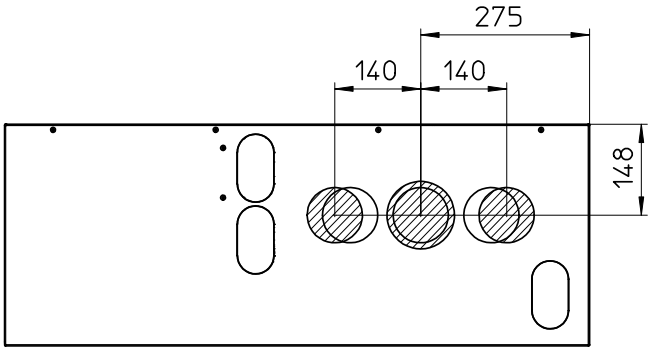
PRE-SECTION DETAIL FOR FLUE CONNECTION.

Ref. A
(Front and rear flue connection)

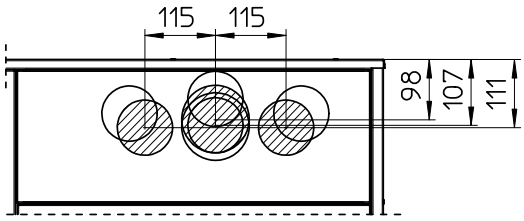
Ref. B
(Upper flue connection)

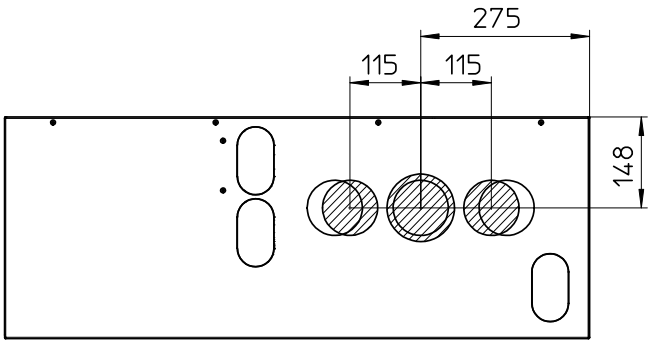
N.B.: not used for this version.





TT and TT Plus - Victrix Tera and Tera Plus - Victrix Omnia series boilers





Height	Connection TT - TT Plus - Tera - Tera Plus
98	Discharge 80
107	Concentric
111	Intake 80

Attention: *For Victrix series TT, TT Plus and Victrix Tera and Tera Plus and for Victrix Omnia with 60 / 100 concentric kit, it is always necessary to also use the 60 / 100 flanged kit*

1.6 INSTALLATION.
Pack composition.

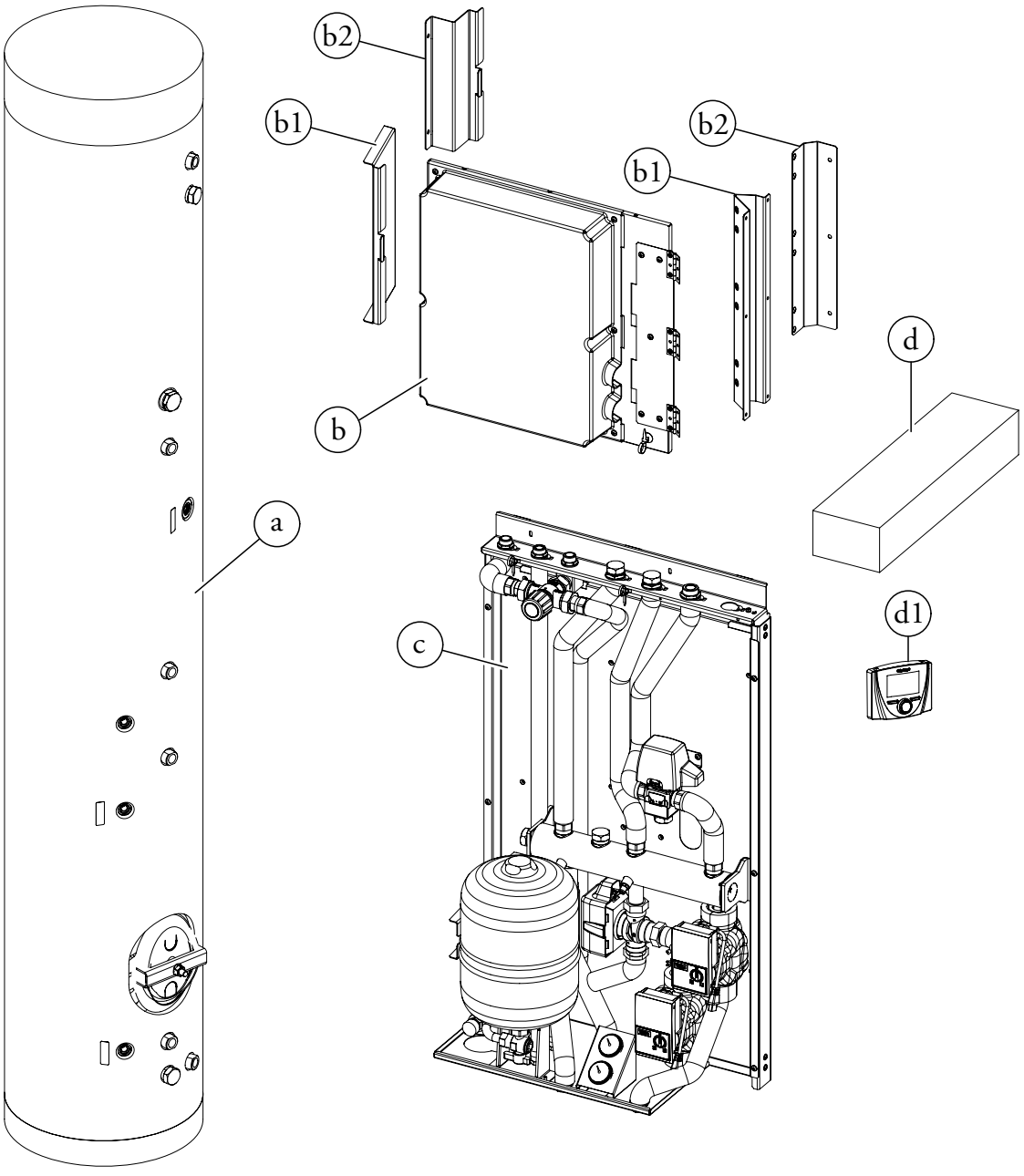
Ref.	Description	Q.ty
a	Storage tank	1
b	Management electronics unit	1
b1	Support brackets for Solar Container	1
b2	Support brackets for Domus Container	1
b3	Electronics unit mount bracket with hinges	1
c	Hydronic group 1 or 2 zones	1
d	Accessories and screws	1
d1	Remote panel	1

Installation drawings key:

(a) Unmistakeable component identification

(1) Sequential identification of the operation to perform

[A] Identification of generic or not supplied component



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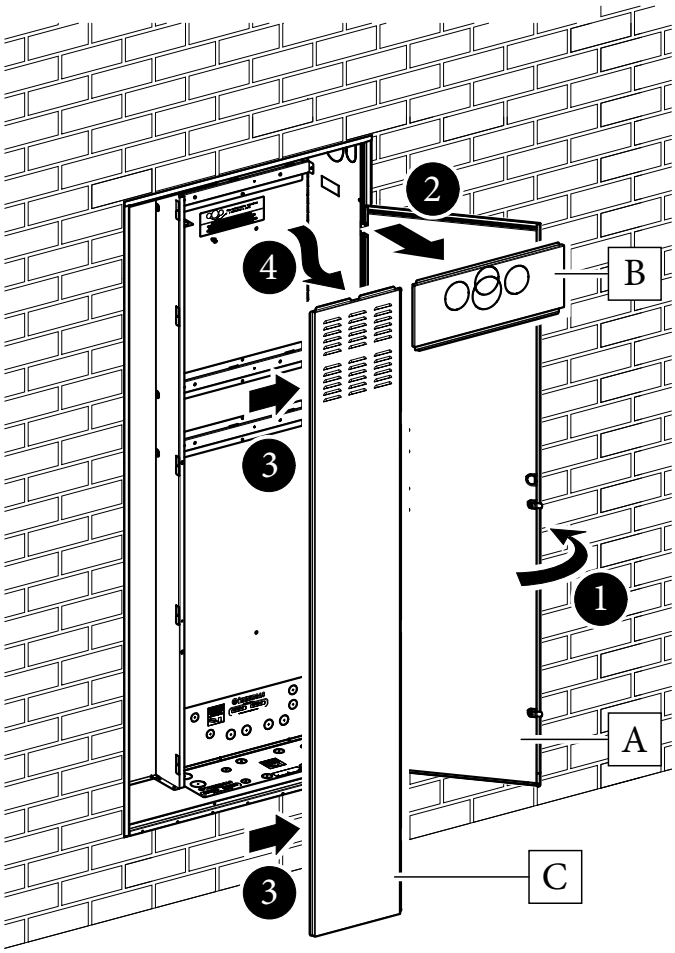
Installation operations.
Before installing the pack, open the "Solar Container" completely by opening door (A) and blocking it to prevent it from getting in the way during the following installation procedures.
Also remove the cover (B) and the side cover (C).



6

- Insert and block the storage tank retaining strip (d2) on the screws fitted on the Solar Container.
- Insert the storage tank (a) into the Solar Container with the flange positioned on the right hand side and at the bottom, as shown in *Fig. 8*.

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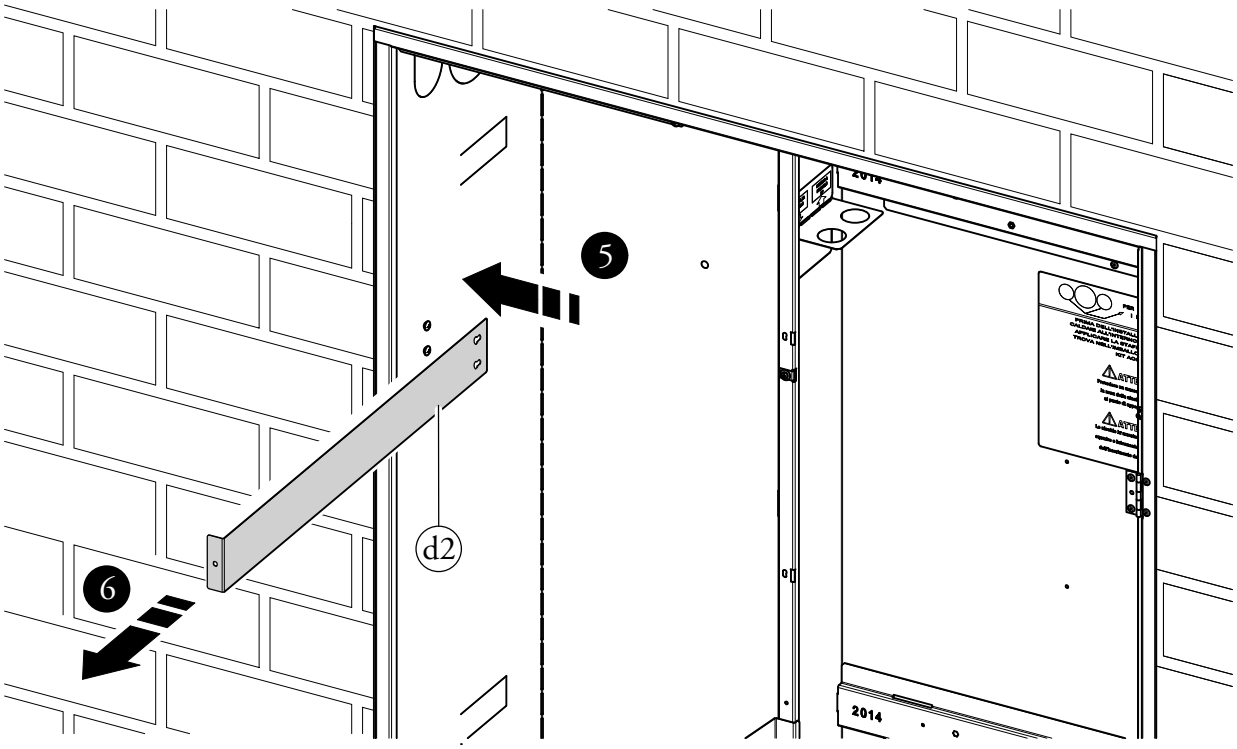
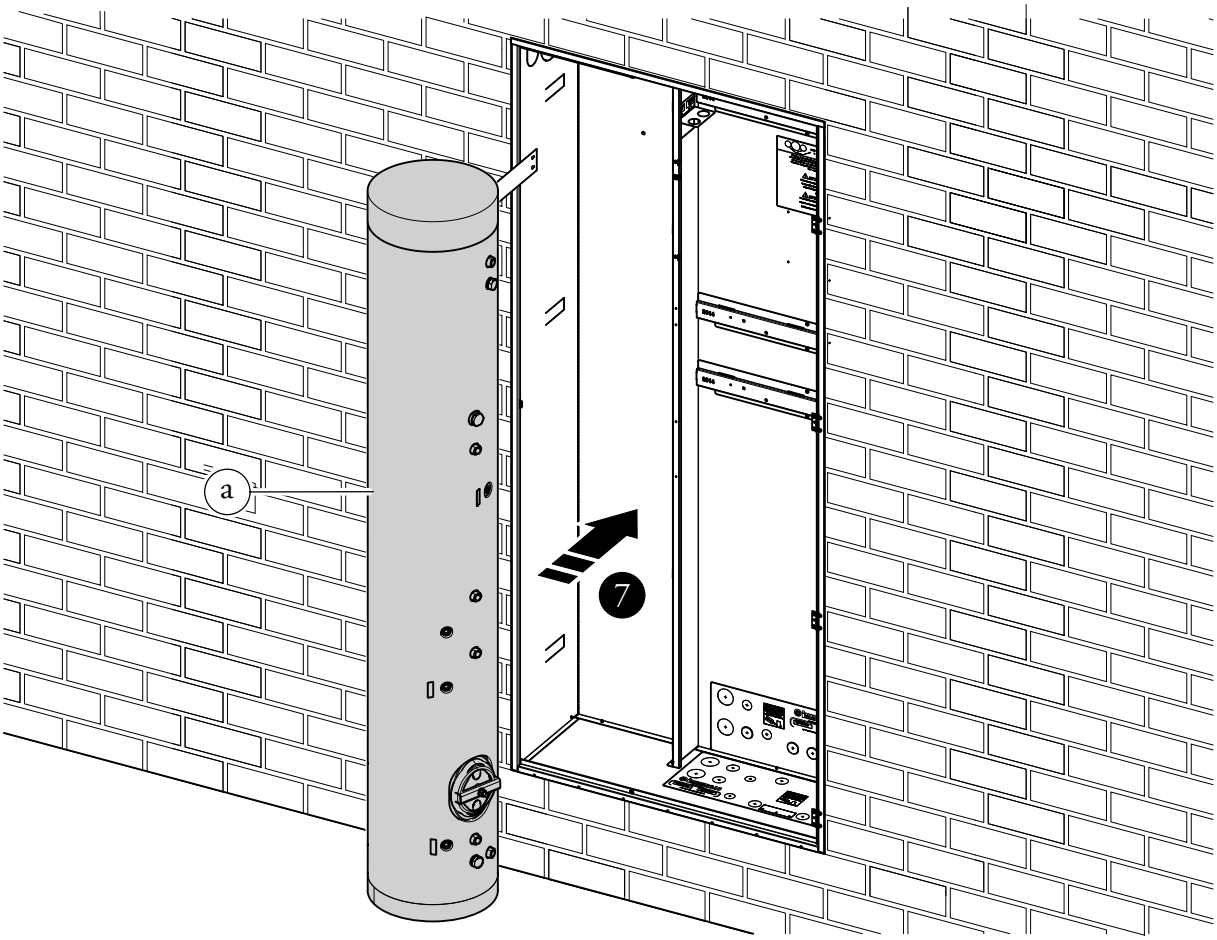
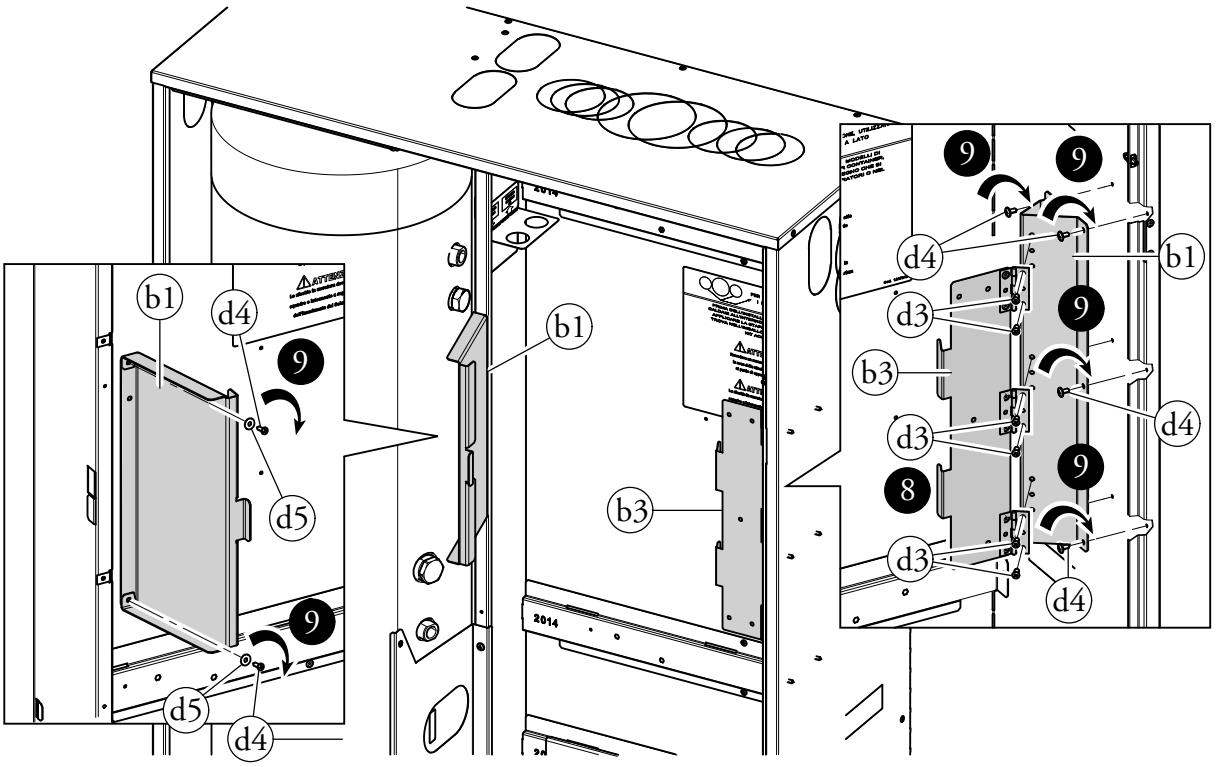




8

- Fix bracket (b3) to bracket (b1) with screws (d3) *(Fig. 9)*.
- Tighten the brackets (b1) to the Solar Container using screws (d4) and washers (d5) as shown in *Fig. 9*.
- Bend the strip (d2) around the storage tank (a) and fasten it with the screw (D) (*Fig. 10*).



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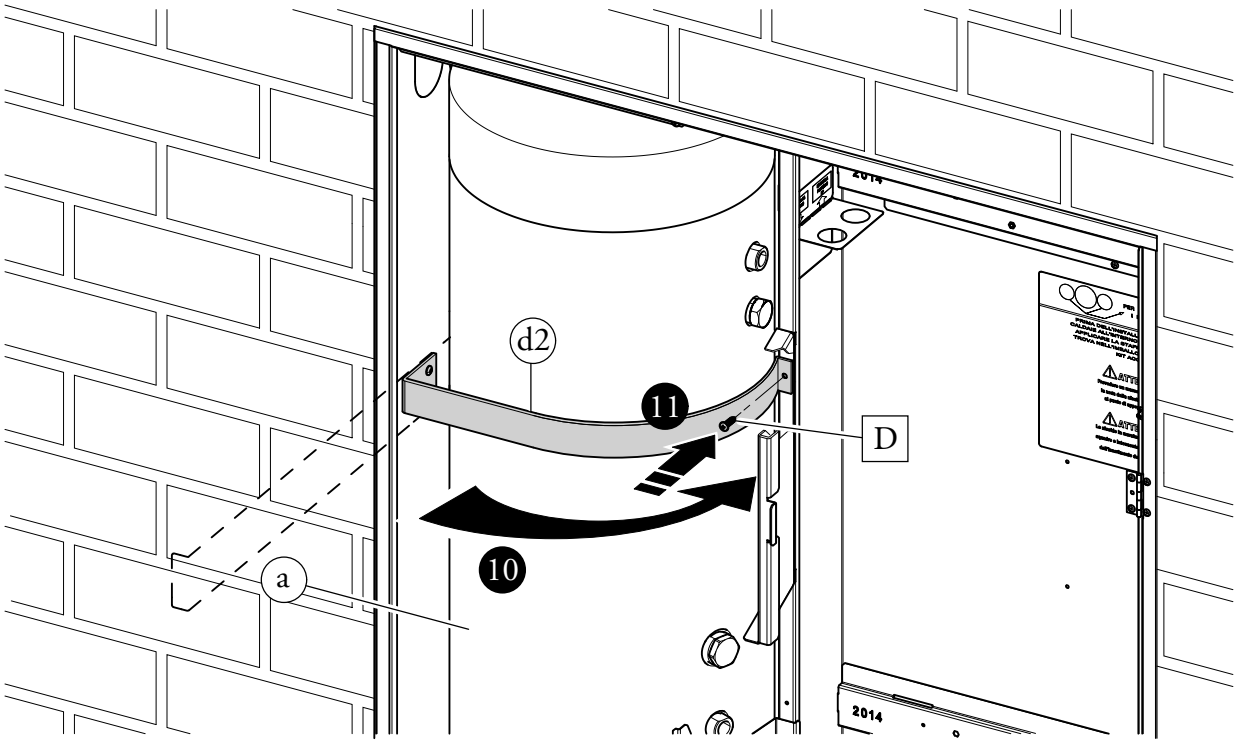

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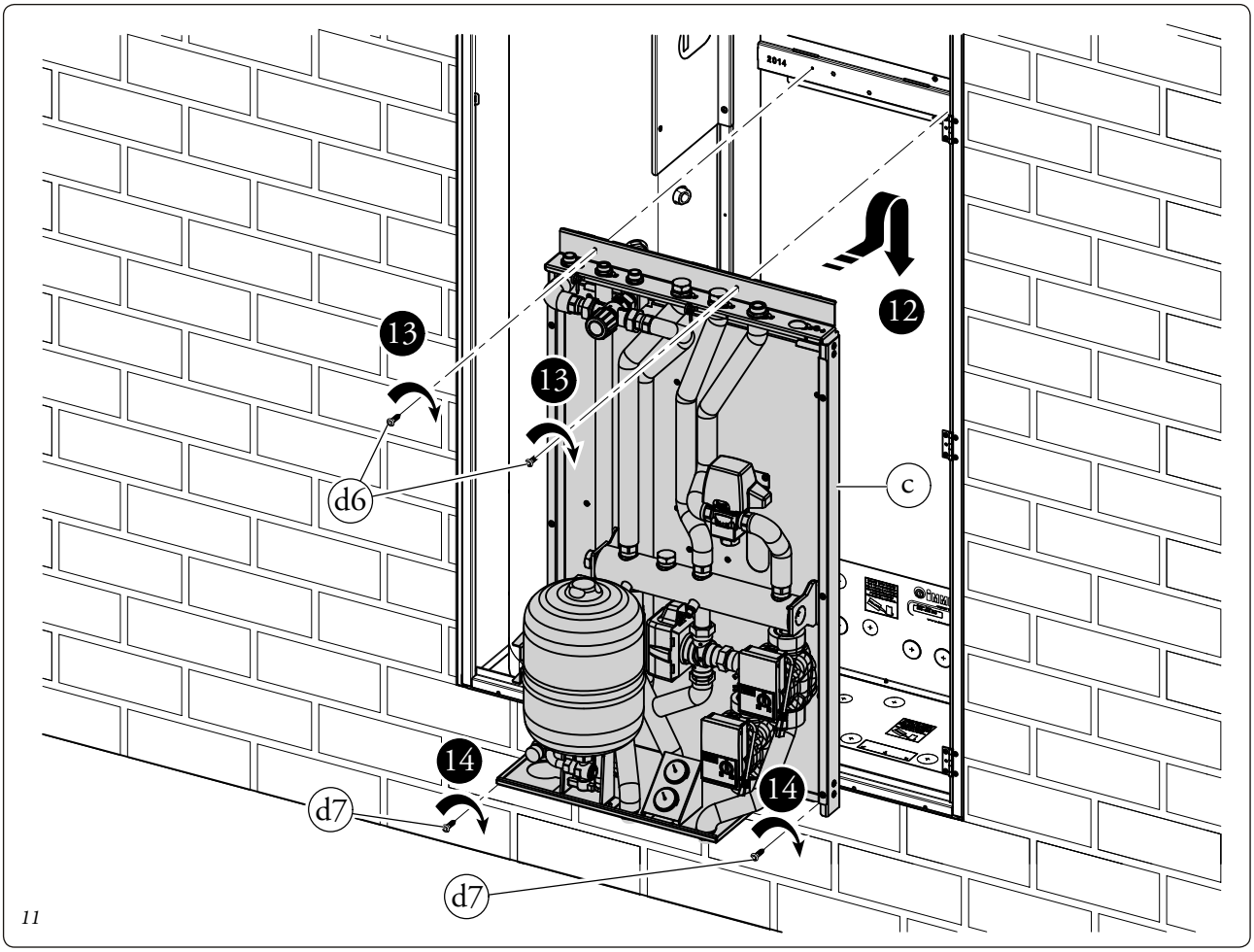
- Hang the hydronic unit (c) on the central bracket of the Solar Container. Secure the position of the hydronic unit by fastening the screws (d6) on the central bracket (*Fig. 11*).

N.B.: in the event that the installer thinks it is necessary, it is possible to secure the position of the hydronic unit even further by using self-tapping screws (d7), inserting them into the holes on the lower part of the hydronic unit.

Attention: the fixing screws (d6 and d7) are present in the connection kit of the device to be combined with the Trio V2.



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BASE Installation operations.

- Tighten the metal-sheet plate (E) with the special screws (F).
- Position the expansion vessel (J) with manometer (H) and fix with the screws (F).

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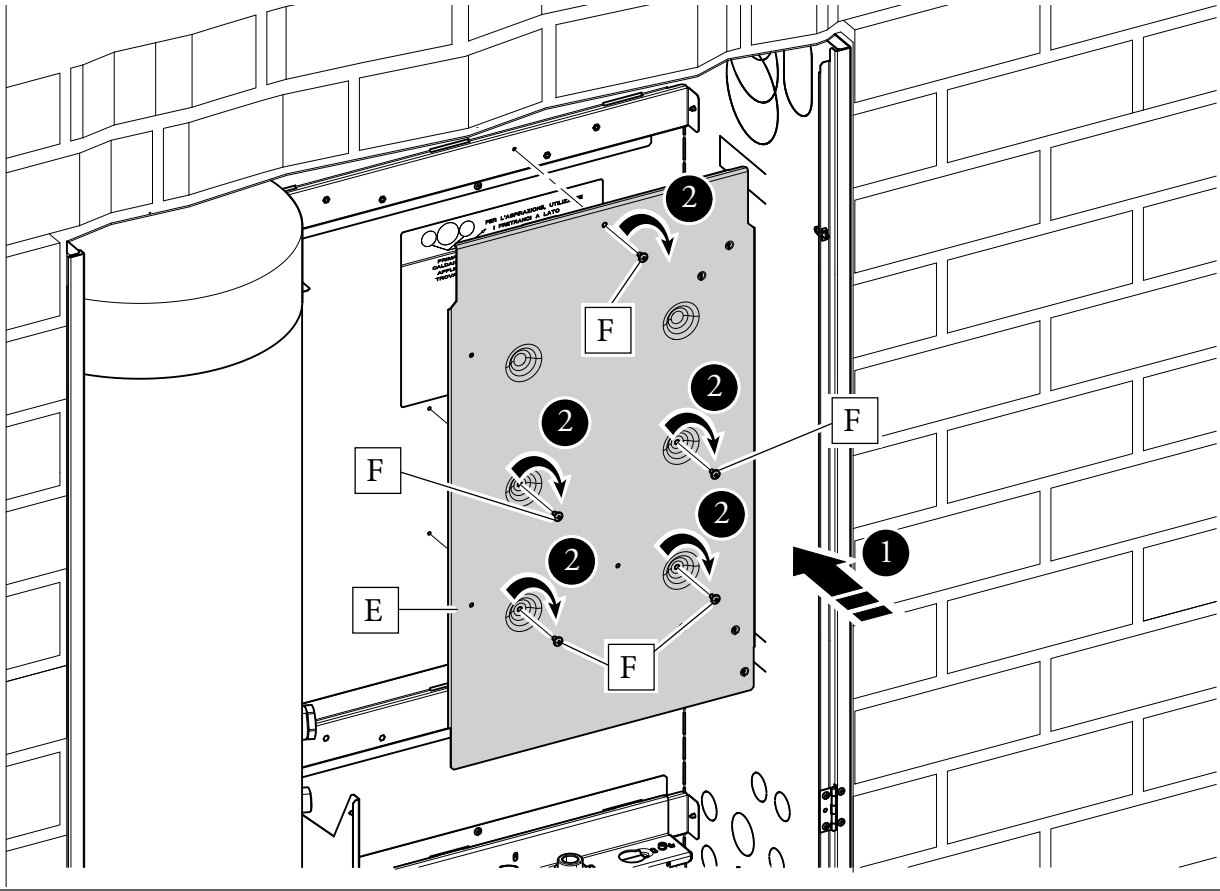

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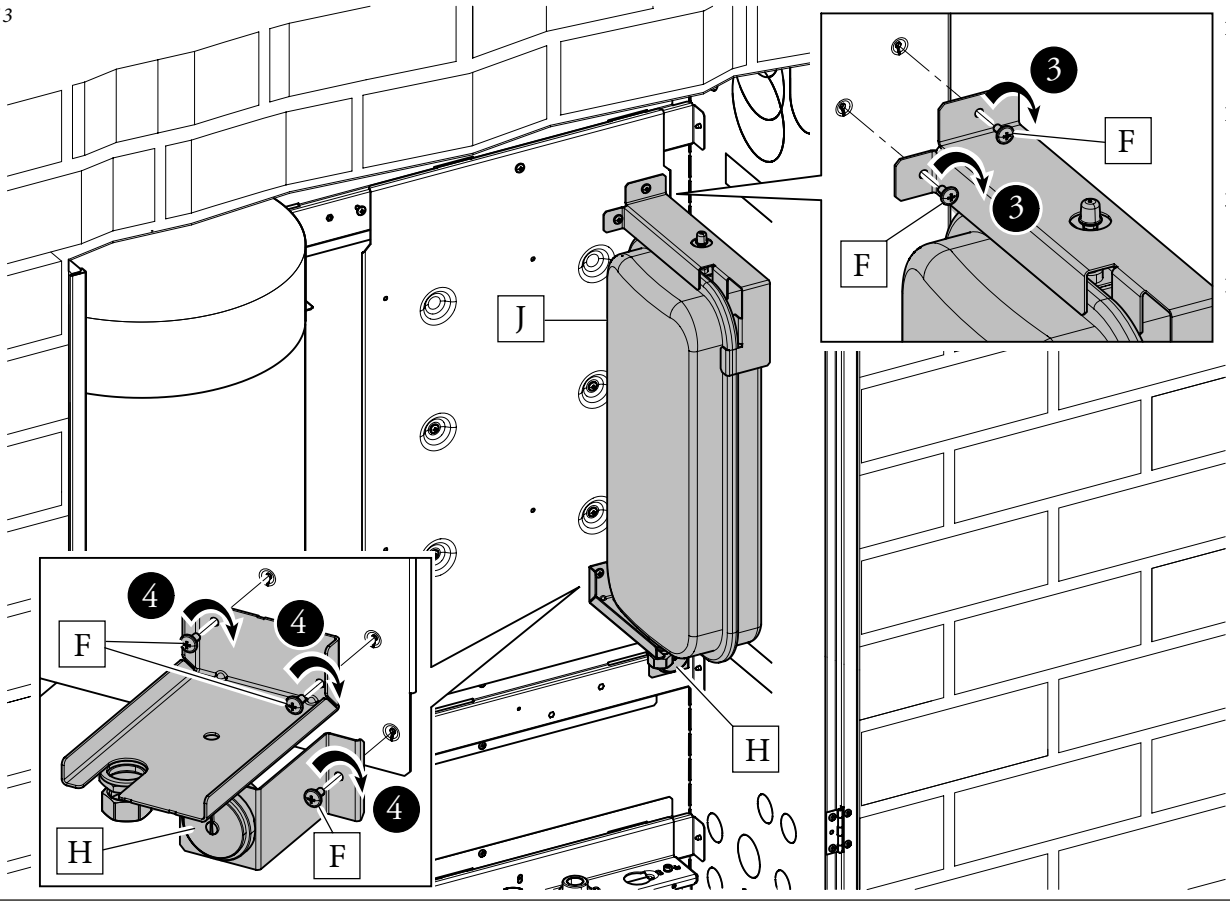

- Make the hydraulic connection between the storage tank (a), hydronic unit (c) and expansion vessel (J), as shown in *Fig. 14*.

  Perform the connections in sequence, starting from the pipes near the rear wall up to those near the installer, remembering to insert the special gaskets supplied.

N.B.: before assembling the pipe with label (M), remove the pipe that goes from the three-way to the hydraulic manifold. Put the cap in the kit on the manifold fitting by interposing the relative flat gasket.

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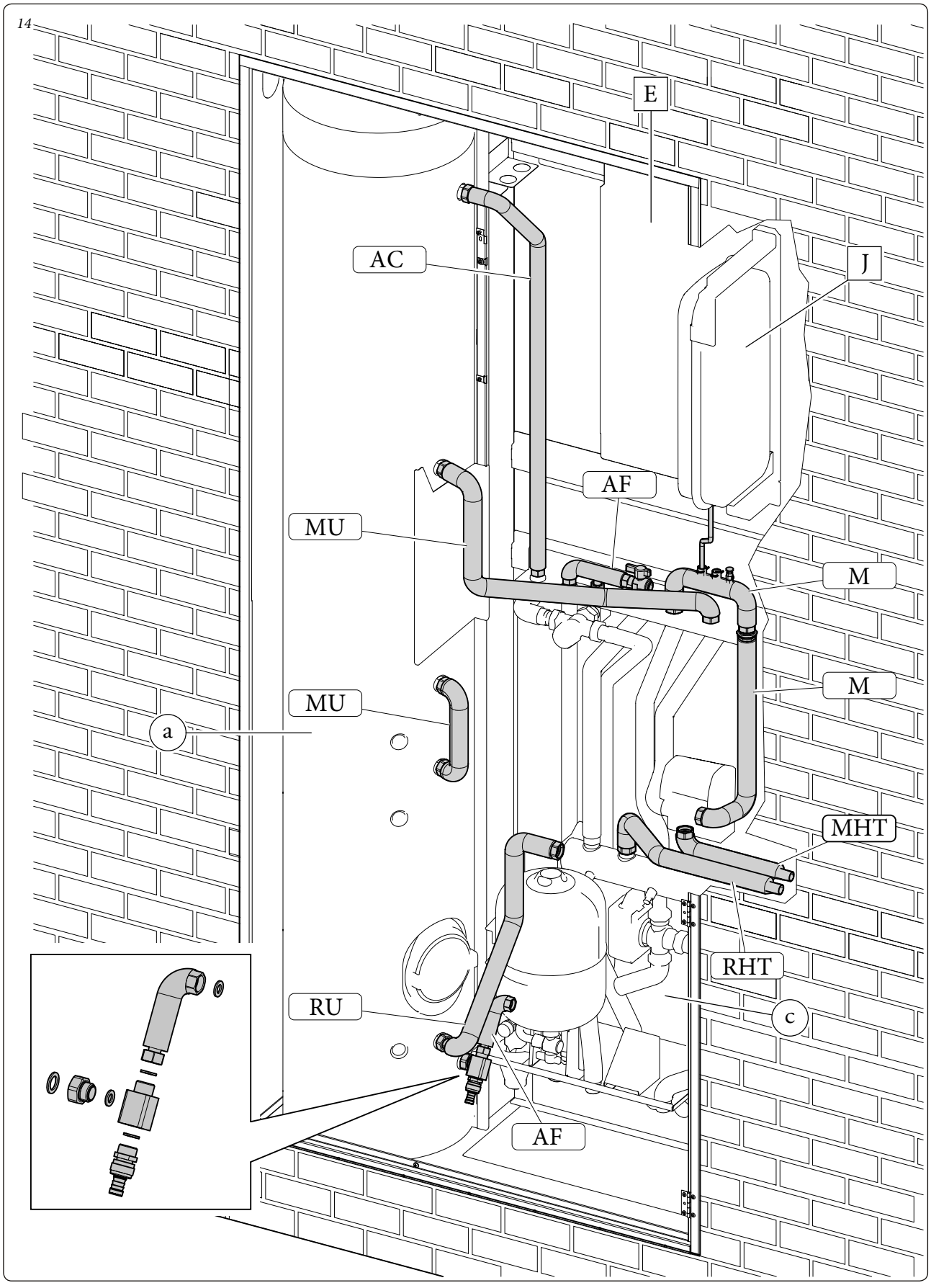
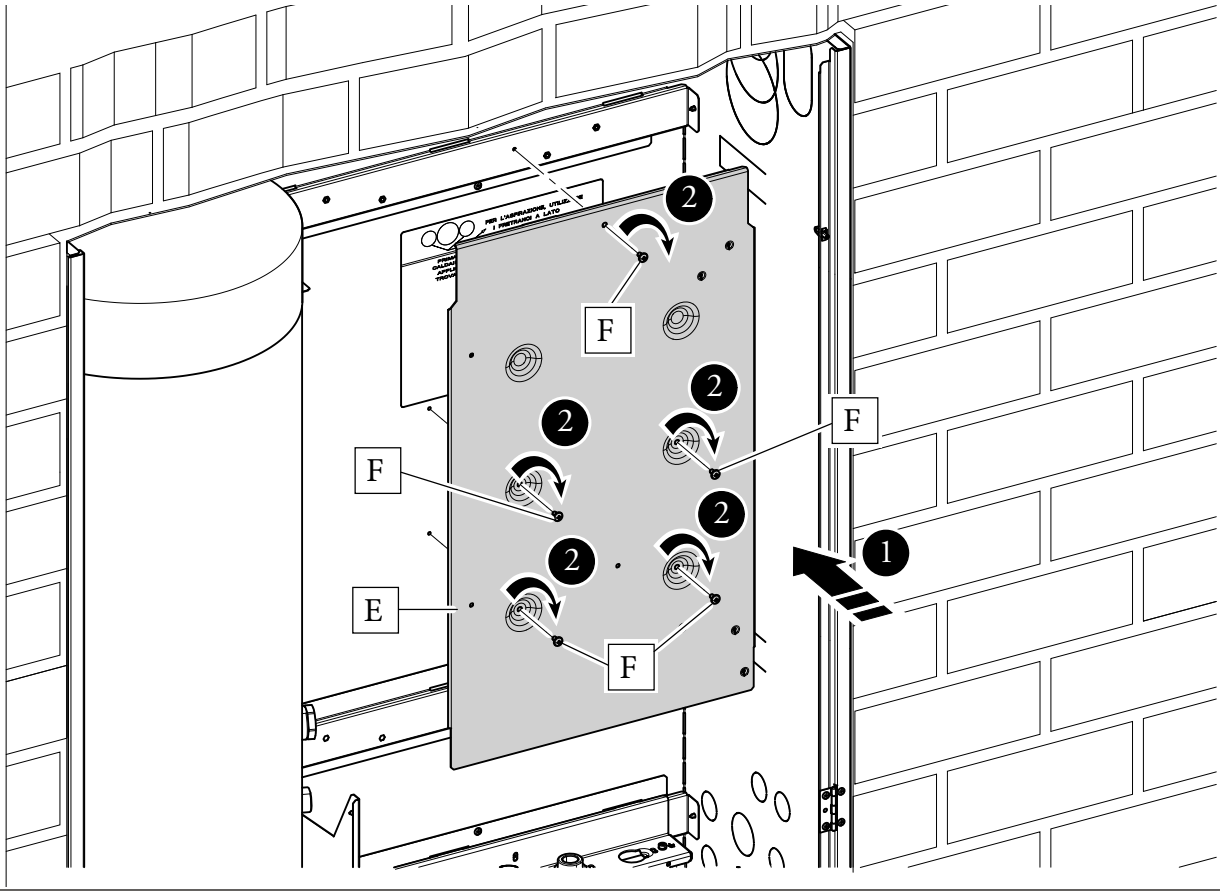


BASE and RESISTANCE Installation operations.

- Tighten the metal-sheet plate (E) with the special screws (F).
- Position the expansion vessel (J) with manometer (H) and fix with the screws (F).

15



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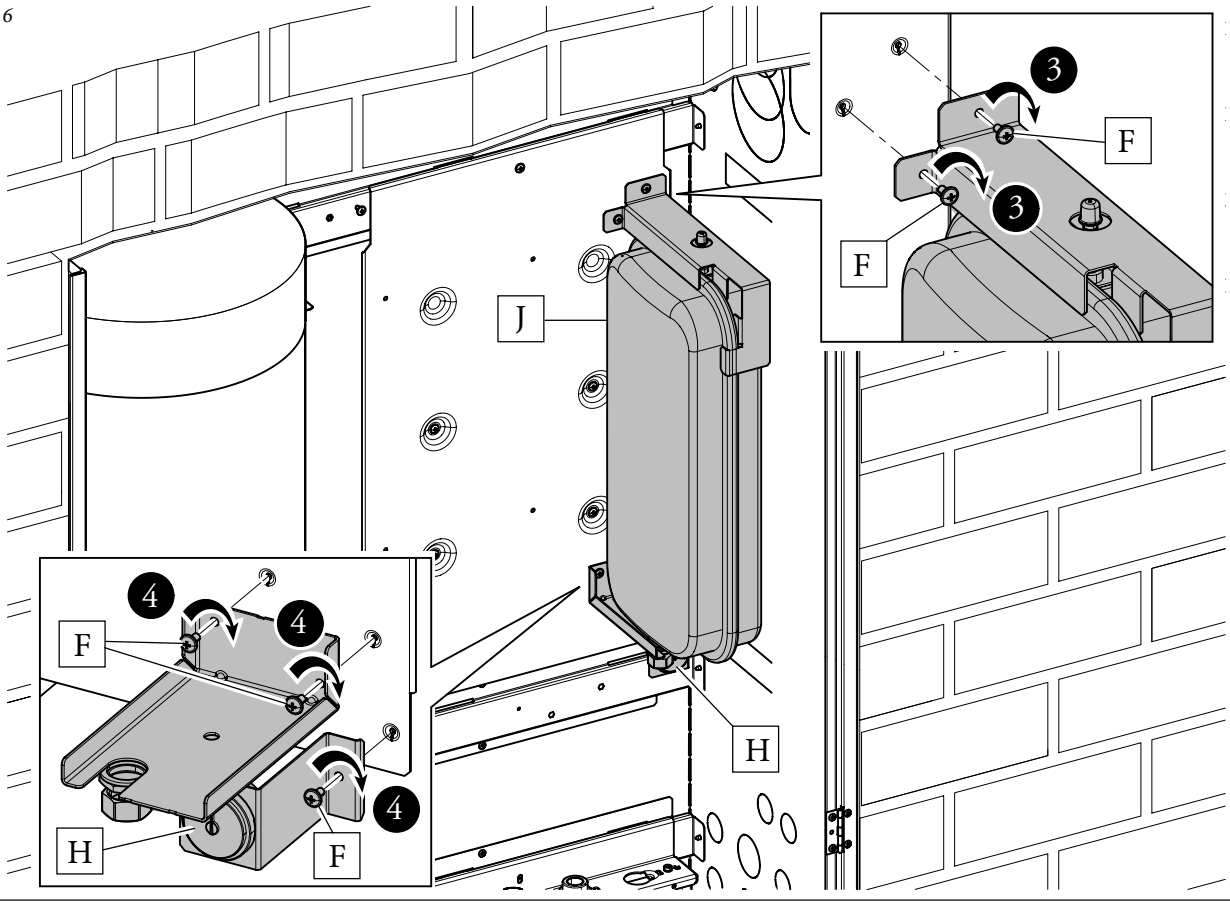

- Position the resistance unit (L) and secure it with the screws (M).
- Make the hydraulic connection between the storage tank (a), hydronic unit (c), expansion vessel (J) and resistance (L), as shown in *Fig. 18*.

Perform the connections in sequence, starting from the pipes near the rear wall up to those near the installer, remembering to insert the special gaskets supplied.

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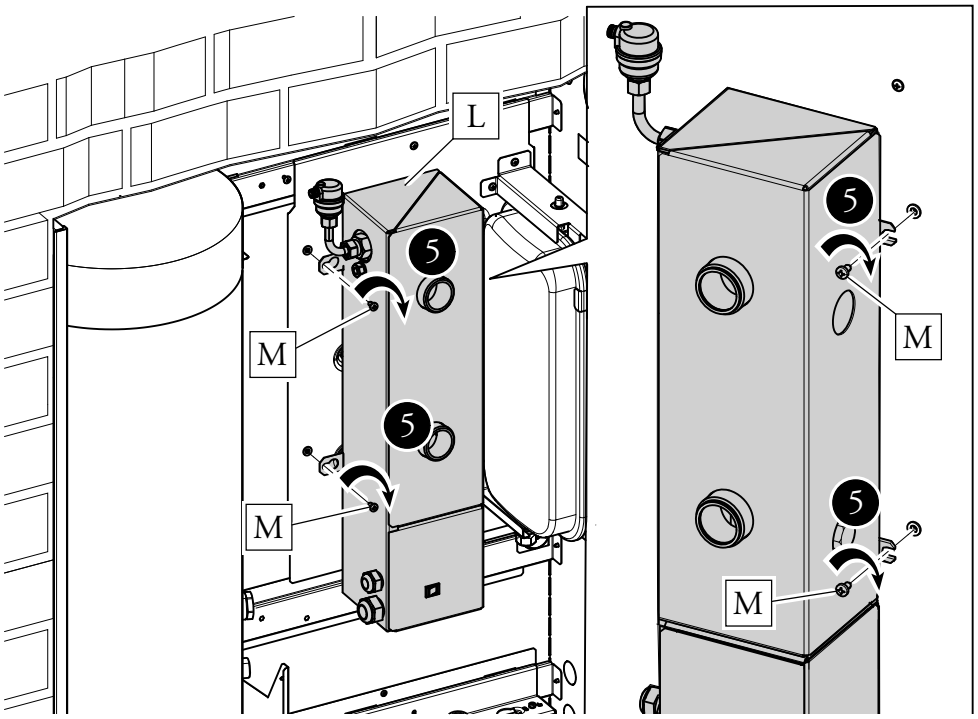

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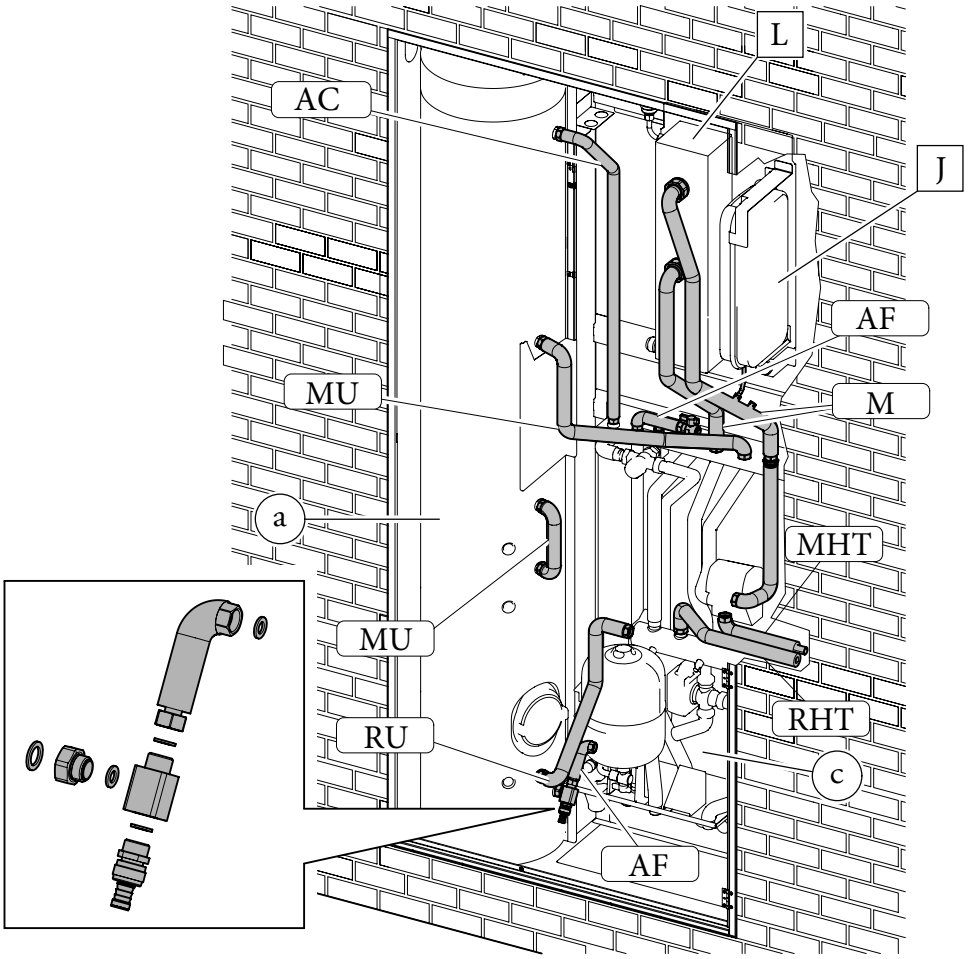

Boiler installation operations.

- Choose the type of bracket present in the relative optional kits for your boiler model.

  Victrix kW TT- Victrix Tera (*Fig. 19)*

  Victrix Omnia (*Fig. 20)*

- Tighten the bracket (E) to the special upper cross member with screws (F).
- Hang the boiler (P) on the bracket (E) installed previously, (*Fig. 19-20*).

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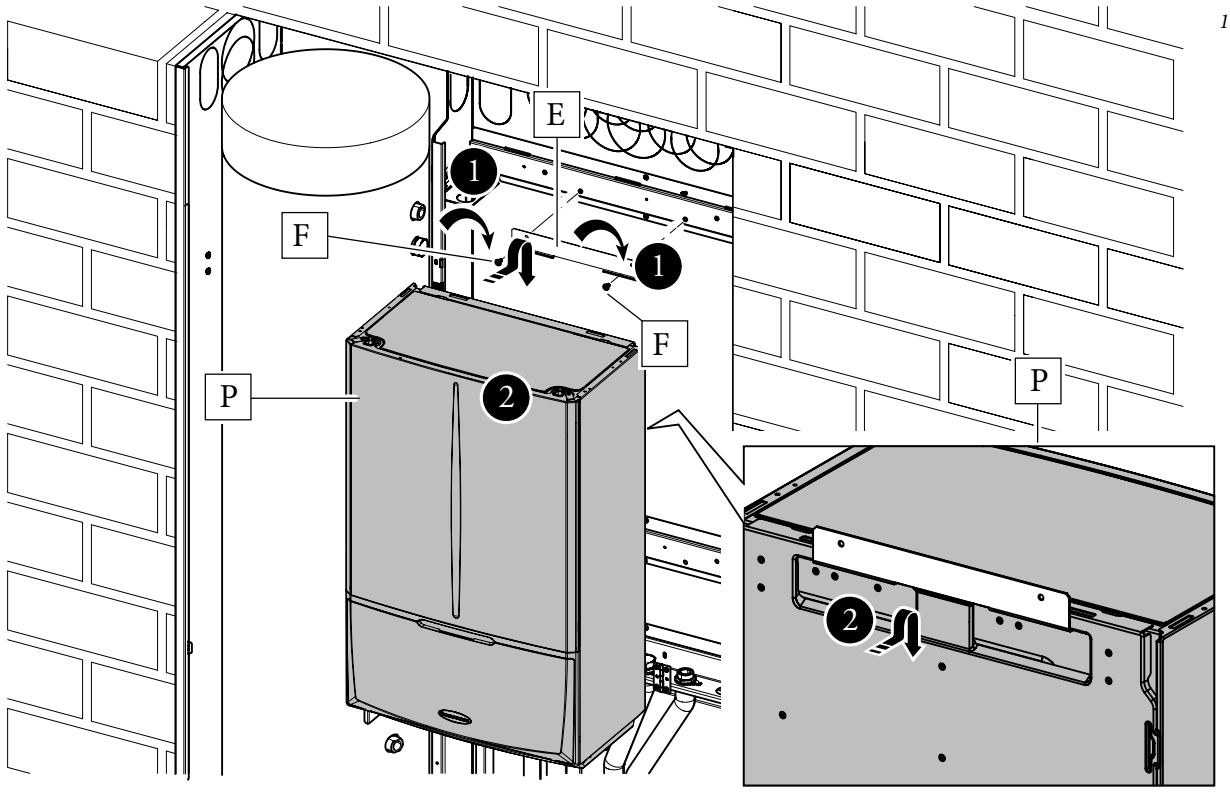

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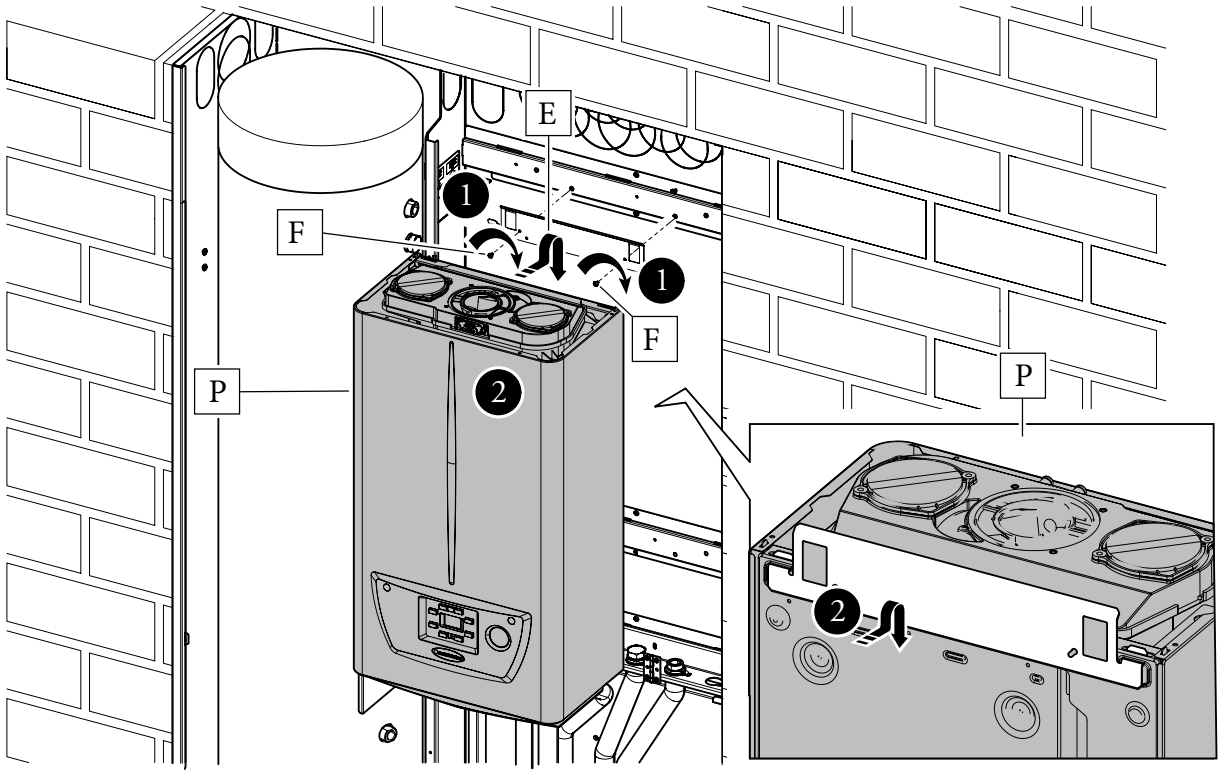


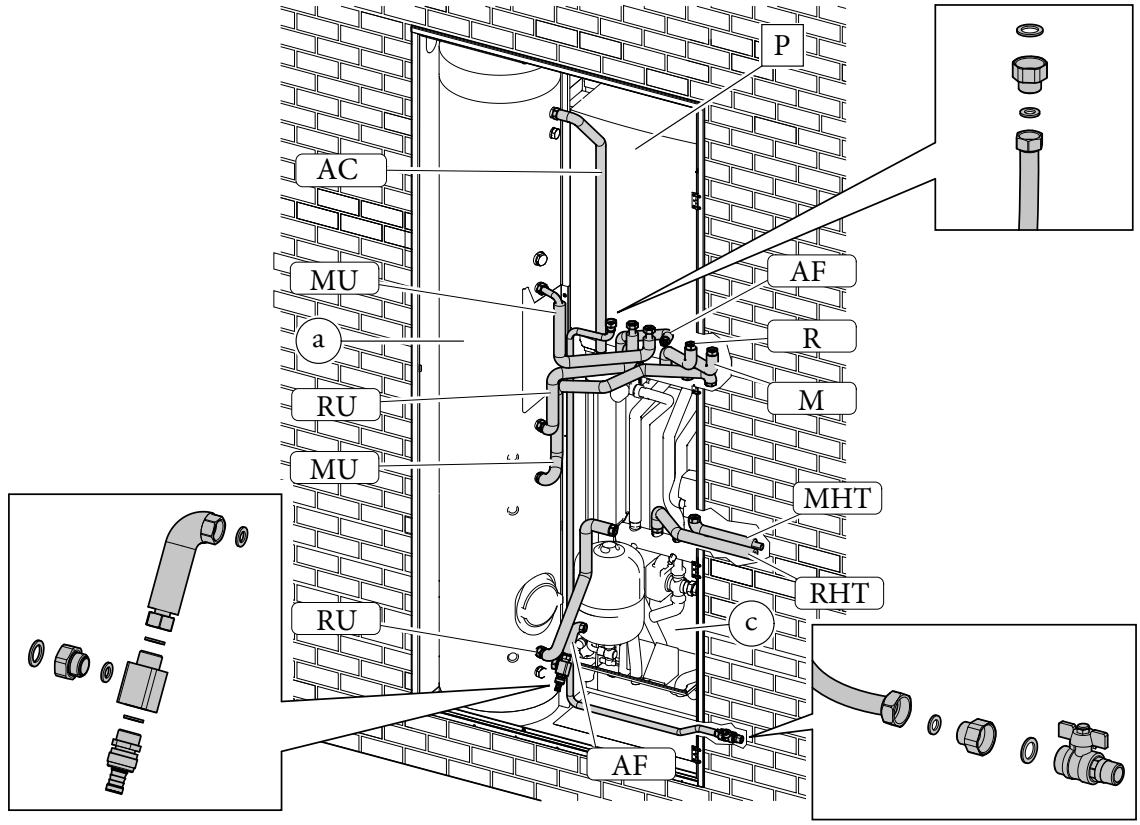
Boiler hydraulic connection operations.

- Make the hydraulic connection between the storage tank (a), hydronic unit (c) and boiler (P), as shown in *Fig. 21* for the PLUS SYSTEMS and in *Fig. 22* for the COMBI SYSTEMS.

Perform the connections in sequence, starting from the pipes near the rear wall up to those near the installer, remembering to insert the special gaskets supplied.

N.B.: for easy electrical connection, move the power supply cable of the boiler from the rear fairlead on the valve supporting plate to the front fairlead of the same.

21



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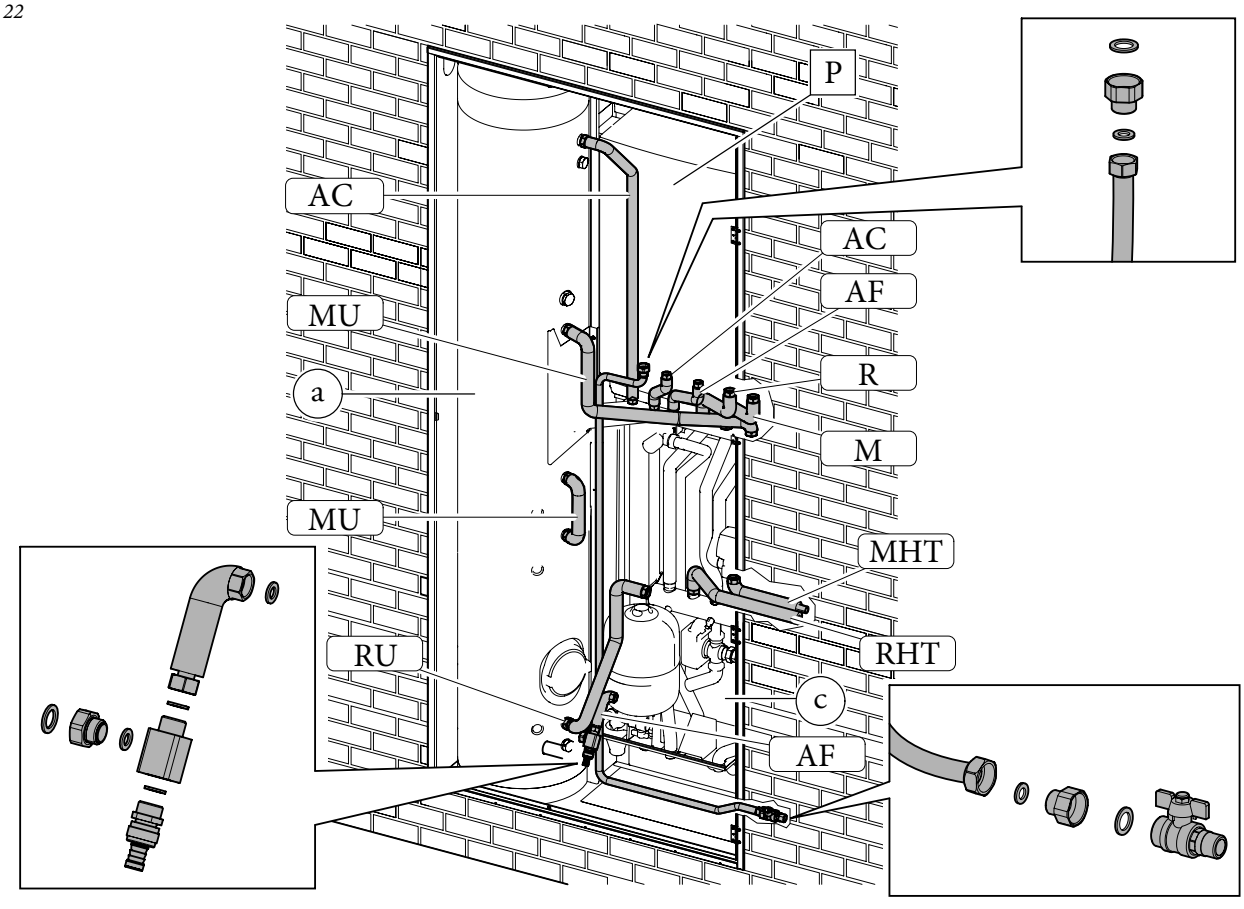


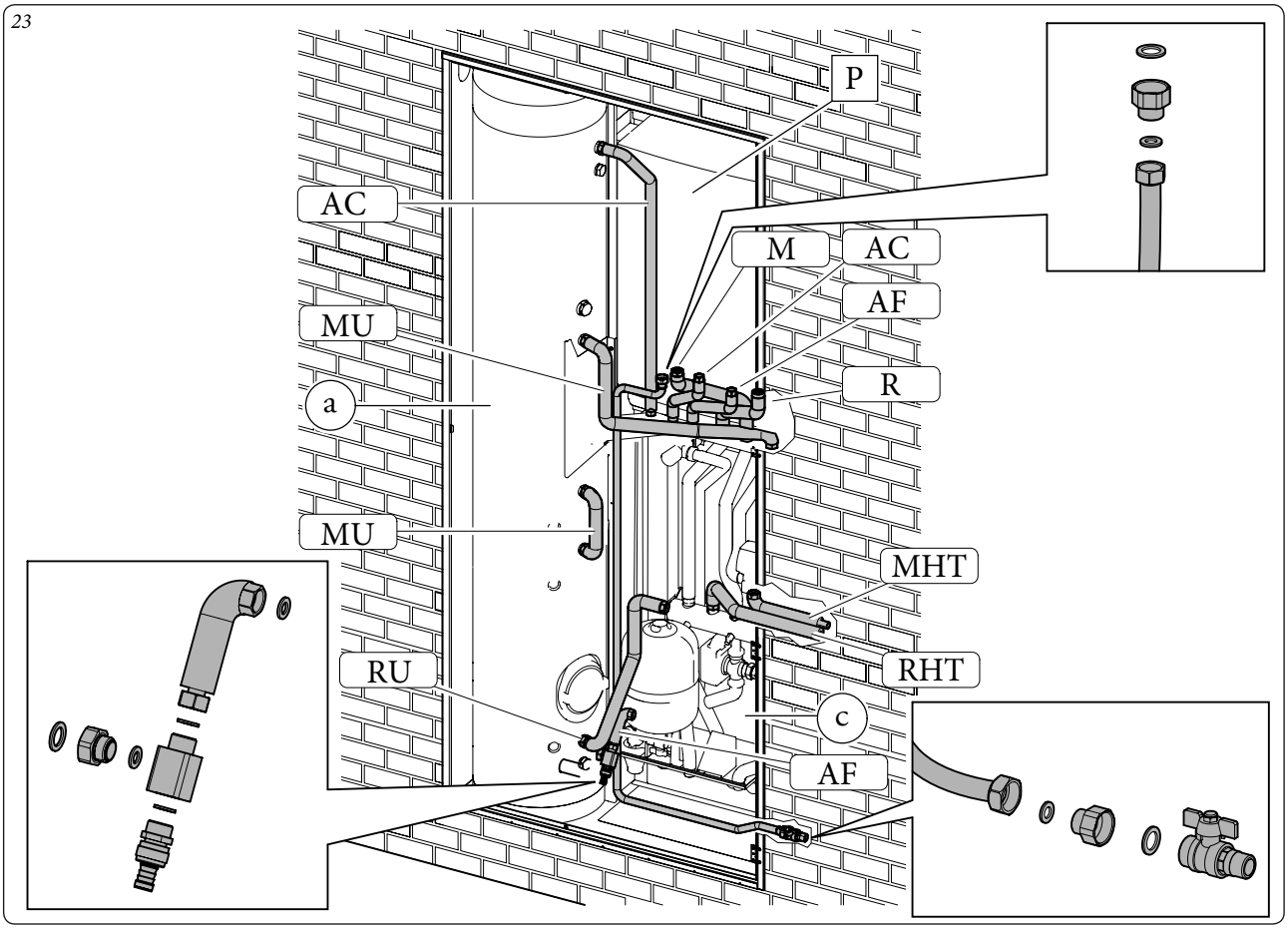
Victrix Omnia hydraulic connection operations.

- Make the hydraulic connection between the storage tank (a), hydronic unit (c) and Victrix Omnia (P), as shown in *Fig. 23* for the COMBI SYSTEMS.

Perform the connections in sequence, starting from the pipes near the rear wall up to those near the installer, remembering to insert the special gaskets supplied.

N.B.: for easy electrical connection, move the power supply cable of the boiler from the rear fairlead on the valve supporting plate to the front fairlead of the same.

23



Magis Pro hydronic kit installation operations.

- Tighten the bracket (E) to the special upper cross member with screws (F).
- Hang the hydronic kit (P) on the bracket (E) installed previously, (*Fig. 24*).
- Make the hydraulic connection between the storage tank (a), Trio V2 hydronic unit (c) and Magis Pro hydronic unit (P), as shown in *Fig. 25*.

  Perform the connections in sequence, starting from the pipes near the rear wall up to those near the installer, remembering to insert the special gaskets supplied.

N.B.: the Magis Pro hydronic unit is supplied with interception cock to be placed on the system flow, use the cock on the Trio V2 system connection unit.

Attention: in this installation it is essential to leave the cap on the storage tank unit return fitting mounted.

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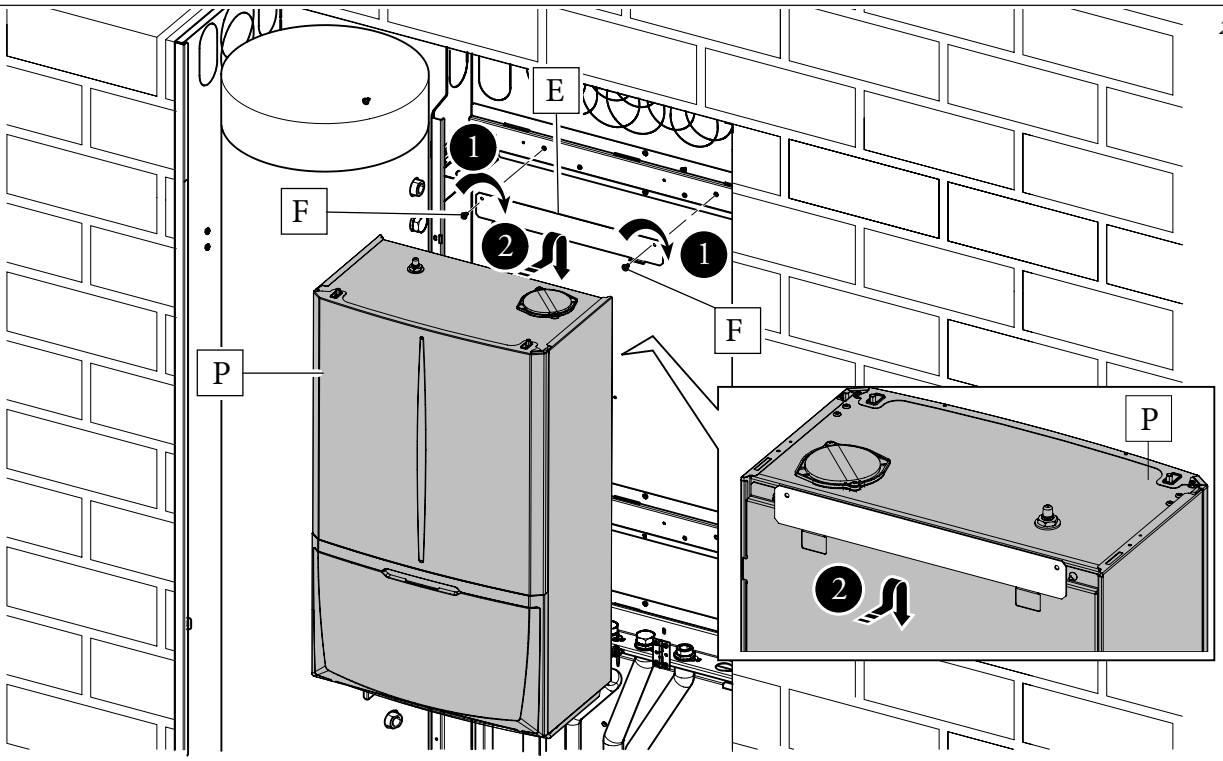

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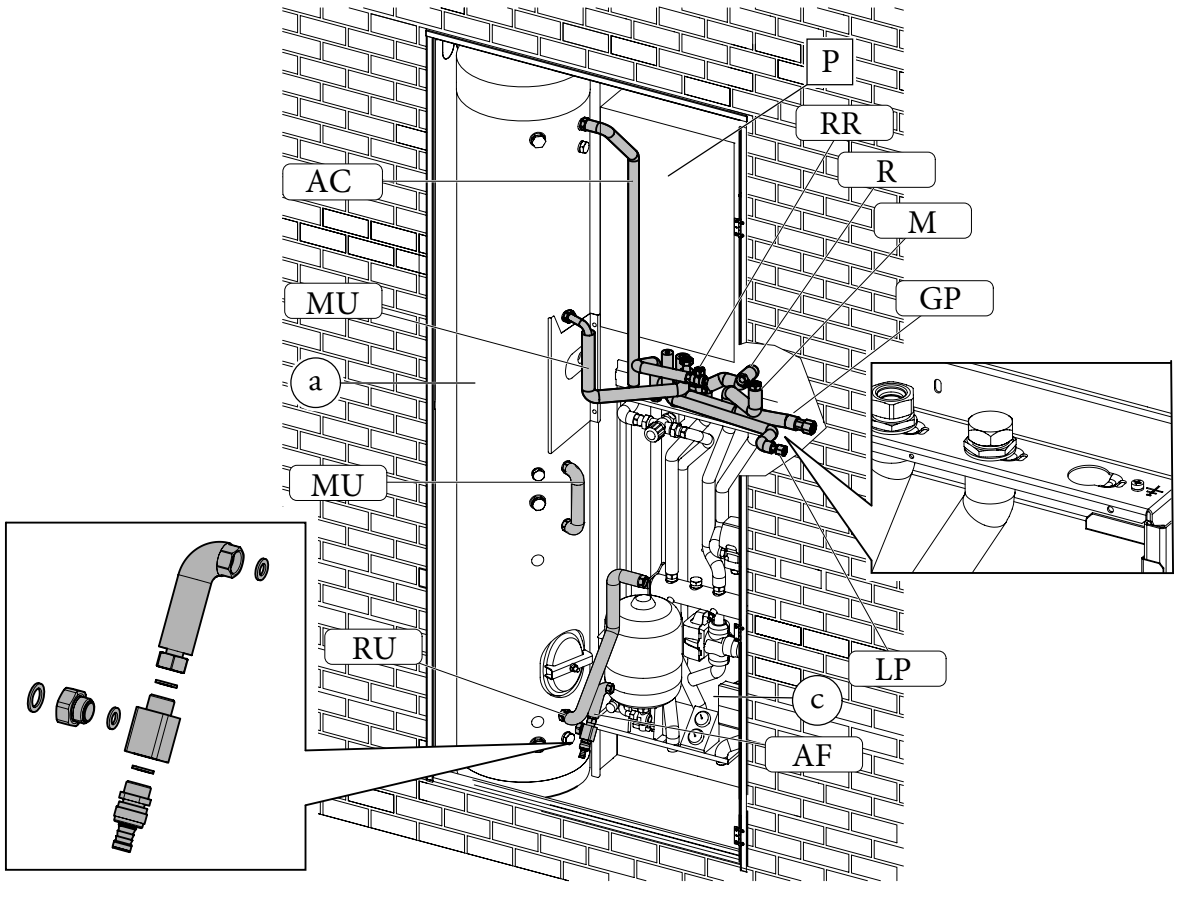
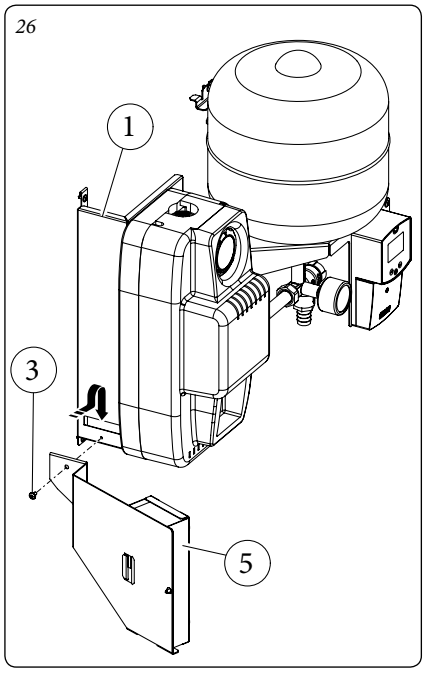


Installation operations SOLAR HEATING SYSTEM COUPLING KIT

- Close the cold water inlet upstream of the system and empty the storage tank.
- Disconnect power supply.
- Fix the support bracket (2) for the clip (4) to the hydronic unit (A) using the screw (3), (*Fig. 27*).
- Assemble the plate heat exchanger (5) to the solar unit (1) by hanging it in the appropriate seat and securing it with the supplied screw (3), (*Fig. 26*).
- Couple the solar unit (1) to the hydronic unit (A) by hanging it to the two appropriate seats, then secure it with the supplied screws (3), (*Fig. 27*).
- Stop the expansion vessel using the clip (4) that must be wrapped around it and passed behind the special bracket (2).
- Make the hydraulic connections of the kit (*Fig. 28*).
- Remove the two caps present on the storage tank to make the connections of the relative pipes (UCS and EFS).
- Connect the interception cock (6) on the plate heat exchanger by interposing the relative flat gasket.
- Following the sequence below, connect all the pipes taking care to interpose the flat gaskets present in the kit, pipe RP - MP (long) - UCS - RP (short) - EFS.
- Connect the two solar system pipes to the specially arranged fittings, using one of the pre-cut slots (B).
- Fit the fitting of the safety valve. Connect the silicone pipe (8) to the fitting and insert it in the can (7).
- Insert the solar storage tank probe (9) in the appropriate seat.
- Re-open the cold water inlet and power supply the system again.

26



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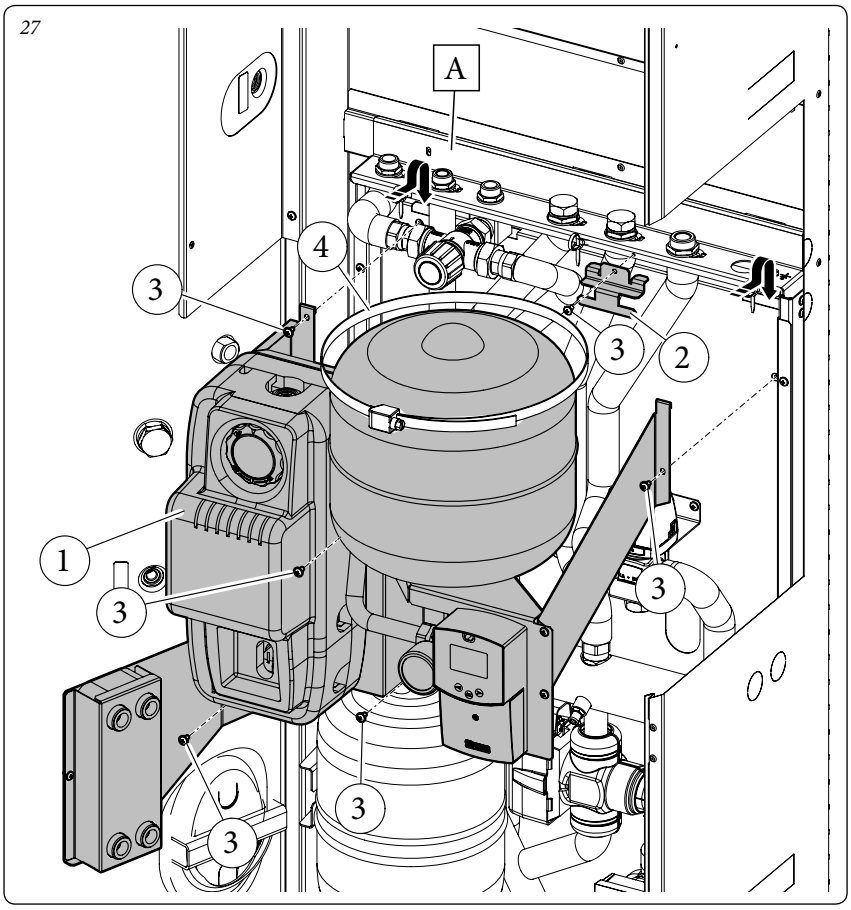

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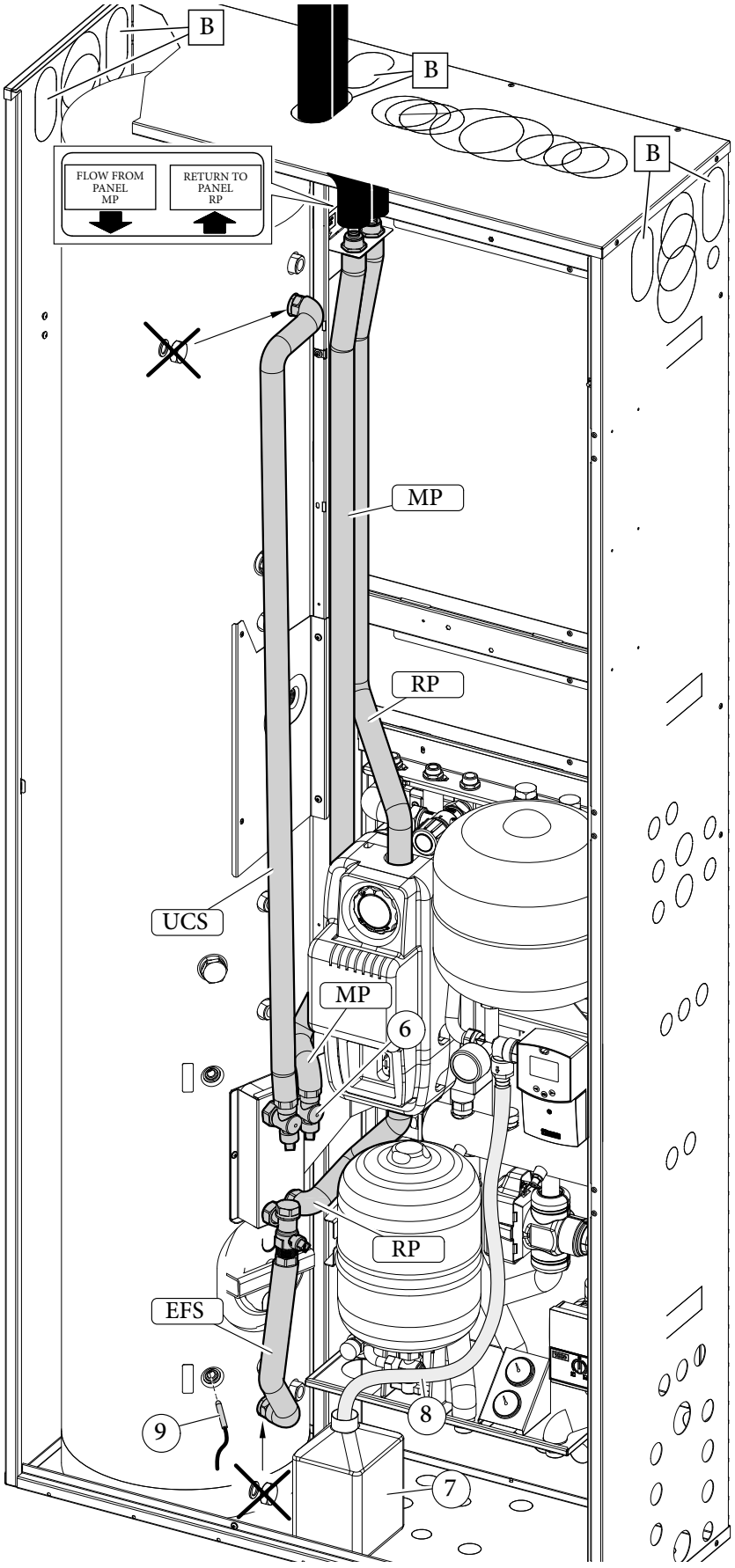
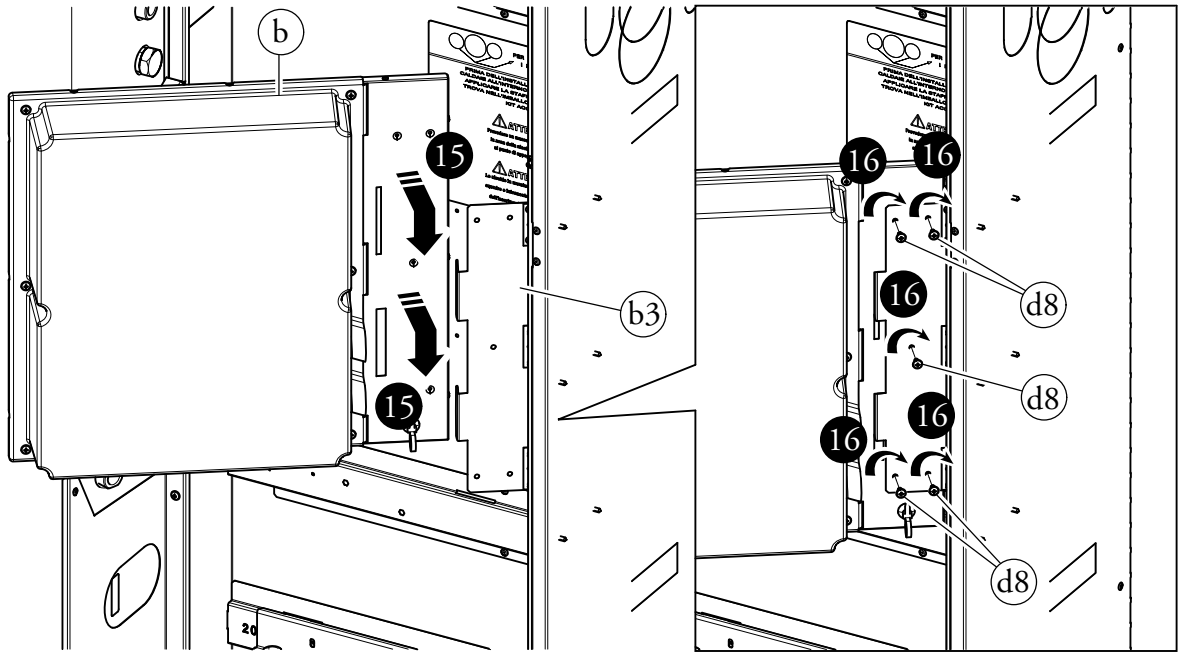

B
B
B
FLOW FROM PANEL MP
RETURN TO PANEL RP
MP
RP
UCS
MP
6
RP
EFS
9
8
7

- Fit the electrical panel (b) on the bracket (b3) as shown in *Fig. 29*. Once completed the installation, fix everything with the screws (d8).



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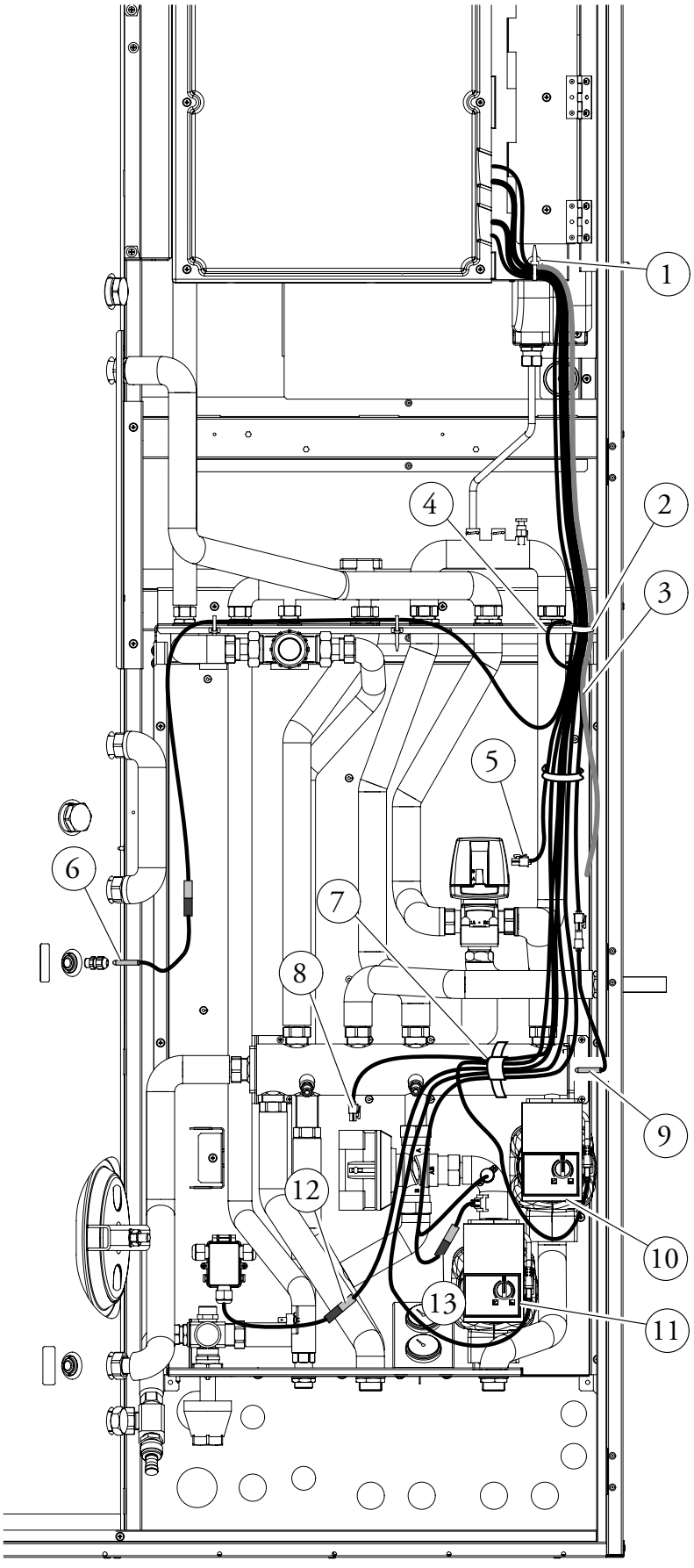
1.7 TRIO V2 (BASE) WIRING CONNECTION DIAGRAM.

30



Once the kit is assembled, proceed with the wiring according to the diagram *Fig. 30*.

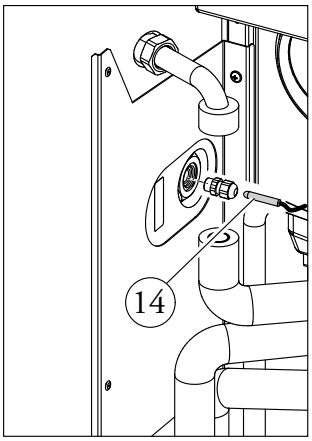
- Lower the wiring exiting the clip (1) until it can be secured with the clip (2).
- Fix the earthing eyelet (4) in the appropriate hole marked on the frame.
- Connect the storage tank probe connector (6= to the wiring marked with the label "SONDA-SAN" (DHW-PROBE), then place it on the storage tank in the appropriate seat using the relative cable clamp.
- Connect the hydraulic manifold probe connector (9) to the wiring marked by the label "MAND.IMP" (SYS.FLOW) and place it in the appropriate seat provided in the centre, on the right side of the manifold itself.
- Connect the flow probe connector (13) to the wiring marked by the label "SONDA" (PROBE), then connect the wiring to the probe and connect the "T-SIC" connector to the safety thermostat (Not for the Trio Mono V2 version).
- Connect the connector with the red "M-Z2" label to the pump (10)
- Connect the connector with the green "M-Z1" label to the pump (11) (Not for the Trio Mono V2 version).
- Connect the connector of the 3-way valve (5) marked with the "3VIE-SAN" (3WAY-DHW) label.
- Connect the connector of the mixing valve (8) marked with the "V.MISC" (MIX.V) label (Not for the Trio Mono V2 version).
- Connect the connector of the antifreeze box (12) to the wiring connector with the "ANTIGELO" (ANTIFREEZE) label.
- Make the connection to the power supply using the cable (3) as shown in the wiring diagram (*Fig. 36÷39*)
- Now group the various cables and join them with the clip (7) supplied with the hydraulic manifold.
- Version with plus boiler, place the DHW probe (14) in the relative probe support (*Fig. 31*) using the relative cable clamp.

Attention: in order for the probes to function properly, before it is inserted, it is recommended to put a bit of conductive paste on the relative probe-holder.

N.B.: wind the uncovered fittings with the insulation present in the kit.

Plus version DHW probe.

31



1.8 REMOTE PANEL MAIN DIMENSIONS

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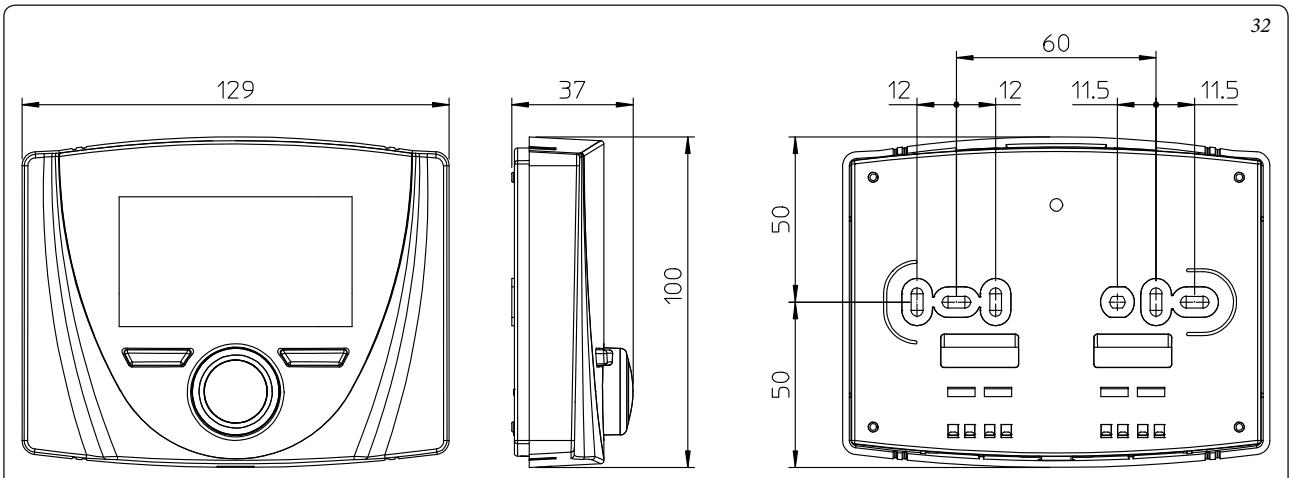


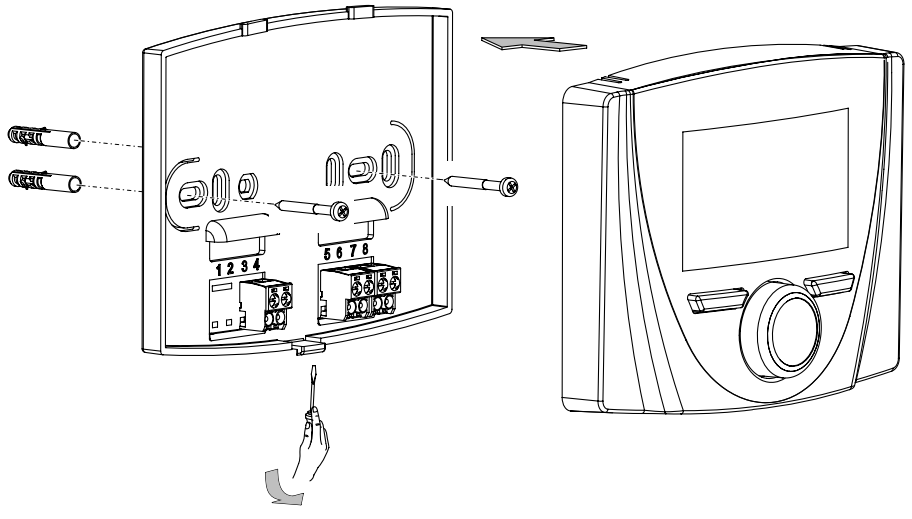
1.9 REMOTE PANEL INSTALLATION OPERATIONS.

1) Separate the fixing template from the body of the remote panel using a screwdriver as a lever in the relative recess (*Fig. 33*). Install the remote panel away from heat sources and in a suitable position to detect the room temperature correctly.
2) Install the remote panel using the openings on its rear part directly onto the wall or on a recess box using the relative supplied screws.
3) Connect the remote panel to the electronic management clamps, as indicated in the diagram (*Fig. 36÷39*).

   The connection is made using wires with a minimum section of 0.50 mm^2 and maximum section of 1.5 mm^2 and with a maximum length of 50 metres.

   N.B.: for correct installation, prepare a dedicated line to connect the remote control according to the Standards in force regarding electrical systems. If this is not possible, interference due to other electric cables could cause malfunctioning of the remote control itself.
4) Fix the body of the remote control to the mount template, engaging it with pressure.
5) After the pack has been powered, wait about 30 seconds before regulation so that communication between remote panel and the pack has established.

33



1.10 GAS CONNECTION (WHERE THE OPTIONAL BOILER IS PRESENT).

Perform the boiler gas connection using the special pipe, cock and reducing coupling supplied and referring to the connection template on the Solar Container and to the boiler operation and maintenance manual.

1.11 HYDRAULIC CONNECTION.

Perform the hydraulic connection of the Trio V2 pack, referring to the relative instruction sheet and to the connection template on the Solar Container.

Attention: before making the connections, carefully clean the heating system (pipes, radiators, etc.) with special pickling or de-scaling products to remove any deposits that could compromise correct operation of the boiler, hydraulic unit and storage tank.

N.B.: remove all the protection caps on the flow and return pipes of the hydronic unit, before making the hydraulic connections.
The connections can be made directly using the female couplings on the hydronic unit or by inserting system cut-off cocks (optional). These cocks are particularly useful for maintenance as they allow you to drain the hydronic unit separately without having to empty the entire system.

Attention: *to preserve appliance duration and efficiency features, we recommend installing a suitable water treatment device if the water has features that can lead to limescale deposits.*

1.12 SAFETY VALVE DRAIN.

8 bar domestic hot water safety valve.
Screw the fitting (d9) onto the safety valve. Screw the funnel (d10) onto the fitting (d9) and convey the outlet to the drains.

3 bar boiler safety valve.
Tighten the rubber fitting (d11) to the boiler safety valve. Connect the silicone pipe (d12) to the fitting (d10) and, after having cut it to size, insert it into the funnel (d10) as shown in *Fig. 35*.

1.13 CONDENSATE DRAIN (WHERE THE OPTIONAL BOILER IS PRESENT).

To drain the condensation produced by the boiler, dismantle the relevant pipe on the boiler and replace it with the one supplied with the Trio V2 pack (longer) and convey the outlet towards the drains, via suitable pipes that can withstand acid condensation, with an internal Ø of at least 13 mm. The system connecting the appliance to the drainage system must be carried out in such a way as to prevent freezing of the liquid contained in it. Before appliance start-up, ensure that the condensate can be correctly removed. Also, comply with national and local regulations on discharging waste waters.

1.14 ELECTRICAL CONNECTION.

The electrical connection operations must be performed after having disconnected the power from the appliance.

The Trio V2 pack has a protection rating IPX5D for the entire appliance. Electrical safety of the appliance is reached only when it is correctly connected to an efficient earthing system as specified by current safety standards.

Attention: the manufacturer declines any responsibility for damage or physical injury caused by failure to connect the Trio V2 pack to an efficient earthing system or failure to comply with IEC reference standards.

Also ensure that the electrical system corresponds to maximum absorbed power specifications as shown on the Trio V2 pack data nameplate.

The pack is supplied complete with an "X" type power supply cable without plug.

- **"Base" version wiring connection.** Connect the wiring as described in *Par. 1.7*.
- **Trio Base central heating / C.H. integration resistance connection.** Connect the resistance on the management electronics as shown in the relative wiring diagram (*Fig. 36÷39*). For operation, connection and operating instructions see the relative instructions manual of the central heating / C.H. integration resistance.
- **3 kW integrative resistance connection for system that can be combined with Trio Pro V2.** The resistance must be connected directly to the Magis Pro electronics. For operation, connection and operating instructions see the relative instructions manual.
- **Instantaneous boiler connection.** Connect the boiler to the electronics as shown in the diagram (*Fig. 36÷39*).

  Connect the power supply to the relative power supply and the communication cables from terminals "41 - 44" to terminals "41 - 44" of the boiler, eliminating the "X40" jumper present in the boiler.
- **Plus Boiler connection.** Connect the boiler to the electronics as shown in the diagram (*Fig. 36÷39*).

  Connect the power supply to the relative power supply and the communication cables from terminals "41 - 44" to terminals "41 - 44" of the boiler, eliminating the "X40" jumper present in the boiler. Position the storage tank probe as shown in *Fig. 31* and connect it to the boiler as indicated in the manual.
- **Magis Pro connection.** Connect the device to the electronics as shown in the diagram (*Fig. 37 and 39*).

  Connect the power supply to the relative power supply and the communication cables from terminals "41 - 44" to terminals "T+ - T-" of Magis Pro.

  Make sure that parameter "A21" is set to "11" and parameter "A 22" is set to "OFF".
- **Heat pump electrical connection.** Make the connection with the heat pump communication bus to the management electronics on the T- and T+ terminals as shown in the wiring diagram (*Fig. 36 and 38*). The heat pump is powered independently by the pack at 230 V.
- **Pack electrical connection.** The power supply cable must be connected to a 230V ±10% / 50Hz mains, respecting L-N polarity and the earthing connection ⏚; this network must have a multi-pole circuit breaker with class III overvoltage category. When replacing the power supply cable, contact a qualified company (e.g. the Authorised After-Sales Technical Assistance Service). For the main power supply to the appliance, never use adapters, multiple sockets or extension leads.
- **Remote panel electrical connection.** The pack only operates if connected to the standard supplied remote panel. This must be connected as shown in *Fig. 36÷39*.
- **Important:** it is mandatory to prepare separate lines with different power supply voltage; it is essential to separate the low voltage connections from the 230 V ones. All boiler pipes must never be used for earthing the electrical or telephone system. Ensure elimination of this risk before making the boiler electrical connections.
- **Manifold solar probe electrical connection.** Connect the manifold solar probe (in the kit) to the manifold and control unit (*Ref. 2 Fig. 44*).
- **Solar control unit electrical connection**
  Connect the solar control unit to the system as indicated in the relative instructions manual.

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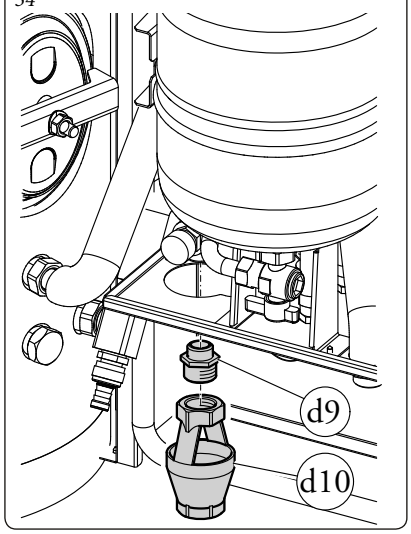

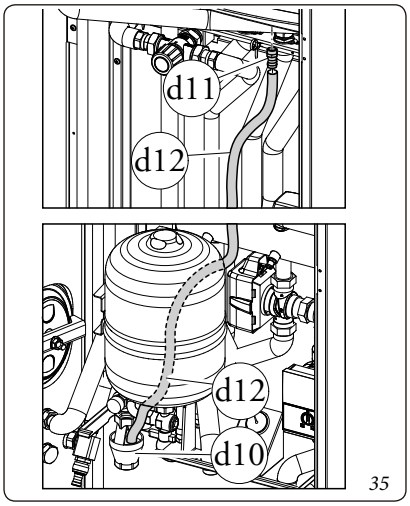

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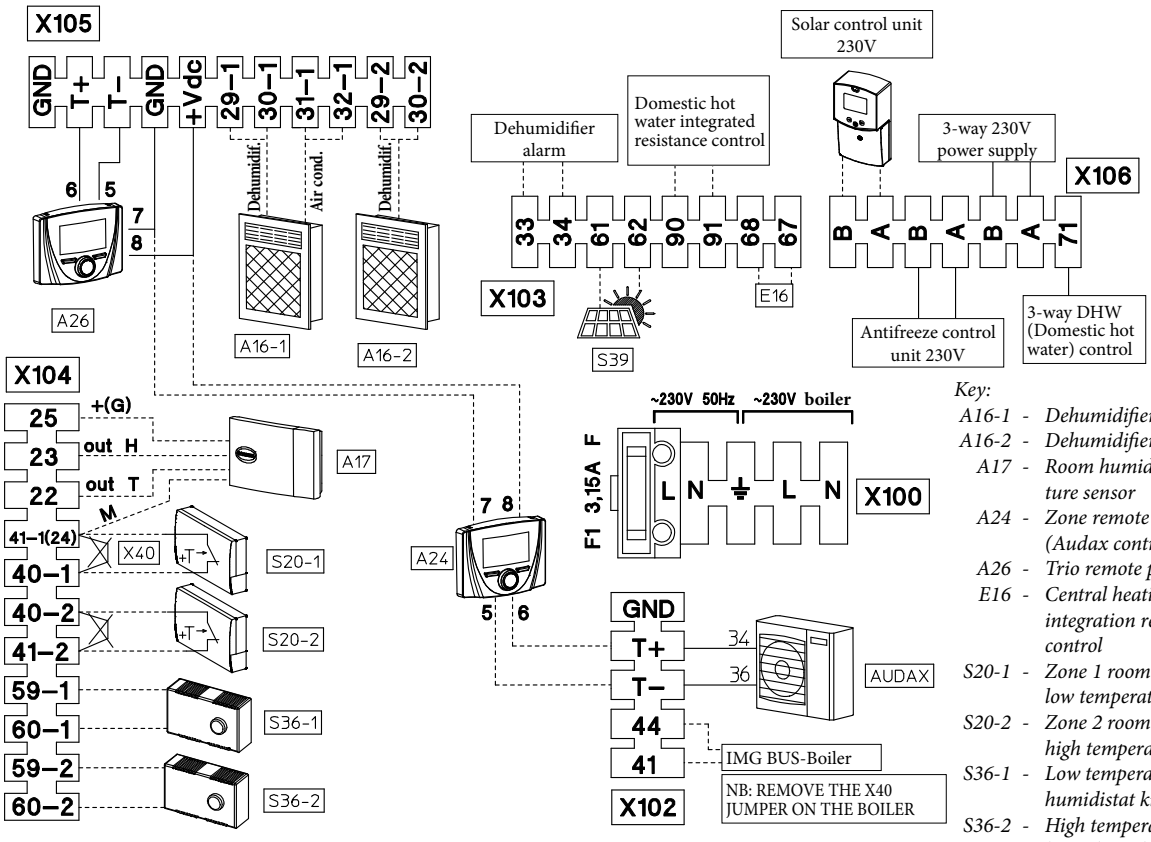
Trio V2 connection with Audax coupling.

36

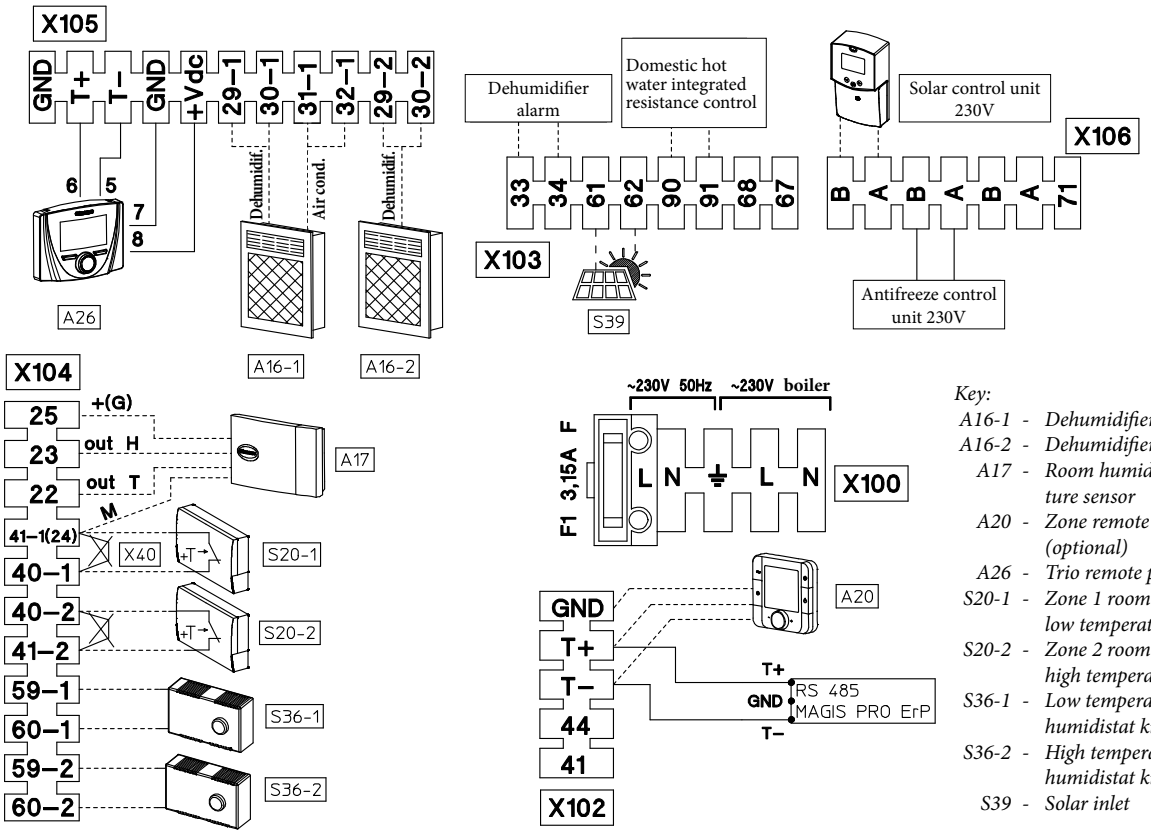


Key:

- *A16-1 - Dehumidifier zone 1*
- *A16-2 - Dehumidifier zone 2*
- *A17 - Room humidity temperature sensor*
- *A24 - Zone remote control (Audax control panel)*
- *A26 - Trio remote panel*
- *E16 - Central heating / C.H. integration resistance control*
- *S20-1 - Zone 1 room thermostat low temperature*
- *S20-2 - Zone 2 room thermostat high temperature*
- *S36-1 - Low temperature zone 1 humidistat kit*
- *S36-2 - High temperature zone 2 humidistat kit*
- *S39 - Solar inlet*

Trio V2 connection with Magis Pro coupling.

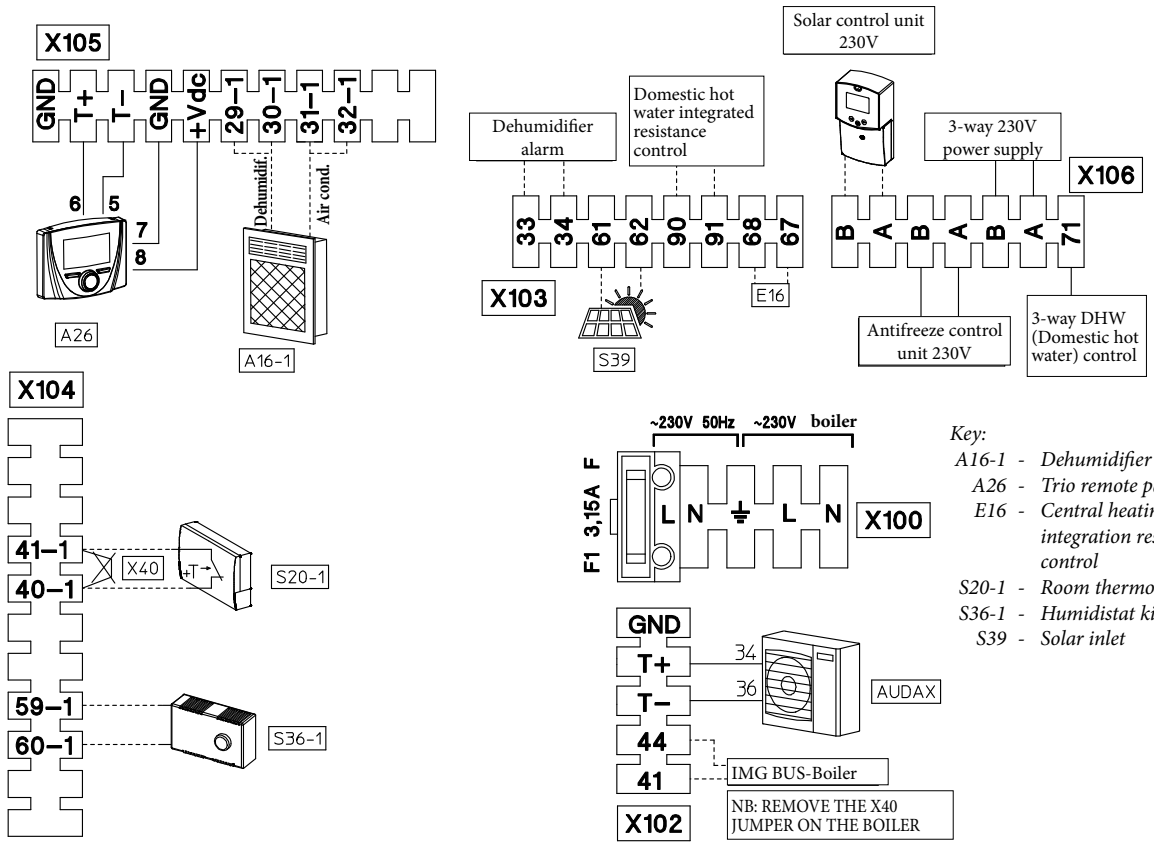
37



Key:

- *A16-1 - Dehumidifier zone 1*
- *A16-2 - Dehumidifier zone 2*
- *A17 - Room humidity temperature sensor*
- *A20 - Zone remote control (optional)*
- *A26 - Trio remote panel*
- *S20-1 - Zone 1 room thermostat low temperature*
- *S20-2 - Zone 2 room thermostat high temperature*
- *S36-1 - Low temperature zone 1 humidistat kit*
- *S36-2 - High temperature zone 2 humidistat kit*
- *S39 - Solar inlet*

Trio Mono V2 connection with Audax coupling.



Key:

A16-1 - Dehumidifier
A26 - Trio remote panel
E16 - Central heating / C.H. integration resistance control
S20-1 - Room thermostat
S36-1 - Humidistat kit
S39 - Solar inlet

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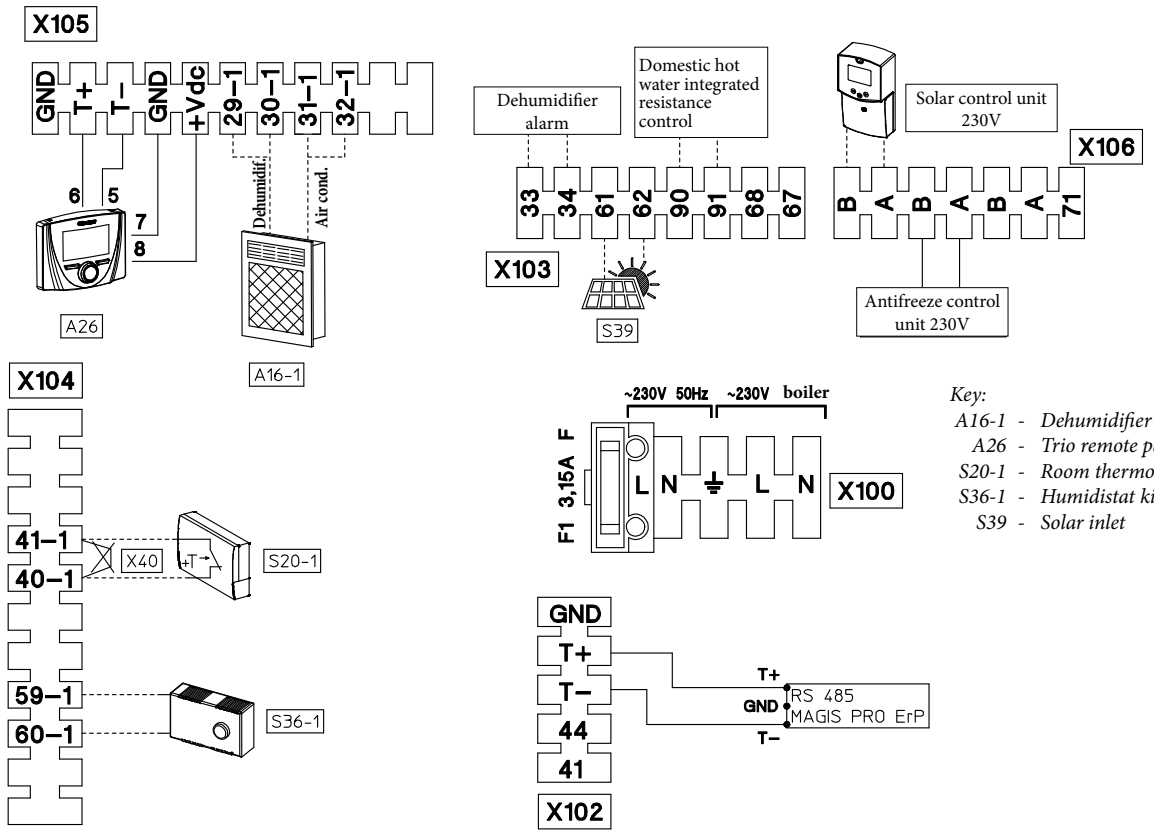
Trio Mono V2 connection with Magis Pro coupling.



Key:

A16-1 - Dehumidifier
A26 - Trio remote panel
S20-1 - Room thermostat
S36-1 - Humidistat kit
S39 - Solar inlet

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1.15 ROOM THERMOSTATS (OPTIONAL).

For the additional zones the boiler is predisposed for the application of additional zone controls, or, alternatively, the extra zones can be managed via different devices.

- **On/Off digital chrono-thermostat** (*Fig. 40*).
  The chrono-thermostat allows:
  - set two room temperature values: one for day (comfort temperature) and one for night (reduced temperature);
  - set a weekly programme with four daily switch on and switch off times;
  - select the required operating mode from the various possible alternatives:
  - manual mode (with adjustable temperature).
  - automatic mode (with set programme).
  - forced automatic mode (momentarily changing the temperature of the automatic programme).

  The chrono-thermostat is powered by two 1.5V LR 6 type alkaline batteries;

  Electrical connection. The On/Off room chrono-thermostat must be connected to the 40-1 and 41-1 terminals for zone 1 and 40-2 and 41-2 for zone 2, eliminating the jumper present (*Fig. 36÷37*). Make sure that the On/Off thermostat contact is "dry", i.e. independent of the mains voltage, otherwise the P.C.B. would be damaged.

- **Humidity temperature probes** (*Fig. 41*). As well as control the room temperature as chrono-thermostat On/Off, the humidity temperature probe controls the humidity and relative dew point by regulating the flow temperature during the cooling phase.

  Electrical connection. The electric connection of the external probe must be made on clamps 22 ÷ 25 on the system manager box (*Fig. 36÷39*).

- **Zone remote control** (*Fig. 42*). The zone remote control allows the user to adjust the room temperature and humidity. The temperature and humidity are set in a simple and intuitive manner thanks to the front knob.

  Electrical connection. The electrical connection is parallel to the terminals for the T-, T and GND heat pump connection.

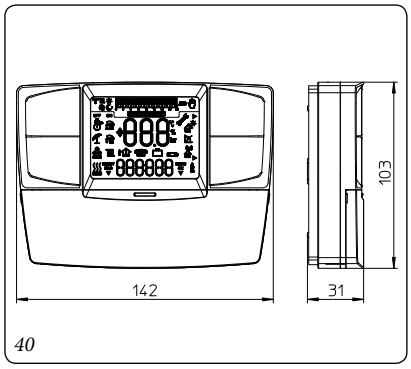
  To correctly configure the device, configure the parameters as described in the relative programming paragraph (*Par. 3. 4*).

1.16 AUDAX CONTROL PANEL.

In the case of combination with the Audax heat pump, it is possible to use the "Control Panel" included in supply. This remote control can be used to control the secondary zone. Connect as shown in *Fig. 36*.

1.17 SECONDARY ZONE REMOTE CONTROL (OPTIONAL).

This remote control can be used to control the secondary zone. Connect as shown in *Fig. 37*.



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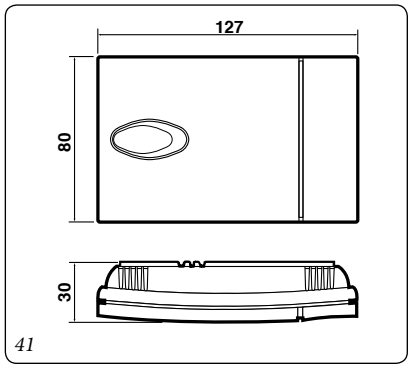

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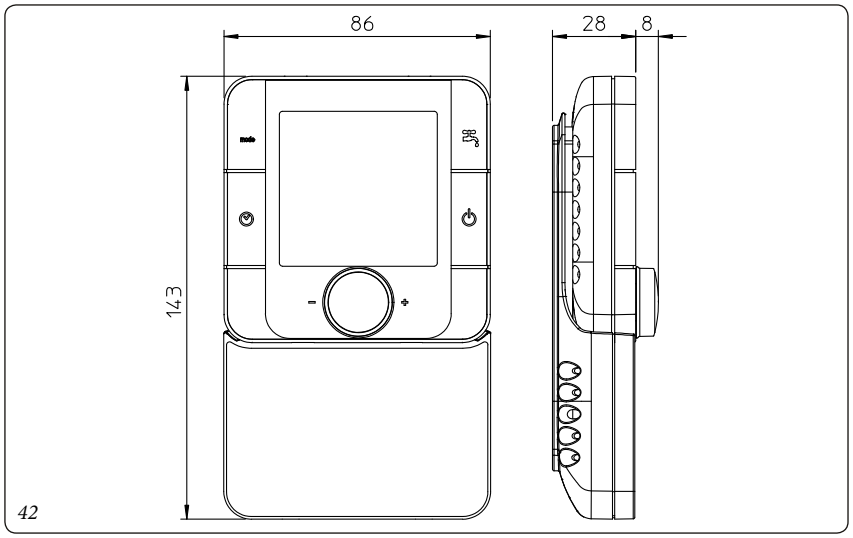

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1.18 SOLAR CONTROL UNIT INSTALLATION (OPTIONAL).

If necessary, it is possible to remove the contact cover, by undoing the relevant fixing screw (*Fig. 43*) and access the connections area (*Fig. 44*).

Description of the solar control unit controls.

1: The solar power storage tank is in operation.

2: Simplified system drawing.
- The pump logos switch on when they are activated.
- The solid triangles on the valve logo indicate circulation.
- The inside of the tank is active during filling.

3: Operating mode setting.

4: Name of the value or parameter displayed under number "5".

5: Temperature of the various sensors or value of the parameter displayed under number "4".

A: Keypad description:

Plus key (►+);

Minus key (-◄);

Confirmation key or menu navigation key (**OK**).

N.B.: on the main screen you can select the sensor that must always be displayed; press the (**OK**) key to display the desired sensor.

Installation menu.

Press the (**OK**) key for 5 seconds to access the installation menu.

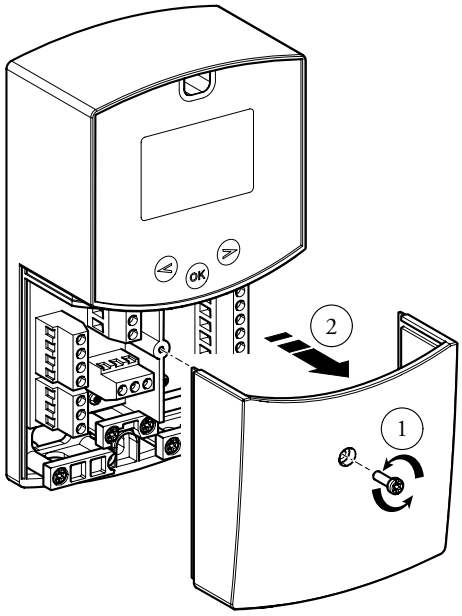
When you access the installation menu (the first parameter "Syst" is displayed), it is possible to select another parameter by pressing the (**OK**) navigation key.

Once the desired parameter is displayed, it is possible to change the value using the keys (►+) or (-◄).

Block function.

To prevent errors after installation, all the critical parameters (system and Extra function) cannot be accessed when over 4 hours have elapsed after start-up. If you wish to edit them, disconnect and reconnect the control unit. No settings are lost during disconnection or after a blackout.

After 4 hours it is possible to change all the other settings to optimise the system.



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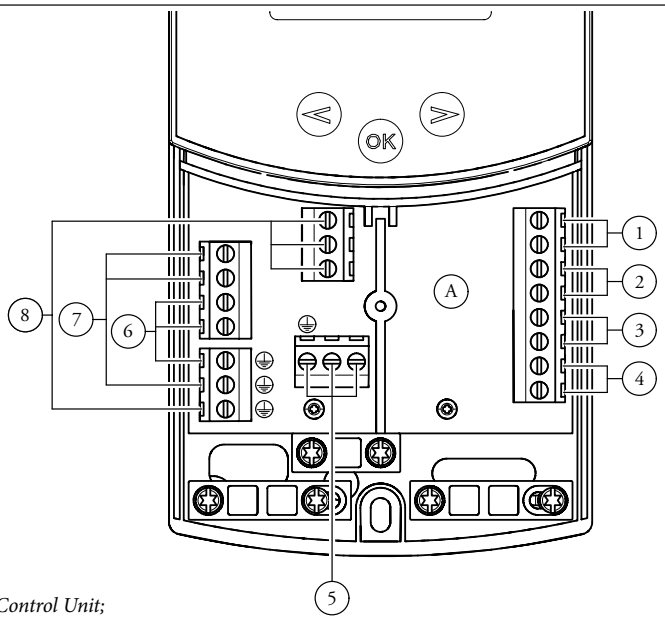
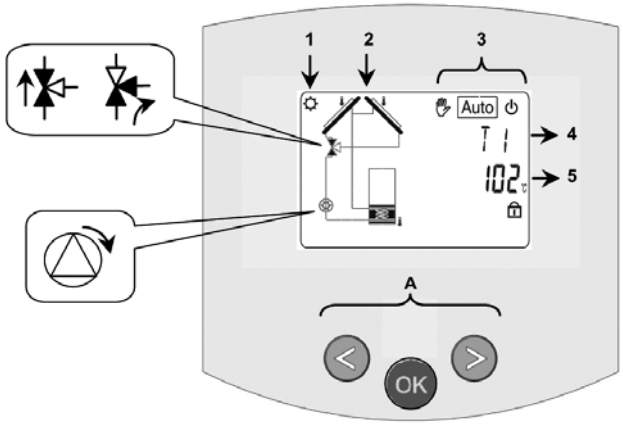


Key:

A Control Unit;
1 Tank 1 sensor (T2) NTC 10k (105°C, 3M);
2 Manifold 1 sensor (T1) PT1000 (180°C, 1.5M);
3 Extra sensor for manifold 2 - (T4) PT1000 (180°C);
4 Extra sensor (T3) NTC 10k (105°C, 3M);
5 Power supply (230 Vac ± 10% - 50Hz);
6 Solar pump (P1);
7 Extra pump or valve (P2);
8 Extra pump or valve (P3) (dry contacts).

44



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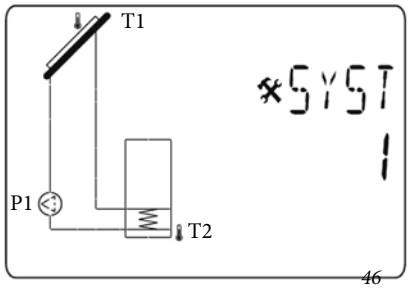
System selection.
"**SySt**" parameter (Default value "**1**" not editable).

System 1.
Base system with 1 tank, 1 pump, 1 series of manifolds and 2 sensors. It can be enriched by extra functions with 1 or 2 T3 (NTC) or T4 (PT1000) sensors (Thermostat, Cooling, Anti-stagnation or Diff control function).



Tank 1 can be loaded if the temperature difference "**dt**" between manifold (T1) and tank 1 (T2) is sufficient.

Manifold selection.
"**TubE**" parameter (Default value "off").

After selecting the "**TubE**" parameter, press the navigation key to the right (►+) to select the type of manifold installed.
- Now select "on" if your system uses a manifold with vacuum pipes. (This function can also be used with a flat manifold if the sensor is mounted on the outside of the manifold). This function works as follows. Every 30 minutes the pump is activated for 40 seconds to measure the correct value on the manifold and prevent a short charging cycle.
- Select "off" if the system works with a flat manifold in normal operating conditions.

Maximum manifold temperature.
"**ColM**" parameter (default value "120").
- Set the level to start the overheating protection for the manifold. (Adjustable between 110 and 150°C, with default value 120°C)

Overheating protection.
"**OvrH**" parameter (default value "on").
This function will stop the circulation of all the manifolds (P1 and P2) when the temperature of the manifold increases above "**ColM**" plus a compensation value (default value +10°C, modifiable). This function is used to protect the system elements (pipes, fittings, ring-shaped rubber gaskets).
- To activate the function, press (►+) selecting "on".
- Now you can adjust the compensation level.

"**Ovrt**" parameter (default value "20°C").

This compensation is normally used to prevent an excessively fast reaction of the overheating protection function (particularly useful with vacuum pipe manifolds).
(Adjustable between +10°C and +30°C with default value +10°C).

N.B.: For safety reasons, the overheating protection function must always be set at ("on").

Cooling.
"**Cool**" parameter (default value "On").
This option is used to protect the manifold liquid and operates as described below. Activate solar pump **P1** or **P2** if the temperature of the set of manifolds **T1** or **T4** exceeds the "**Max temp**" value, even if the maximum temperature set in the tank is exceeded. Circulation stops when the temperature has dropped by 10°C. (The pumps stop if the temperature of the water in the tank reaches 90°C).
"**Rcoo**" parameter (default value "On").

When the temperature of the water in the tank exceeds the level set in "Maxtemp tank1" and the temperature of the manifold has gone down by 10°C, the pump starts-up to cool down the tank via the manifolds. The pump will switch off when the temperature of the water drops below the level set in "**tkM1**" or when the difference between the temperature of the set of manifolds and of the tank is below 2°C.

Antifreeze protection.
"**FrEZ**" parameter (default value "off")
This option maintains the temperature of solar panel **T1** or **T4** above the level set for freezing with the "**Frzt**" parameter, activating pump **P1** or **P2**.
This option can be used to reduce the build-up of snow on the panel and to increase the efficiency during the day or prevent damage to the solar liquid.

N.B.: it is preferable not to use this function in very cold places to prevent using too much energy accumulated in the tank.
- To activate the function, press (►+) and select "on".
- Now you can adjust the Freezing setting.

"**FrZt**" parameter (default value "10°C" (Adjustable between -20°C and + 7°C with recommended value 3°C).

Display.
"**DiSP**" parameter (default value "OFF").

Back-lighting function.
- To enable or disable the back-lighting function press (►+) or (-◄).
- If it is "**Off**" the back-lighting will switch off automatically 3 minutes after having pressed the key.
- If it is "**On**" the back-lighting will always be active.

Factory setting.
"**Fact**" parameter.
- If you want to reload all the parameters with factory settings, press and hold the (►+) key for a few seconds.

N.B.: For safety and error prevention purposes, the system selected will not be reset.

Setting menu.
This menu features all the adjustable parameters for your system. The various parameters are not available on all systems.

To access the Setting menu, press the (-◄) and (►+) keys at the same time. When you access the Installation menu (the first parameter "**TkM1**" is displayed), it is possible to select another parameter by pressing the (**OK**) navigation key. Once the desired parameter is displayed, it is possible to change the value using the (►+) or (-◄) keys.

- **Maximum temperature in tank 1.**

  "**TkM1**" parameter (default value "65°C").

  - Maximum value of the desired temperature of the water in tank 1 during normal operation. (Adjustable between +15 and 95°C with default value 65°C).

- **Maximum delta temperature for tank 1**

  "**dtM1**" parameter (default value "15°C").

  - Difference between temperature **T1** of the manifold and temperature **T2** of tank 1 to activate main pump 1. (Adjustable between 3 and 40°C with recommended temperature 7°C).

- **Minimum delta temperature for tank 1.**

  "**dtm1**" parameter (default value "7°C").

  - Difference between temperature **T1** of the manifold and temperature **T2** of tank 1 to stop main pump 1. (Adjustable between 2 and (tank.1 dTMax -2°C) with recommended temperature 3°C).

- **Minimum manifold temperature.**

  "**mtCo**" parameter (default value "25°C").

  - This setting is used to define a minimum temperature on the manifold, to authorise the solar charge. (Adjustable between 0°C and 99°C with default value 25°C).

1.19 ANTIFREEZE PROTECTION.
Assembly instructions.
- Wind the heating cable (d13) around the connection pipes and safety valve.

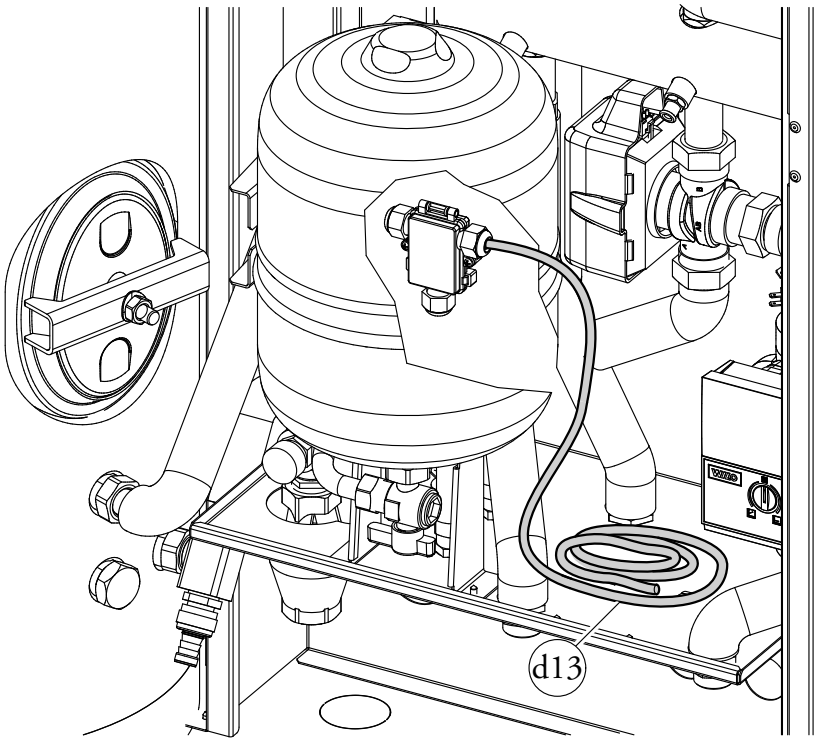
Attention: the graphic representation of the heating cable is purely indicative.

Recommendations for the technician.
The antifreeze kit was inspected and tested in the factory; therefore, it does not require testing or inspection upon installation.
Once the antifreeze kit has been installed, it is always connected and operational.

Minimum temperature -5°C. The pack comes standard with an antifreeze function that activates the electric resistance when the temperature in the Solar Container falls below 4°C.
The antifreeze function is only guaranteed if:
- the pack is connected properly to the electrical circuit and is constantly powered;
- the essential components are not faulty.

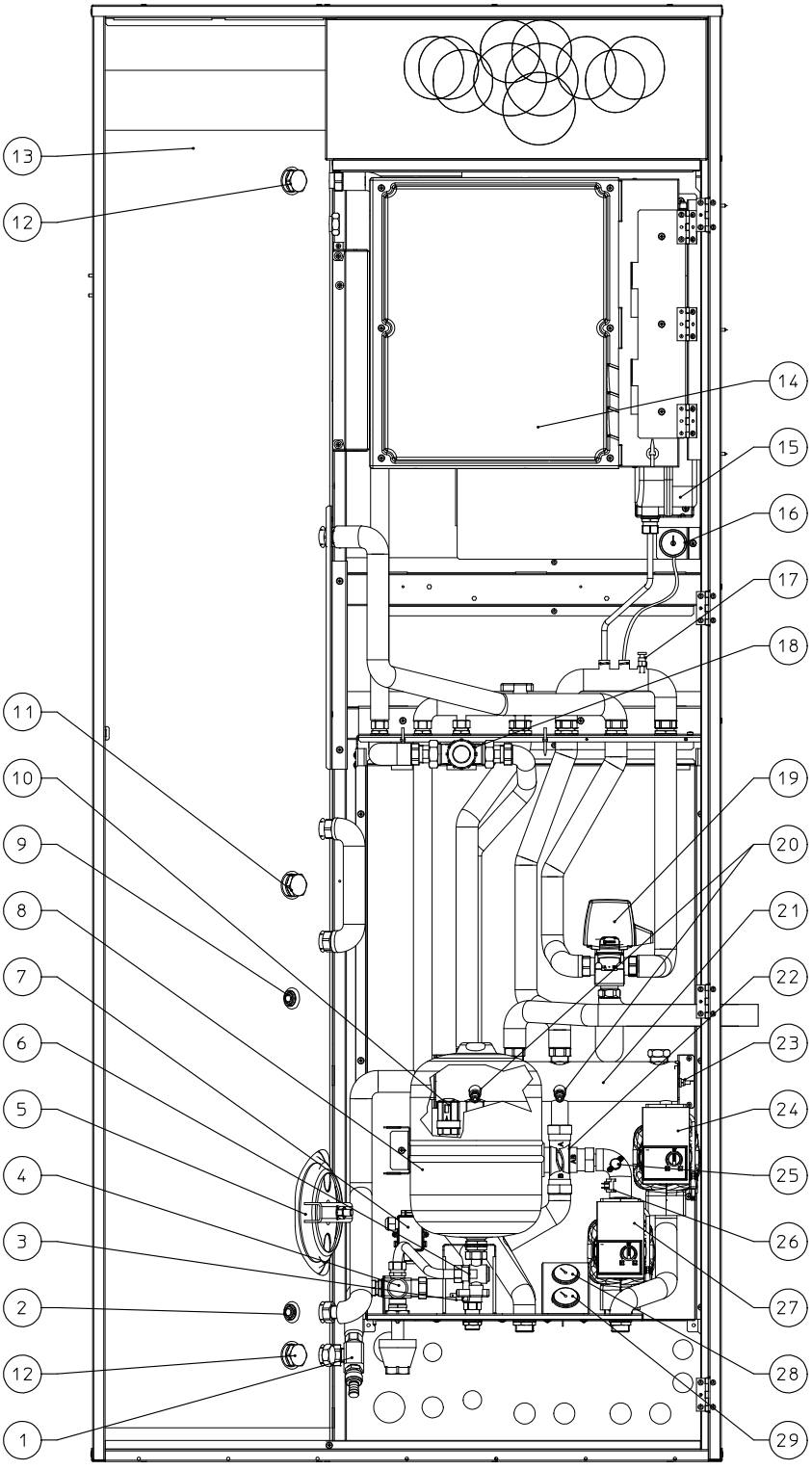
In these conditions the pack is protected against freezing up to an ambient temperature of -5°C.

47



1.20 TRIO BASE V2 MAIN COMPONENTS.

48



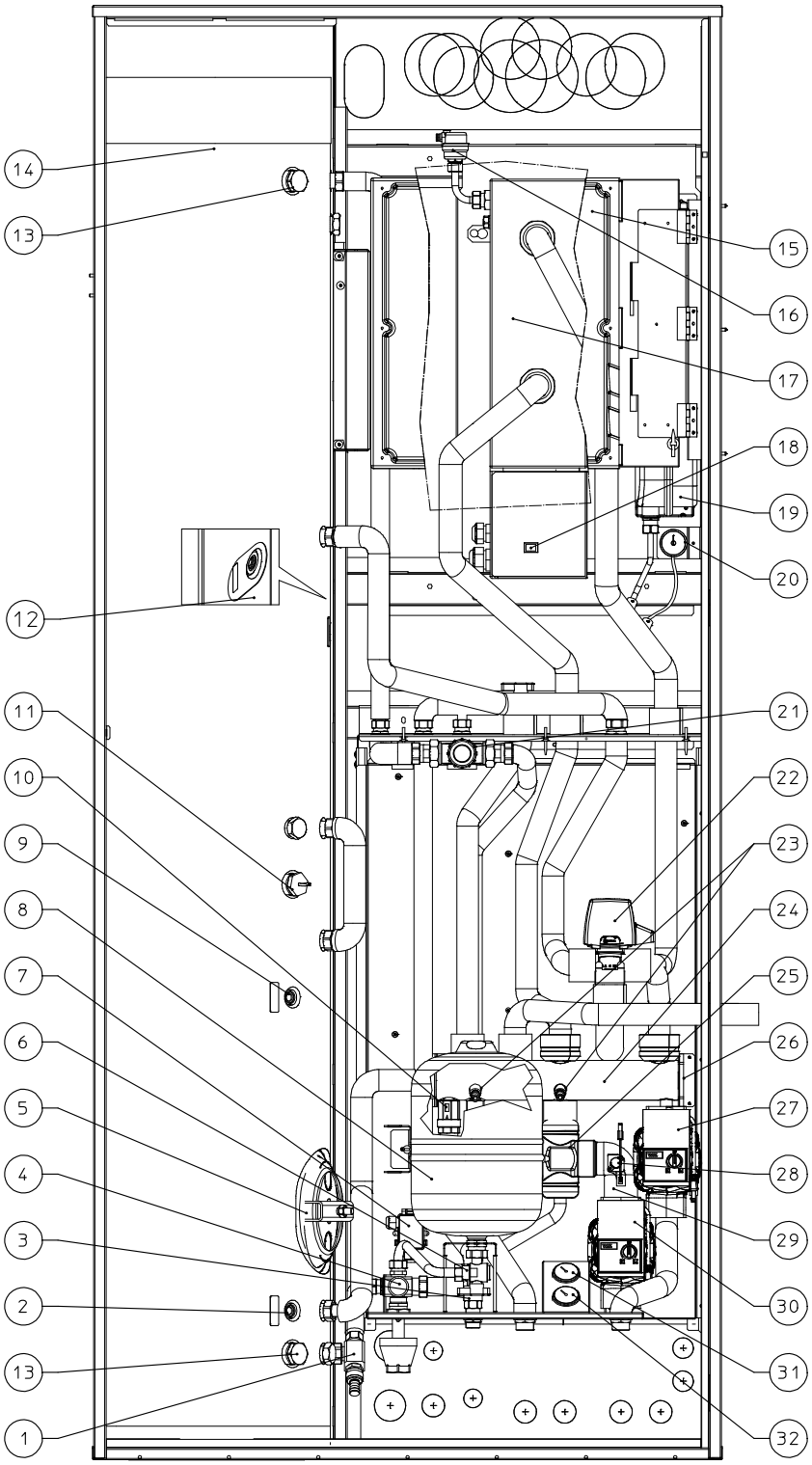
Key:

1 - Storage tank draining cock
2 - Solar probe (optional)
3 - Antifreeze thermostat
4 - 8 bar safety valve
5 - Storage tank flange
6 - Domestic hot water vessel shut-off cock
7 - Antifreeze kit connection box
8 - 8 l domestic hot water expansion vessel
9 - Heat pump probe
10 - One-way valve
11 - 1.5 kW Integrative electrical resistance connection fitting (optional)
12 - Sacrificial anode
13 - Storage tank
14 - Management electronics
15 - 8 l System expansion vessel
16 - Primary circuit manometer
17 - Manual air vent valve
18 - DHW circuit mixing valve
19 - 3-way valve (motorised)
20 - Manifold draining valves
21 - Hydraulic manifold
22 - 3-way Mixing valve (*)
23 - System flow probe
24 - Direct zone pump
25 - Safety thermostat (*)
26 - Zone 1 flow probe (low temperature) (*)
27 - Mixed zone pump (*)
28 - Zone 1 flow temperature thermometer (low temperature) (*)
29 - Zone 2 flow temperature thermometer (high temperature)

(*) the following components are not present on the Trio Mono V2 version.

1.21 MAIN COMPONENTS TRIO BASE V2 WITH INTEGRATED RESISTANCES (OPTIONAL)

49



Key:

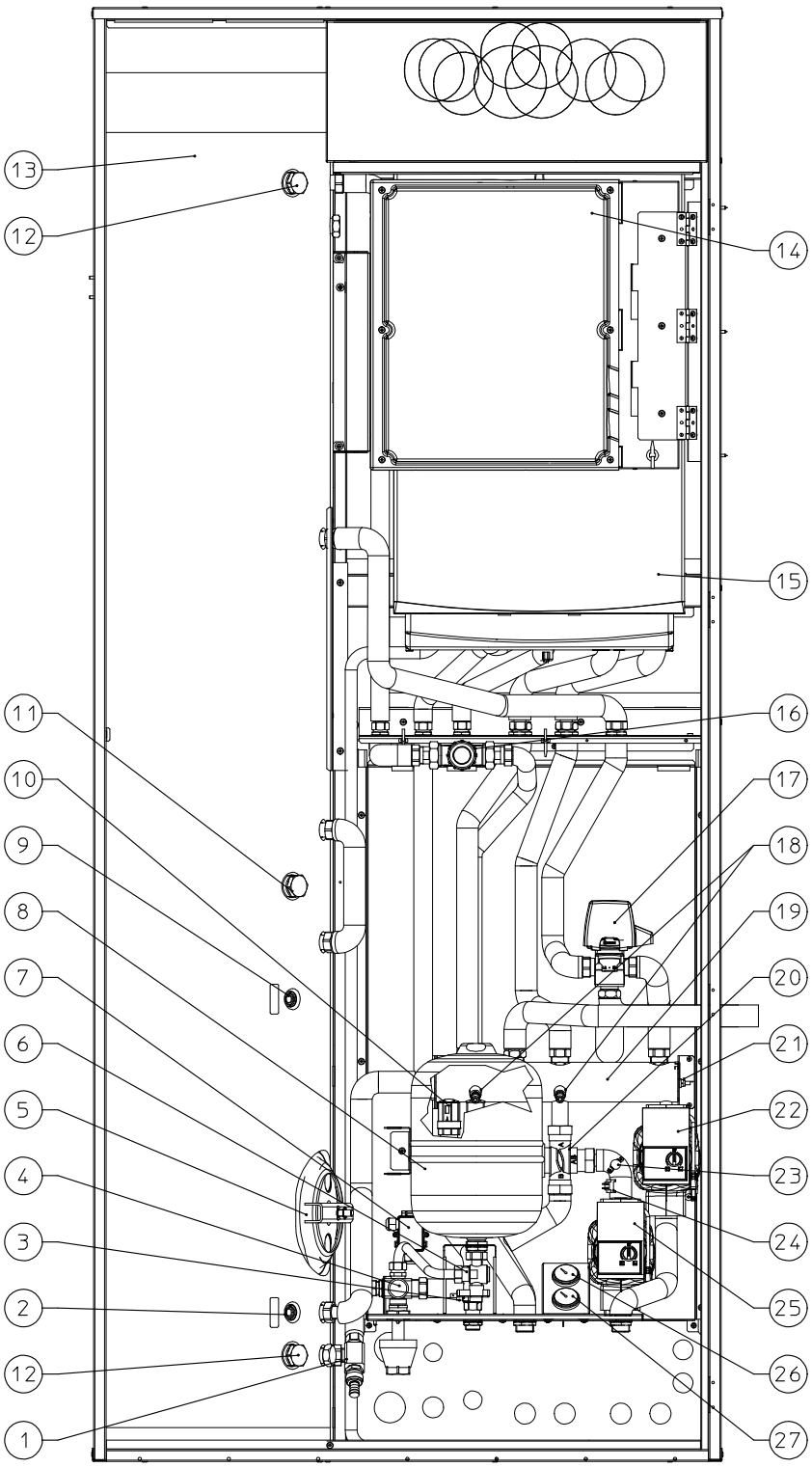
1 - Storage tank draining cock
2 - Solar probe (optional)
3 - Antifreeze thermostat
4 - 8 bar safety valve
5 - Storage tank flange
6 - Domestic hot water vessel shut-off cock
7 - Antifreeze kit connection box
8 - 8 l domestic hot water expansion vessel
9 - DHW probe
10 - One-way valve
11 - 1.5 kW Domestic hot water integrative electric resistance (optional)
12 - DHW probe (with DHW (Domestic hot water) electrical resistance)
13 - Sacrificial anode
14 - Storage tank
15 - Management electronics
16 - Manual air vent valve
17 - System integrative resistance (optional)
18 - Integrative resistance ignition switch
19 - 8 l System expansion vessel
20 - Primary circuit manometer
21 - DHW circuit mixing valve
22 - 3-way valve (motorised)
23 - Manifold draining valves
24 - Hydraulic manifold
25 - 3-way Mixing valve (*)
26 - System flow probe
27 - Direct zone pump
28 - Safety thermostat (*)
29 - Zone 1 flow probe (low temperature) (*)
30 - Mixed zone pump (*)
31 - Zone 1 flow temperature thermometer (low temperature) (*)
32 - Zone 2 flow temperature thermometer (high temperature)

(*) the following components are not present on the Trio Mono V2 version.

N.B.: in the presence of DHW (Domestic hot water) electrical resistance, position the probe as indicated in point 12.

1.22 MAIN COMPONENTS TRIO COMBI V2 WITH INSTANTANEOUS BOILER (OPTIONAL)

50



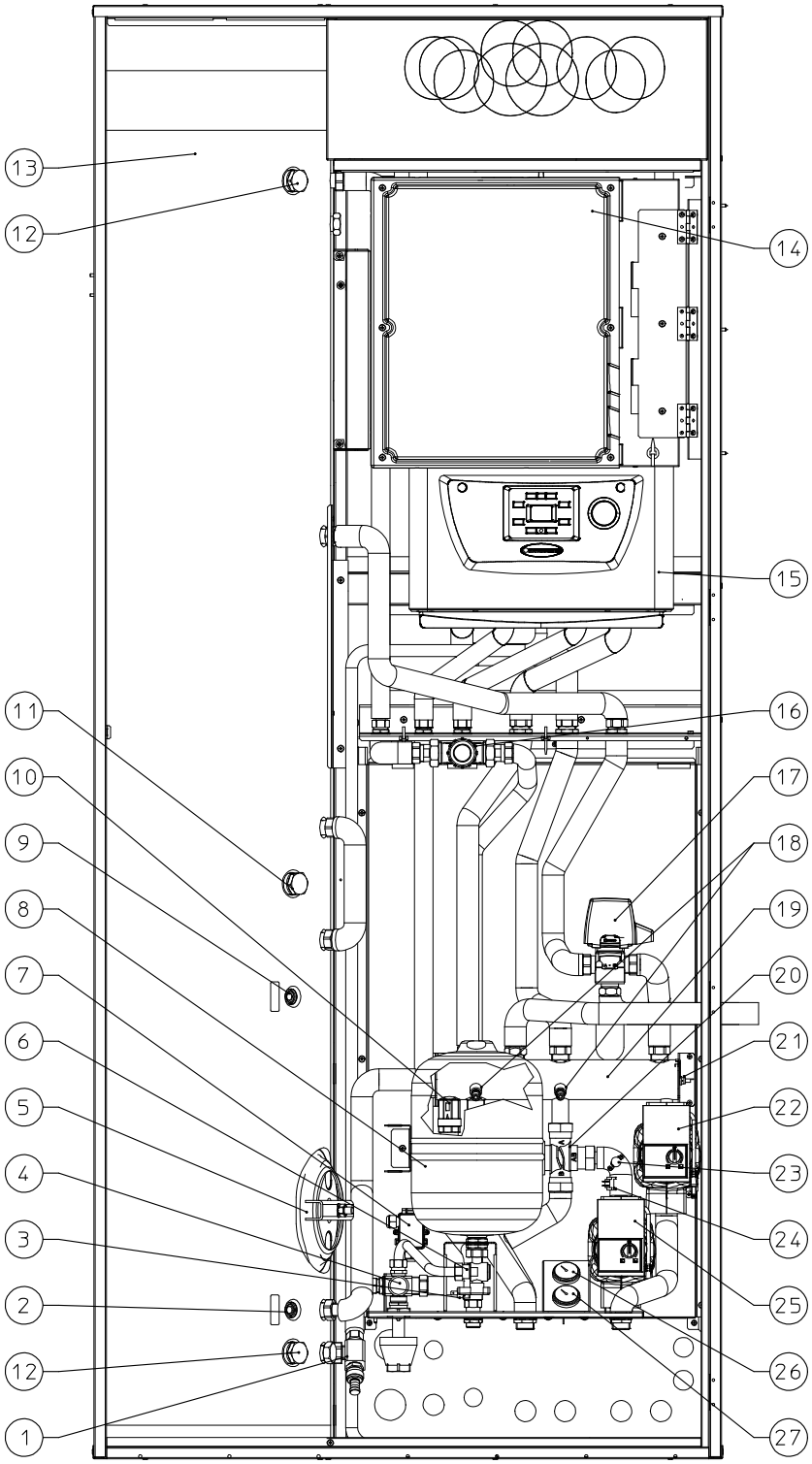
Key:

1 - Storage tank draining cock
2 - Solar probe (optional)
3 - Antifreeze thermostat
4 - 8 bar safety valve
5 - Storage tank flange
6 - Domestic hot water vessel shut-off cock
7 - Antifreeze kit connection box
8 - 8 l domestic hot water expansion vessel
9 - Heat pump DHW probe
10 - One-way valve
11 - 1.5 kW Integrative electrical resistance connection fitting (optional)
12 - Sacrificial anode
13 - Storage tank
14 - Management electronics
15 - Combi version boiler
16 - DHW circuit mixing valve
17 - 3-way valve (motorised)
18 - Manifold draining valves
19 - Hydraulic manifold
20 - 3-way Mixing valve (*)
21 - System flow probe
22 - Direct zone pump
23 - Safety thermostat (*)
24 - Zone 1 flow probe (low temperature) (*)
25 - Mixed zone pump (*)
26 - Zone 1 flow temperature thermometer (low temperature) (*)
27 - Zone 2 flow temperature thermometer (high temperature)

(*) the following components are not present on the Trio Mono V2 version.

1.23 MAIN COMPONENTS TRIO COMBI V2 WITH VICTRIX OMNIA (OPTIONAL)

51



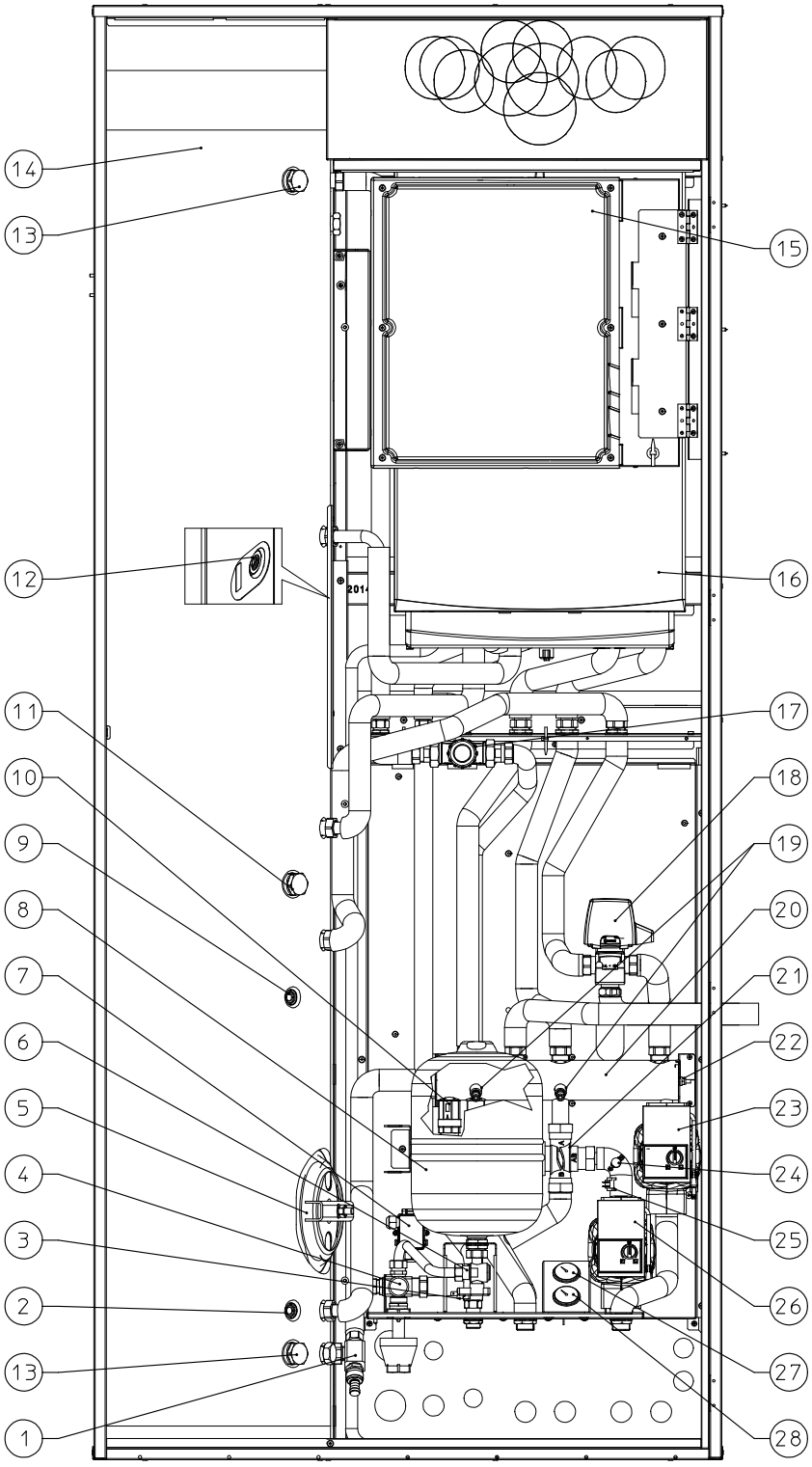
Key:

1 - Storage tank draining cock
2 - Solar probe (optional)
3 - Antifreeze thermostat
4 - 8 bar safety valve
5 - Storage tank flange
6 - Domestic hot water vessel shut-off cock
7 - Antifreeze kit connection box
8 - 8 l domestic hot water expansion vessel
9 - Heat pump DHW probe
10 - One-way valve
11 - 1.5 kW Integrative electrical resistance connection fitting (optional)
12 - Sacrificial anode
13 - Storage tank
14 - Management electronics
15 - Victrix Omnia
16 - DHW circuit mixing valve
17 - 3-way valve (motorised)
18 - Manifold draining valves
19 - Hydraulic manifold
20 - 3-way Mixing valve (*)
21 - System flow probe
22 - Direct zone pump
23 - Safety thermostat (*)
24 - Zone 1 flow probe (low temperature) (*)
25 - Mixed zone pump (*)
26 - Zone 1 flow temperature thermometer (low temperature) (*)
27 - Zone 2 flow temperature thermometer (high temperature)

(*) the following components are not present on the Trio Mono V2 version.

1.24 MAIN COMPONENTS TRIO PLUS V2 WITH PLUS BOILER (OPTIONAL)

52



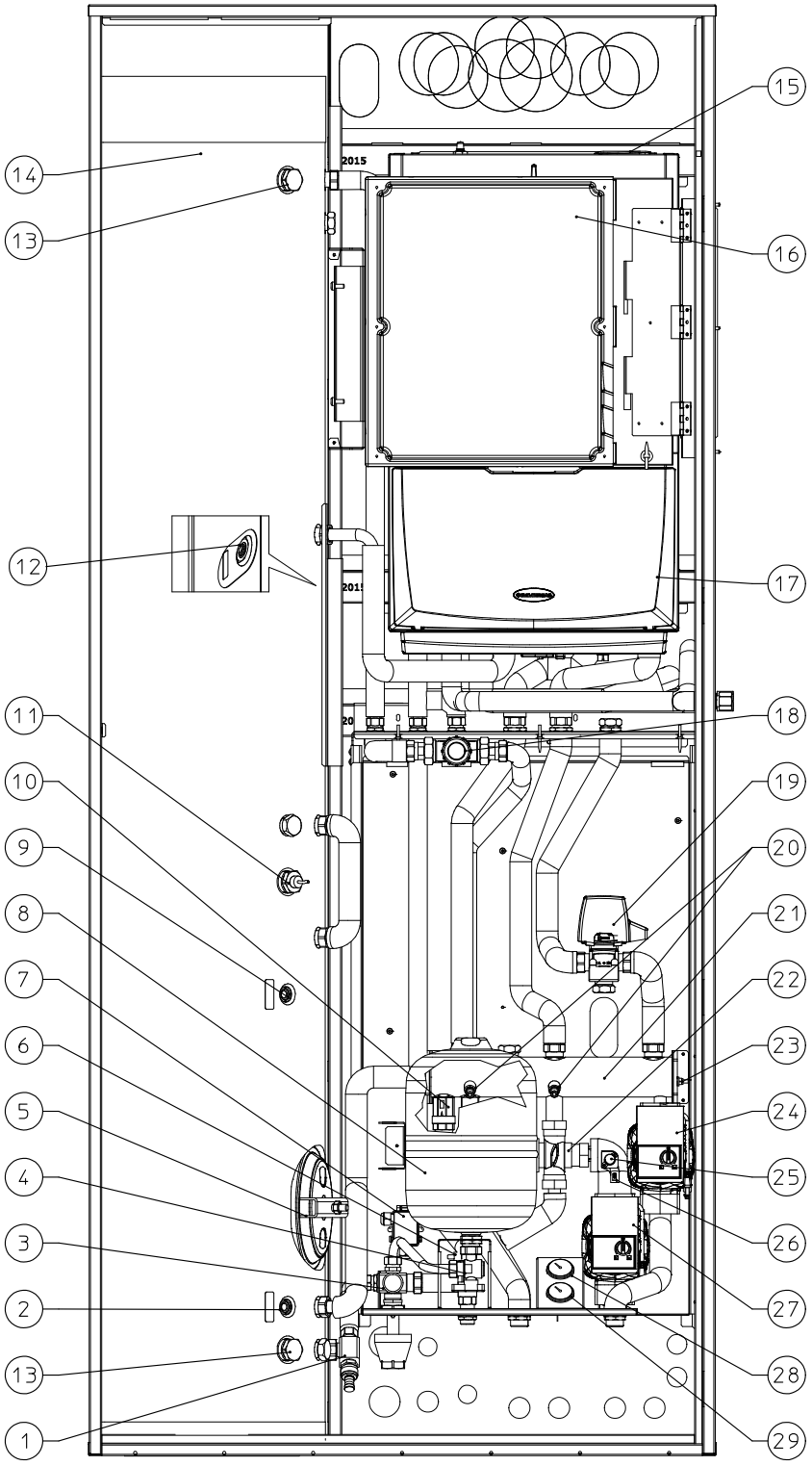
Key:

1 - Storage tank draining cock
2 - Solar probe (optional)
3 - Antifreeze thermostat
4 - 8 bar safety valve
5 - Storage tank flange
6 - Domestic hot water vessel shut-off cock
7 - Antifreeze kit connection box
8 - 8 l domestic hot water expansion vessel
9 - DHW probe (heat pump)
10 - One-way valve
11 - 1.5 kW Integrative electrical resistance connection fitting (optional)
12 - DHW probe (boiler)
13 - Sacrificial anode
14 - Storage tank
15 - Management electronics
16 - Plus version boiler
17 - DHW circuit mixing valve
18 - 3-way valve (motorised)
19 - Manifold draining valves
20 - Hydraulic manifold
21 - 3-way Mixing valve (*)
22 - System flow probe
23 - Direct zone pump
24 - Safety thermostat (*)
25 - Zone 1 flow probe (low temperature) (*)
26 - Mixed zone pump (*)
27 - Zone 1 flow temperature thermometer (low temperature) (*)
28 - Zone 2 flow temperature thermometer (high temperature)

(*) the following components are not present on the Trio Mono V2 version.

1.25 MAIN COMPONENTS TRIO PRO V2 WITH MAGIS PRO (OPTIONAL).

53



Key:

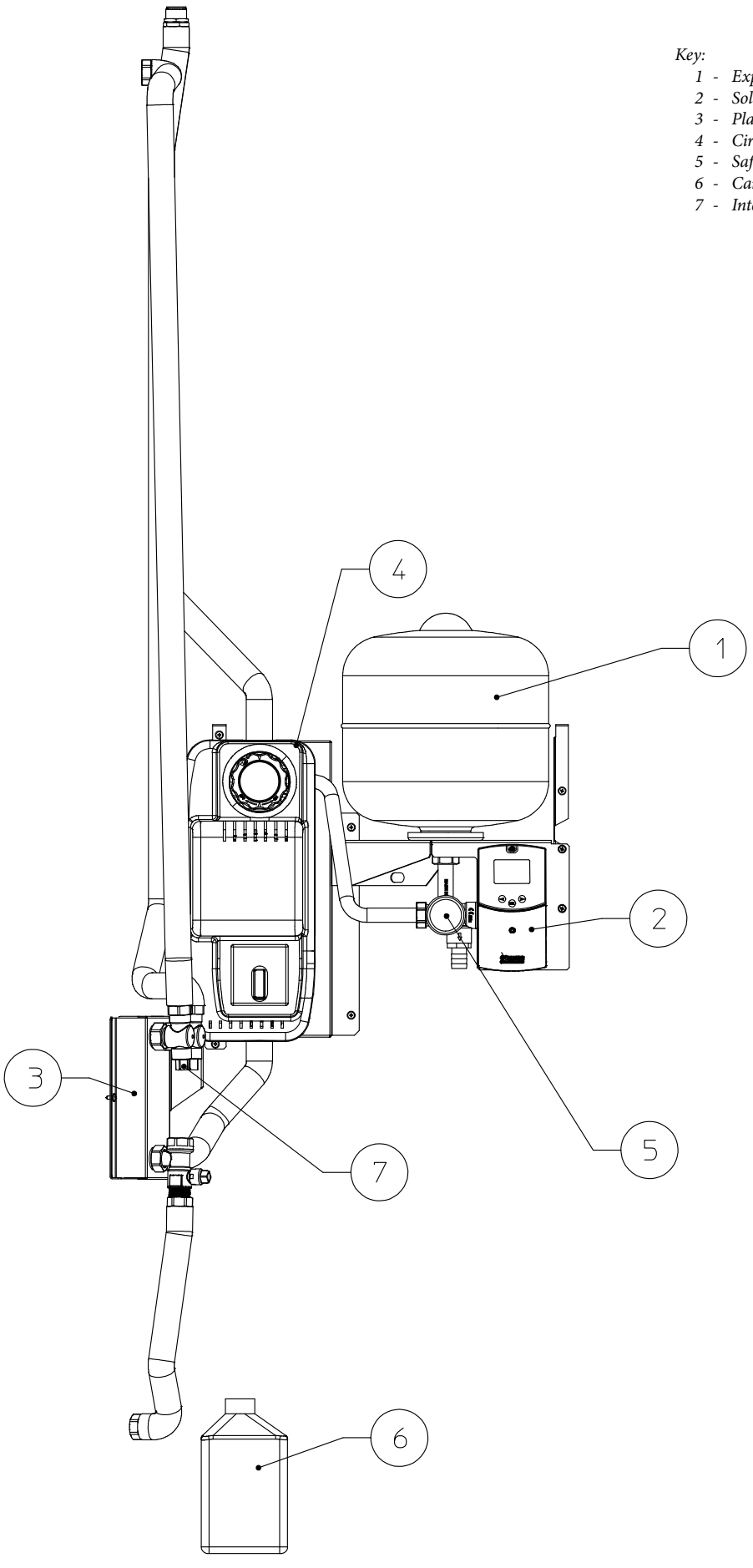
1 - Storage tank draining cock
2 - Solar probe (optional)
3 - 8 bar safety valve
5 - Storage tank flange
6 - Antifreeze thermostat
4 - DHW (Domestic hot water) vessel interception cock
7 - Antifreeze kit connection box
8 - 8 l domestic hot water expansion vessel
9 - DHW probe
10 - One-way valve
11 - 1.5 kW Domestic hot water integrative electric resistance (optional)
12 - DHW probe (with DHW (Domestic hot water) electrical resistance)
13 - Sacrificial anode
14 - Storage tank
15 - 3 kW system integrative electric resistance (optional)
16 - Management electronics
17 - Magis Pro Hydronic unit
18 - DHW circuit mixing valve
19 - 3-way valve (motorised)
20 - Manifold draining valves
21 - Hydraulic manifold
22 - 3-way Mixing valve (*)
23 - System flow probe
24 - Direct zone pump
25 - Safety thermostat (*)
26 - Zone 1 flow probe (low temperature) (*)
27 - Mixed zone pump (*)
28 - Zone 1 flow temperature thermometer (low temperature) (*)
29 - Zone 2 flow temperature thermometer (high temperature)

(*) the following components are not present on the Trio Mono V2 version.

N.B.: in the presence of DHW (Domestic hot water) electrical resistance, position the probe as indicated in point 12.

1.26 MAIN COMPONENTS SOLAR HEATING SYSTEM COUPLING KIT (OPTIONAL).

54

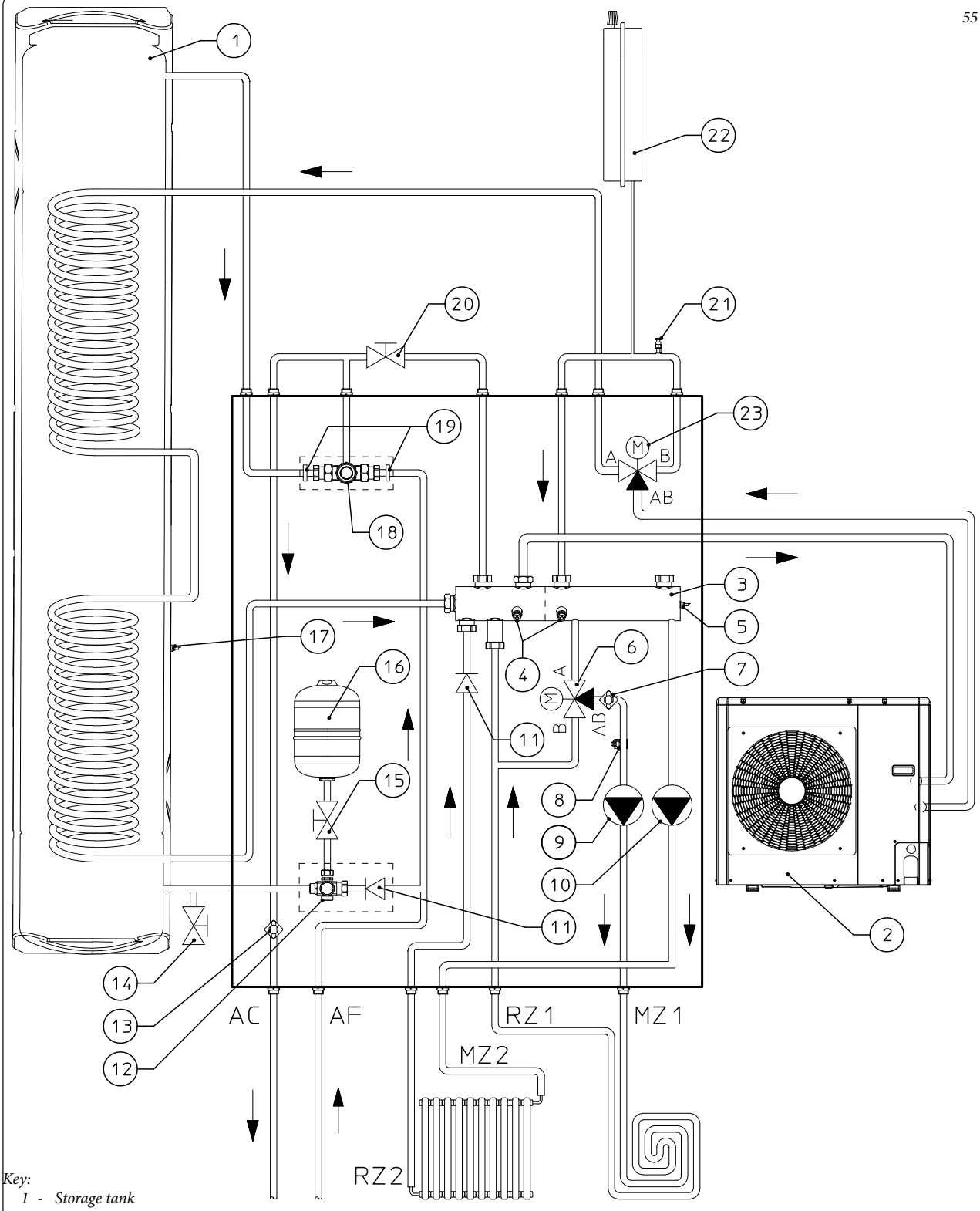


Key:

1 - Expansion vessel
2 - Solar control unit
3 - Plate heat exchanger
4 - Circulation unit
5 - Safety valve
6 - Can
7 - Interception cock

1.27 TRIO BASE V2 HYDRAULIC DIAGRAM.

55



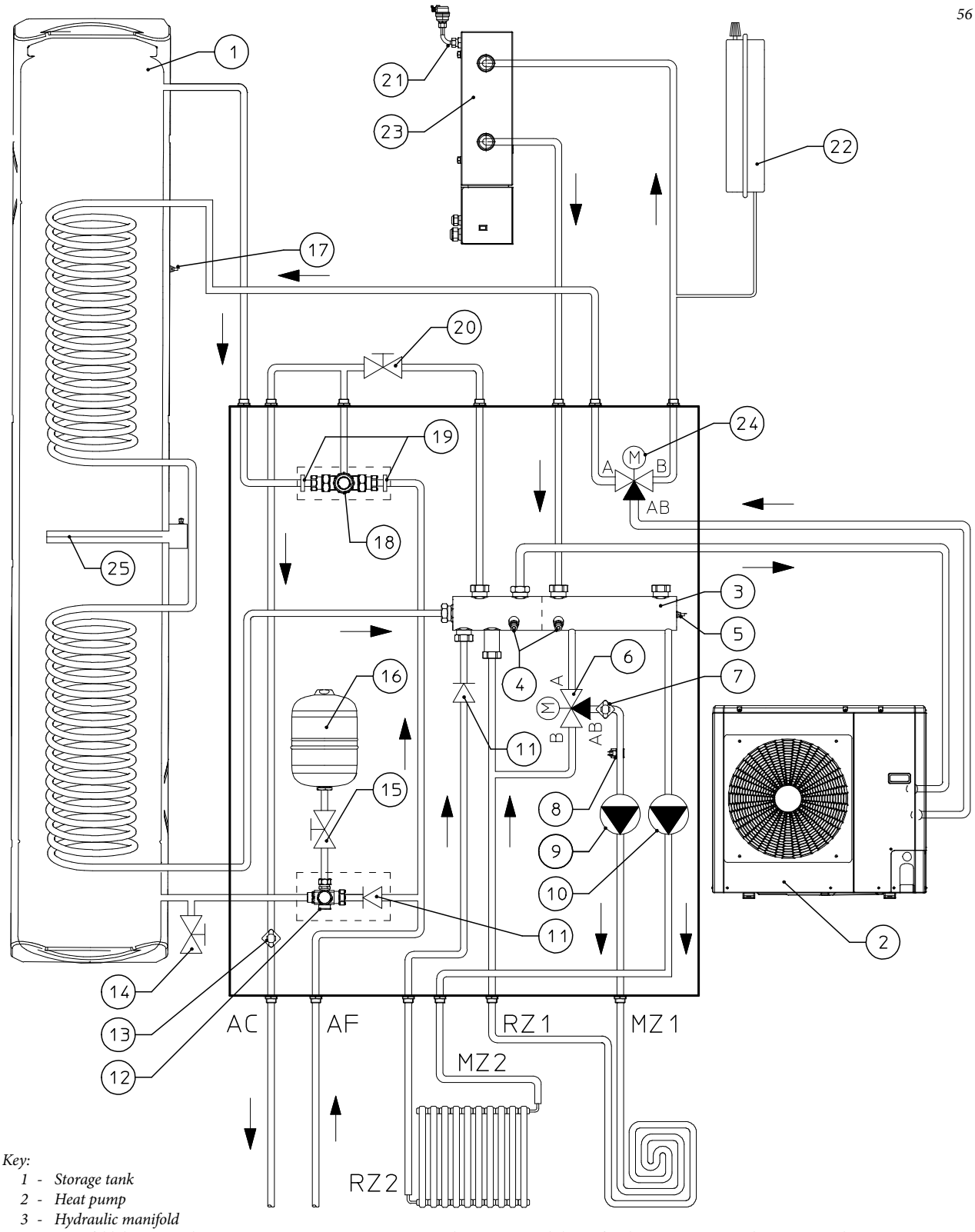
Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - System flow probe
6 - 3-way Mixing valve
7 - safety thermostat
8 - Zone 1 flow probe (low temperature)
9 - Mixed zone pump
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage tank draining cock
15 - Domestic hot water vessel shut-off cock
16 - 8 l DHW (Domestic hot water) expansion vessel DHW (Domestic hot water)
17 - Heat pump probe
18 - DHW circuit mixing valve
19 - Mixing valve filter
20 - System filling valve
21 - Manual air vent valve
22 - 8 l System expansion vessel
23 - 3-way valve (motorised)

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Low temperature system flow
RZ1 - Low temperature system return
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.28 HYDRAULIC DIAGRAM TRIO BASE V2 WITH INTEGRATED RESISTANCES (OPTIONAL).

56

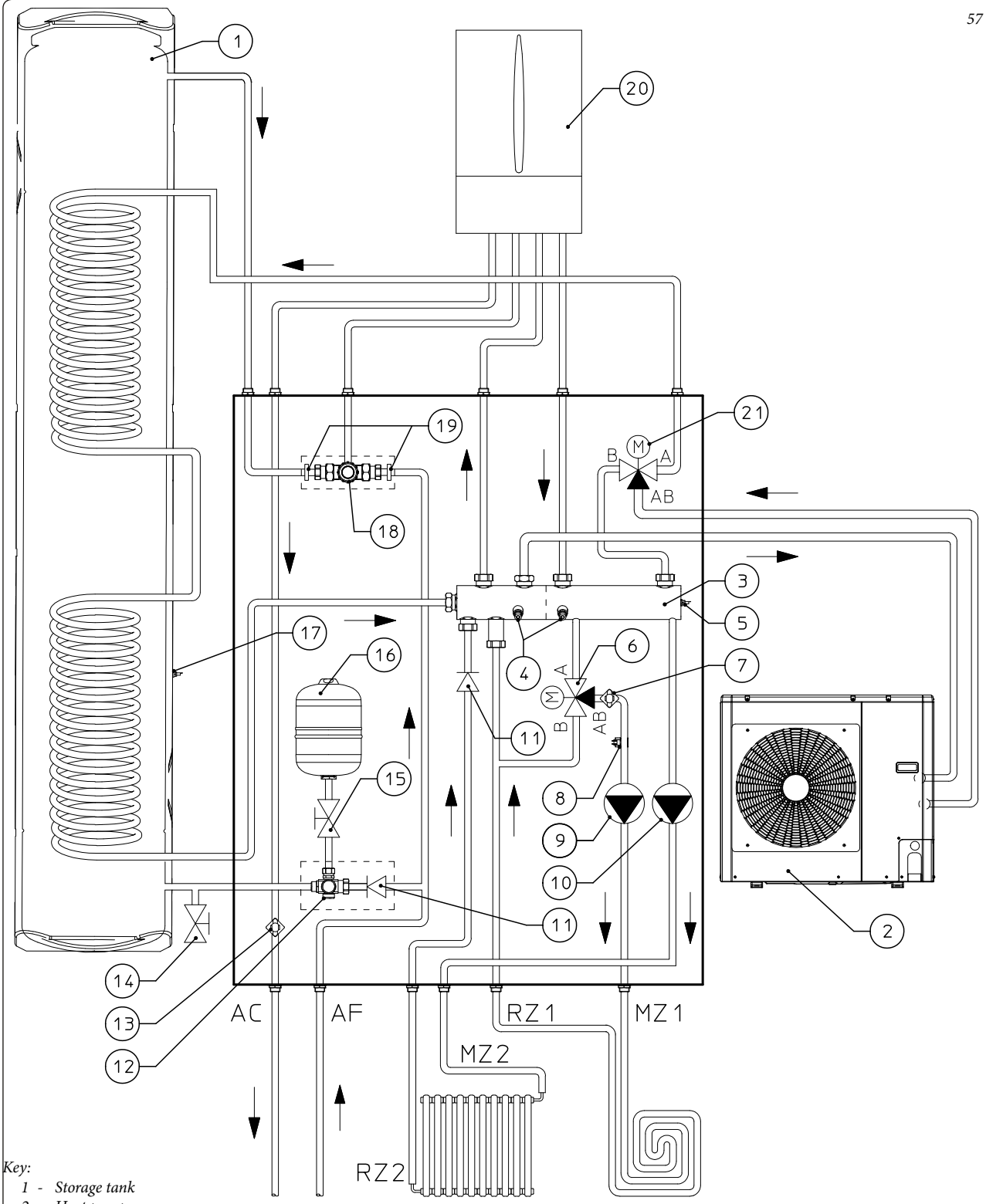


Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - System flow probe
6 - 3-way Mixing valve
7 - safety thermostat
8 - Zone 1 flow probe (low temperature)
9 - Mixed zone pump
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage tank draining cock
15 - Domestic hot water vessel shut-off cock
16 - 8 l DHW (Domestic hot water) expansion vessel DHW (Domestic hot water)
17 - Heat pump probe
18 - DHW circuit mixing valve
19 - Mixing valve filter
20 - System filling valve
21 - Manual air vent valve
22 - 8 l System expansion vessel
23 - System integrative resistance
24 - 3-way valve (motorised)
25 - 1.5 kW Domestic hot water integrative electric resistance (optional)
AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Low temperature system flow
RZ1 - Low temperature system return
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.29 HYDRAULIC DIAGRAM TRIO COMBI V2 WITH INSTANTANEOUS BOILER (OPTIONAL)

57



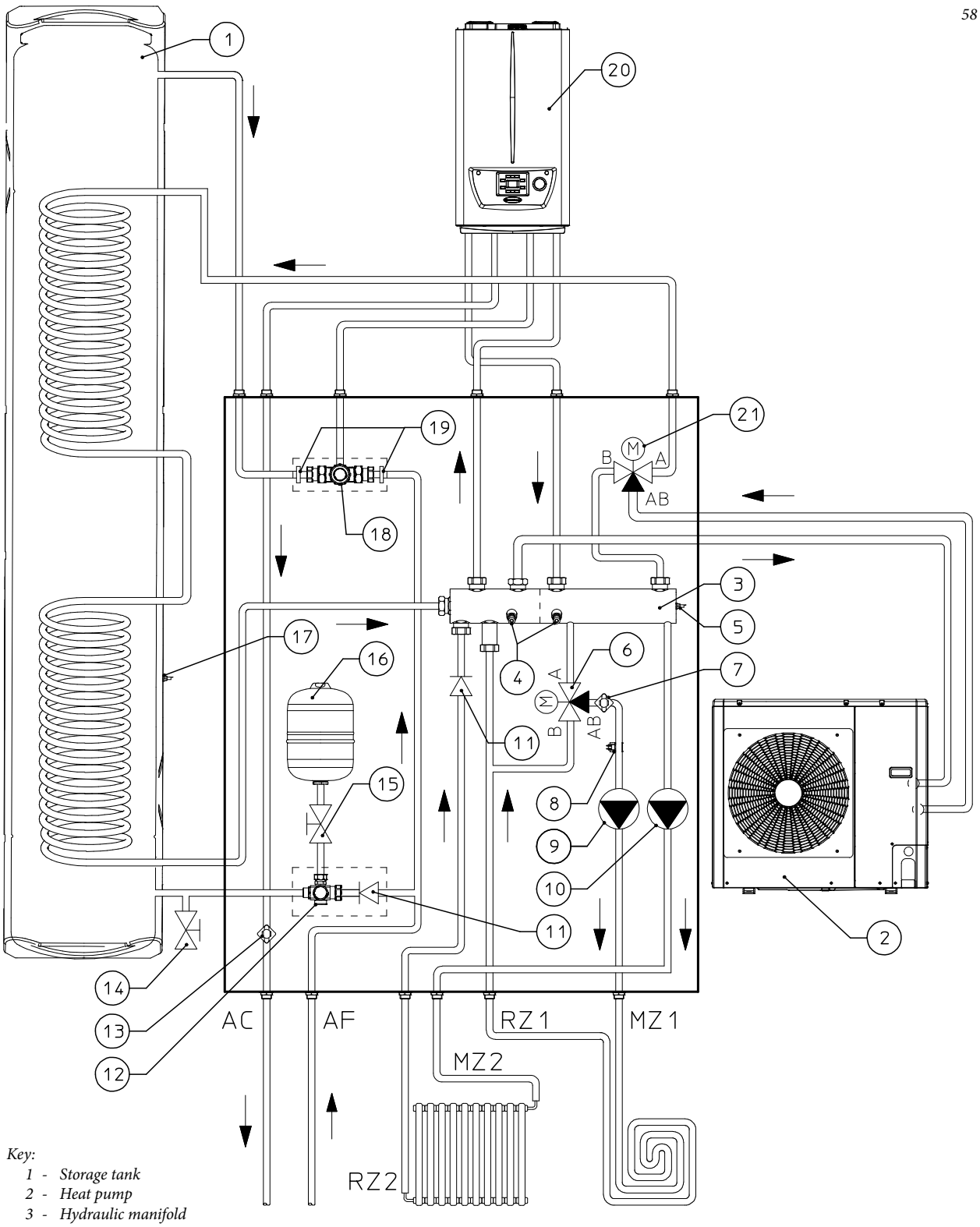
Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - System flow probe
6 - 3-way Mixing valve
7 - safety thermostat
8 - Zone 1 flow probe (low temperature)
9 - Mixed zone pump
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage tank draining cock
15 - Domestic hot water vessel shut-off cock
16 - 8 l DHW (Domestic hot water) expansion vessel DHW (Domestic hot water)
17 - Heat pump probe
18 - DHW circuit mixing valve
19 - Mixing valve filter
20 - Boiler
21 - 3-way valve (motorised)

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Low temperature system flow
RZ1 - Low temperature system return
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.30 HYDRAULIC DIAGRAM TRIO COMBI V2 WITH VICTRIX OMNIA (OPTIONAL)

58

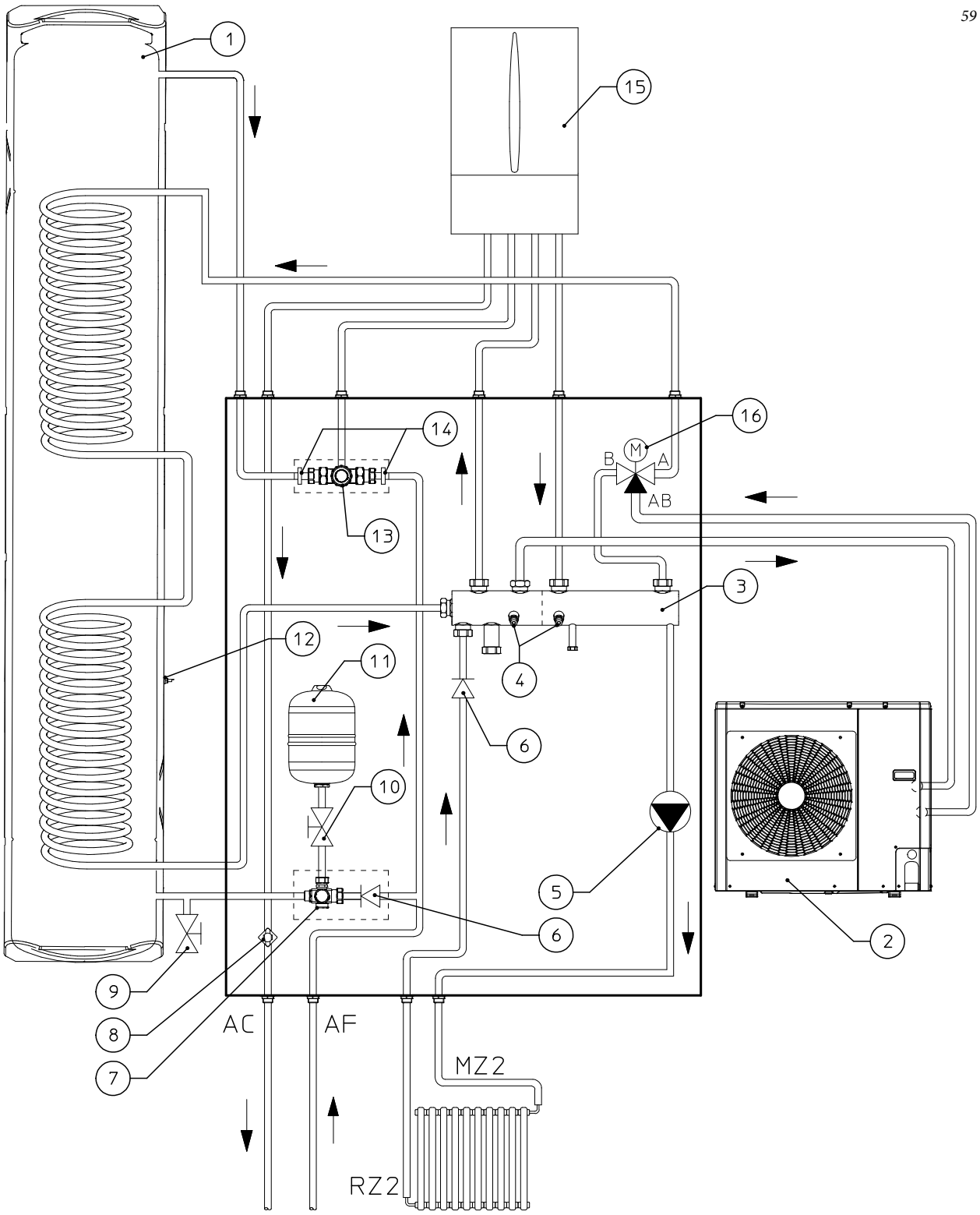


Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - System flow probe
6 - 3-way Mixing valve
7 - safety thermostat
8 - Zone 1 flow probe (low temperature)
9 - Mixed zone pump
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage tank draining cock
15 - Domestic hot water vessel shut-off cock
16 - 8 l DHW (Domestic hot water) expansion vessel DHW (Domestic hot water)
17 - Heat pump probe
18 - DHW circuit mixing valve
19 - Mixing valve filter
20 - Victrix Omnia
21 - 3-way valve (motorised)
AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Low temperature system flow
RZ1 - Low temperature system return
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.31 HYDRAULIC DIAGRAM TRIO COMBI MONO V2 WITH INSTANTANEOUS BOILER (OPTIONAL)

59

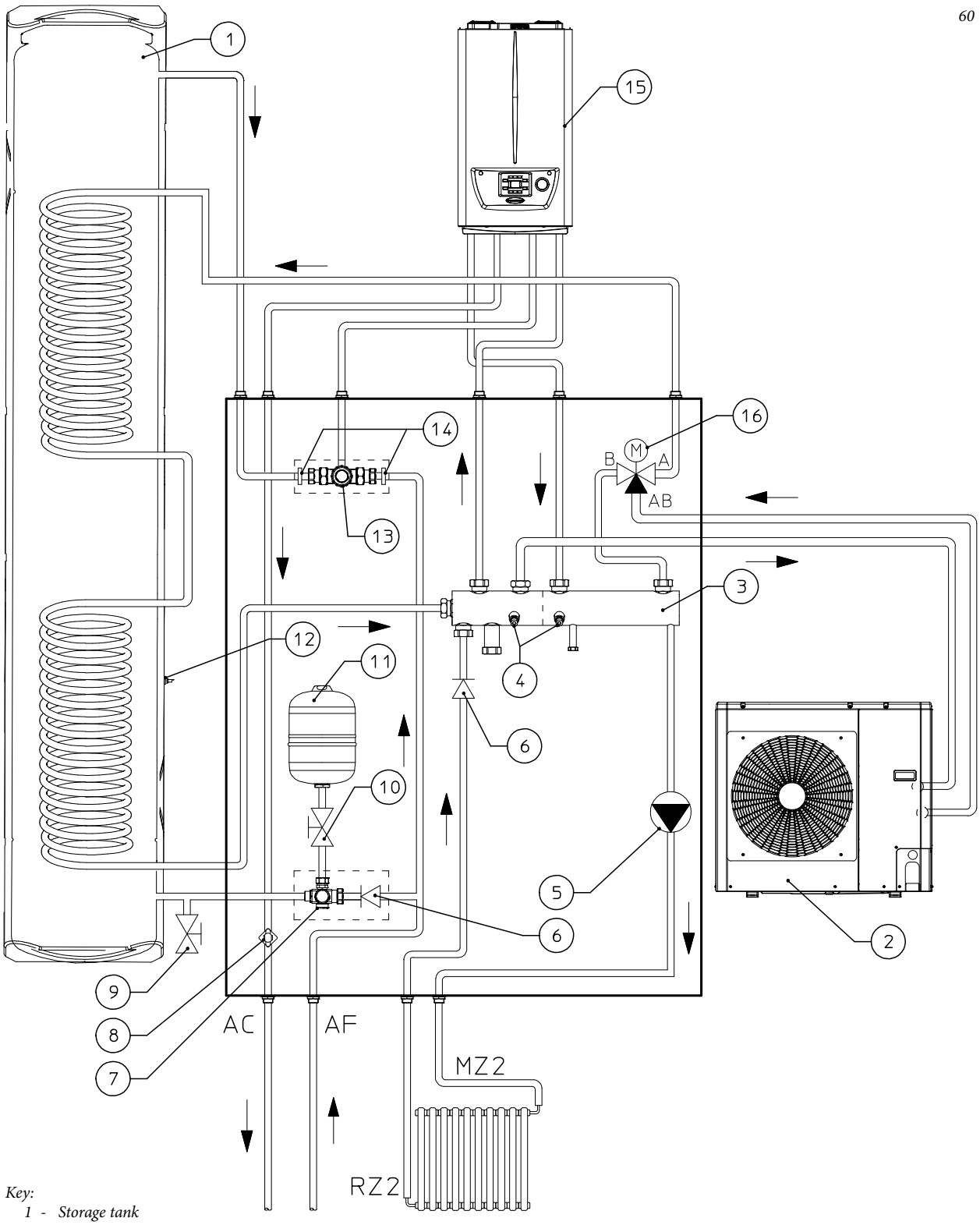


Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - Direct zone pump
6 - One-way valve
7 - 8 bar safety valve
8 - Antifreeze thermostat
9 - Storage tank draining cock
10 - Domestic hot water vessel shut-off cock
11 - DHW (Domestic hot water) 8 l expansion vessel
12 - Heat pump probe
13 - DHW circuit mixing valve
14 - Mixing valve filter
15 - Boiler
16 - 3-way valve (motorised)
AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.32 HYDRAULIC DIAGRAM TRIO COMBI MONO V2 WITH VICTRIX OMNIA (OPTIONAL)

60

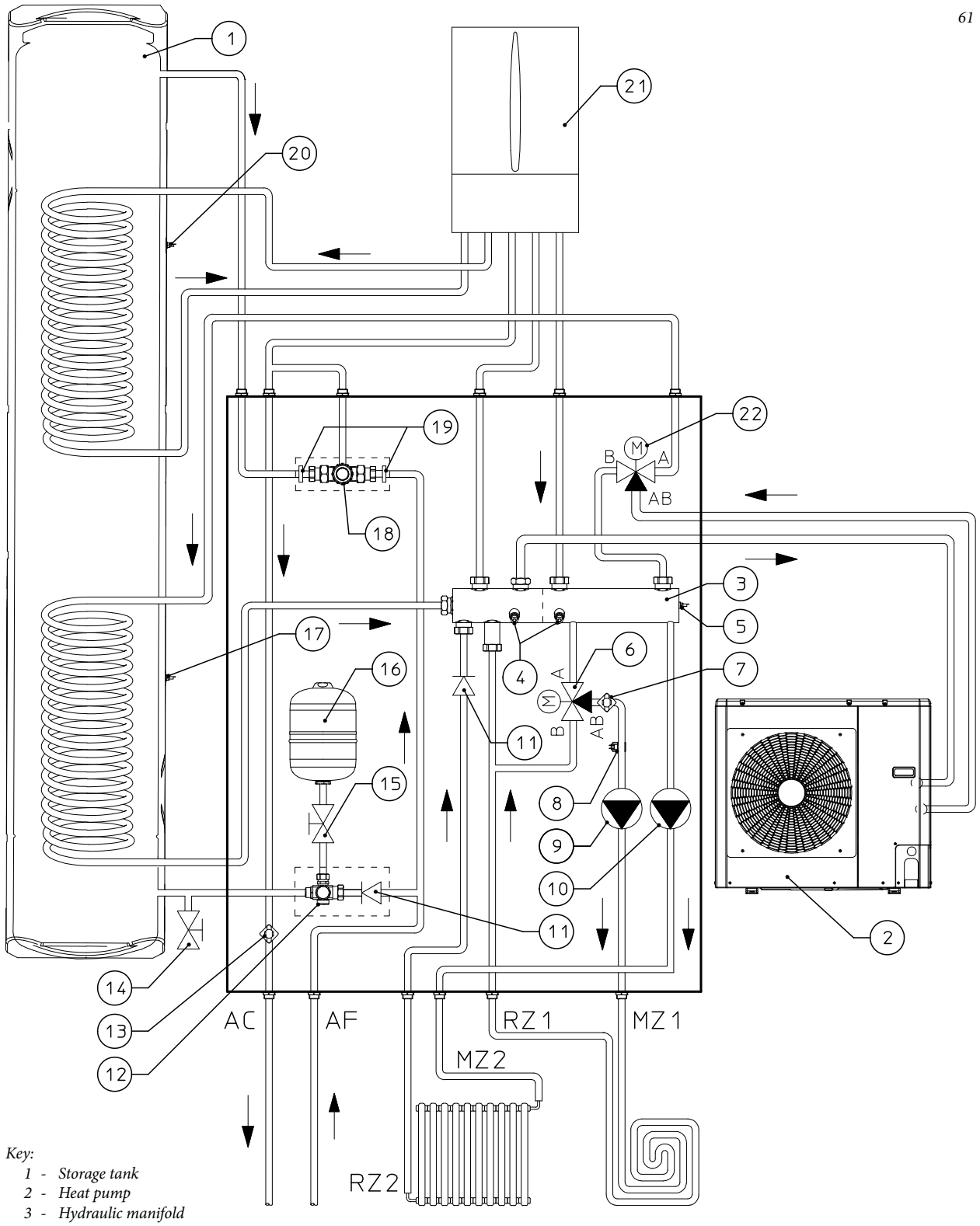


Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - Direct zone pump
6 - One-way valve
7 - 8 bar safety valve
8 - Antifreeze thermostat
9 - Storage tank draining cock
10 - Domestic hot water vessel shut-off cock
11 - DHW (Domestic hot water) 8 l expansion vessel
12 - Heat pump probe
13 - DHW circuit mixing valve
14 - Mixing valve filter
15 - Victrix Omnia
16 - 3-way valve (motorised)
AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.33 HYDRAULIC DIAGRAM TRIO PLUS V2 WITH PLUS BOILER (OPTIONAL).

61



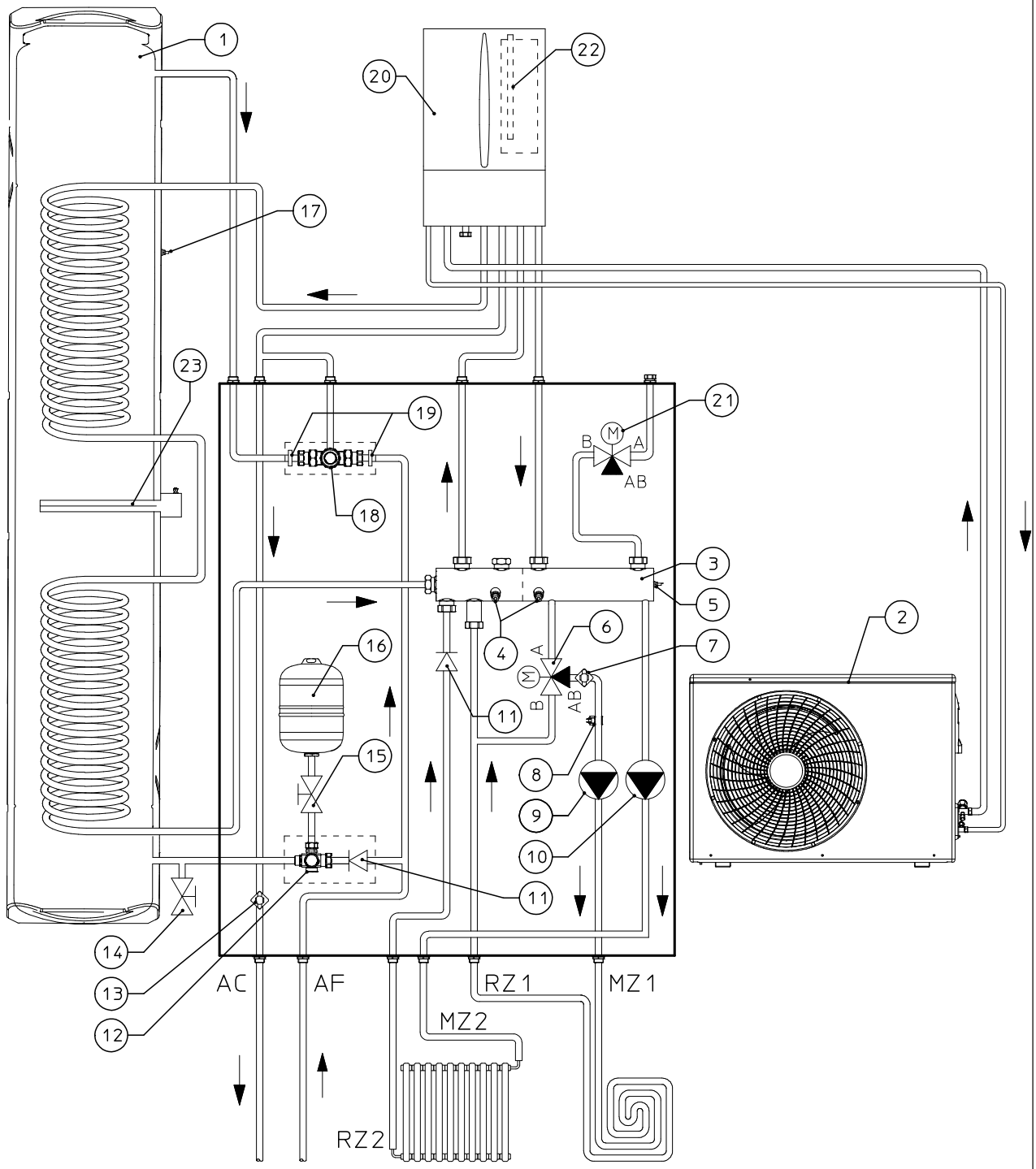
Key:

1 - Storage tank
2 - Heat pump
3 - Hydraulic manifold
4 - Manifold draining valves
5 - System flow probe
6 - 3-way Mixing valve
7 - safety thermostat
8 - Zone 1 flow probe (low temperature)
9 - Mixed zone pump
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage tank draining cock
15 - Domestic hot water vessel shut-off cock
16 - 8 l DHW (Domestic hot water) expansion vessel DHW (Domestic hot water)
17 - Heat pump probe
18 - DHW circuit mixing valve
19 - Mixing valve filter
20 - Boiler DHW probe
21 - Boiler
22 - 3-way valve (motorised)

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Low temperature system flow
RZ1 - Low temperature system return
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.34 HYDRAULIC DIAGRAM TRIO PRO V2 WITH MAGIS PRO (OPTIONAL).

62



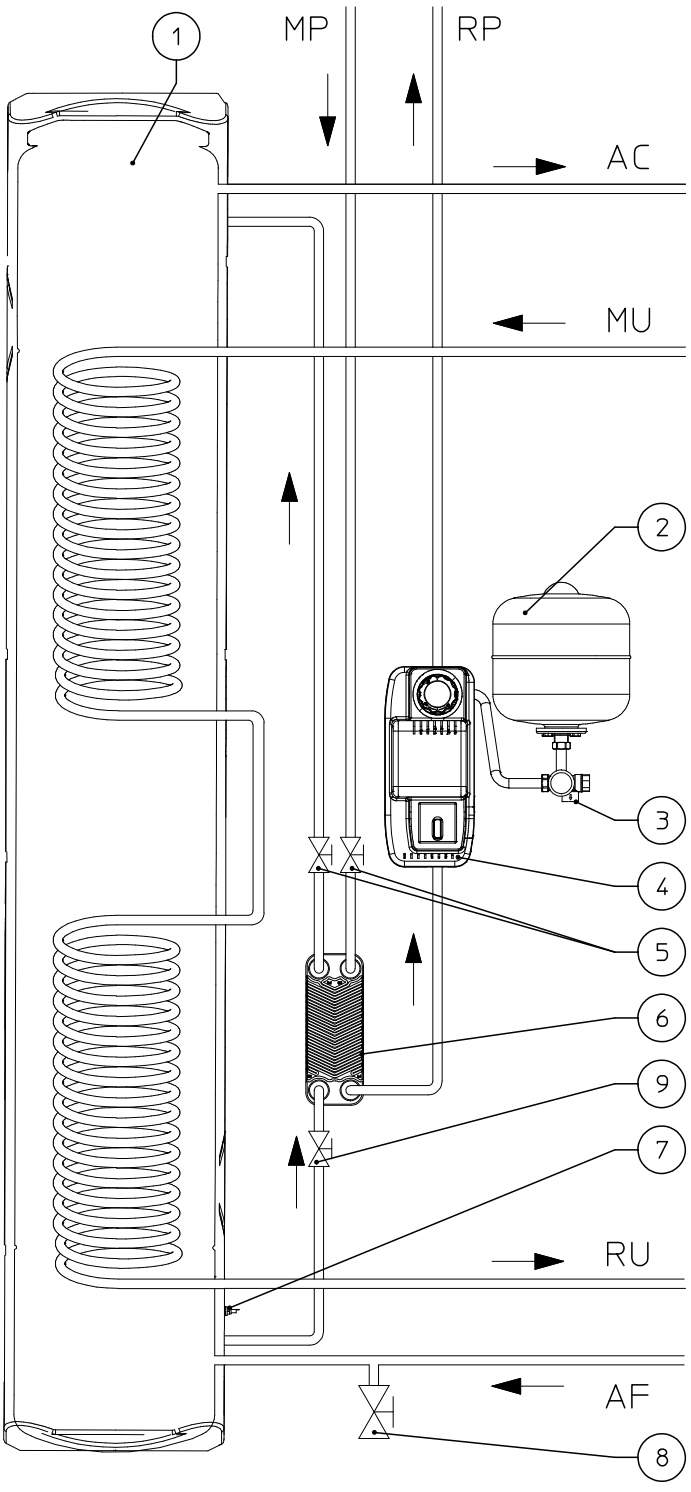
Key:

1 - Storage tank
2 - Condensing unit
3 - Hydraulic manifold
4 - Manifold draining valves
5 - System flow probe
6 - 3-way Mixing valve
7 - safety thermostat
8 - Zone 1 flow probe (low temperature)
9 - Mixed zone pump
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage tank draining cock
15 - Domestic hot water vessel shut-off cock
16 - 8 l DHW (Domestic hot water) expansion vessel DHW (Domestic hot water)
17 - Heat pump probe
18 - DHW circuit mixing valve
19 - Mixing valve filter
20 - Magis Pro Hydronic unit
21 - 3-way valve (motorised)
22 - 3 kW system integrative electric resistance (optional)
23 - 1.5 kW Domestic hot water integrative electric resistance (optional)

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Low temperature system flow
RZ1 - Low temperature system return
MZ2 - High temperature system flow
RZ2 - High temperature system return

1.35 HYDRAULIC DIAGRAM SOLAR HEATING SYSTEM COUPLING KIT (OPTIONAL).

63



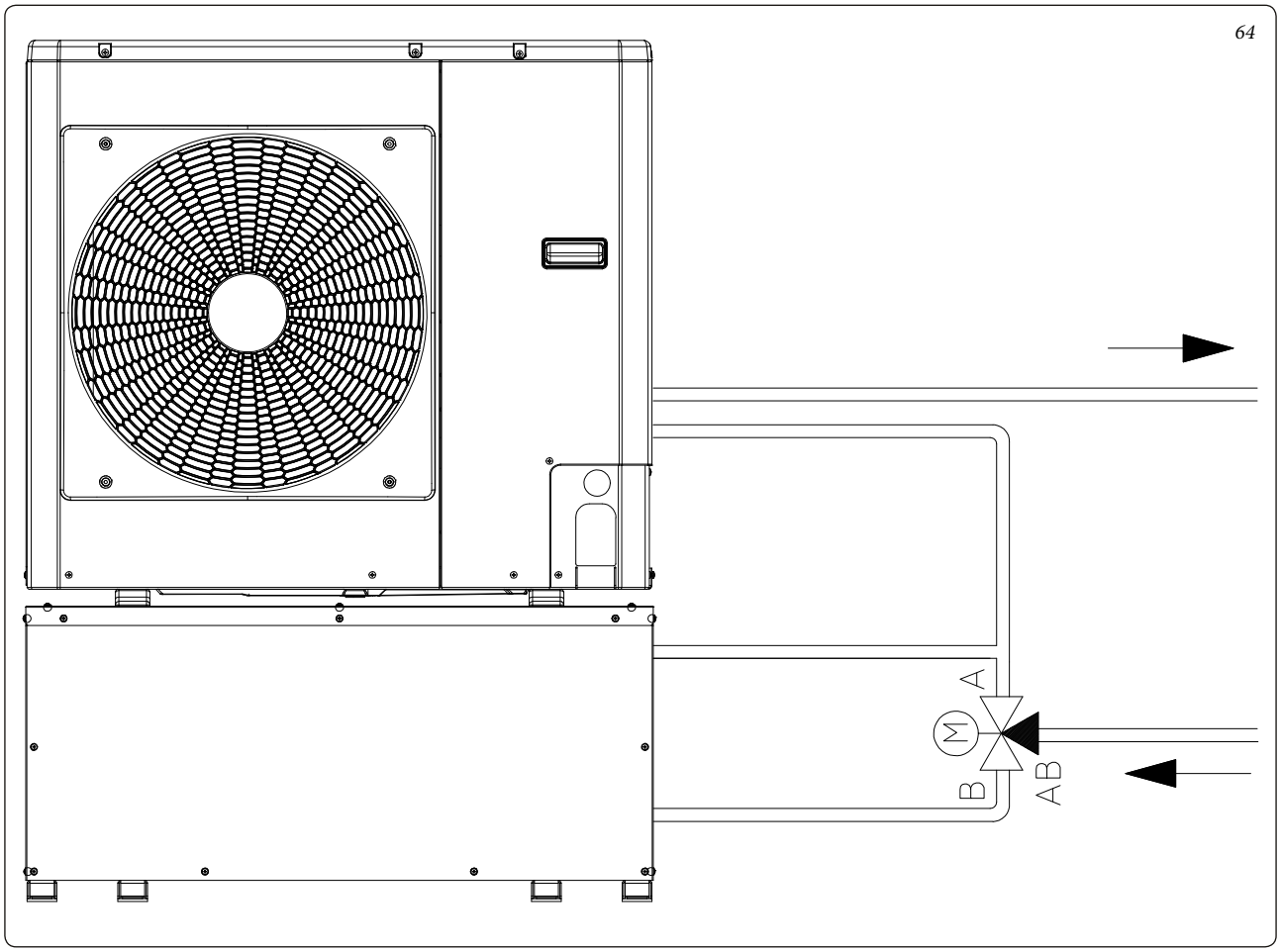
Key:

1 - Storage tank
2 - Solar expansion vessel
3 - 6 bar Safety valve assembly
4 - Solar circulation unit
5 - Interception cock
6 - Plate heat exchanger
7 - Solar storage tank probe
8 - Draining cock
9 - Cock with filter

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MU - Storage tank unit flow
RU - Storage tank unit return
MP - Flow from solar panels
RP - Return to solar panels

1.36 HYDRAULIC DIAGRAM V2 DHW (DOMESTIC HOT WATER) THREE-WAY PRIORITY VALVE (OPTIONAL).

64



During the DHW (Domestic hot water) request, the 3-way valve installed hydraulically excludes the inertial storage tank, avoiding its heating.
The 3-way valve must be electrically connected as shown in *Fig. 36 and 38*.
A 230 V signal will activate on terminal 71 at the time of requesting the domestic hot water.
A permanent power supply will be available on terminals A and B.

N.B.: For safety reasons, it is advisable to install the 3-way valve in a suitable position to avoid it being damaged by atmospheric agents.

1.37 MIXING VALVE.

The Trio V2 pack is equipped with a mixing valve that regulates the storage tank outlet temperature. Changing the mixing valve adjustment, changes the operation mode of the system.

- Trio Base, Trio Plus and Trio Pro V2: allows adjusting the outlet temperature of the domestic hot water.
- Trio Combi V2: when the temperature of the storage tank outlet water is sufficiently hot, it is not necessary to switch-on the boiler by adjusting the mixing valve at a temperature slightly higher than that set on the boiler. (see table below for the mixing valve adjustment).

  By adjusting the mixing valve to a lower temperature than the one set on the boiler, the same may ignite even if the temperature of the storage tank water is sufficiently hot (recommended setting), thus increasing fuel consumption.

  To avoid unnecessary boiler ignitions, it is also possible to adjust the mixing valve to the maximum (4 = 60°C).

Setting of the above-described mixing valve allows to obtain a hot water temperature value at withdrawal between the maximum set on the mixer and the minimum set on the remote panel.

Mixing valve adjustment field (indicative values)	
1	~42 °C
2	~48 °c
3	**~54 °C (default value)**
4	~60 °C

In the presence of the solar inlet probe kit (optional available only for Victrix Tera and Victrix kW TT combined boilers), we recommend adjusting the mixing valve and the boiler at the same temperature. If the mixing valve is adjusted to a lower temperature than the storage tank, it is possible that the hot water temperature required for withdrawal is not obtained.

1.38 COMMISSIONING (IGNITION).

One must comply with the following requirements to commission the pack (the operations listed below must only be performed by qualified personnel and in the presence of staff only):

- make sure the safety devices are included and are operating properly, particularly:
  - safety valve (8 bar)
  - expansion vessel
  - thermostatic mixing valve
- check that there are no leaks in the hydraulic circuit;
- check connection to a 230V-50Hz power mains, correct L-N polarity and the earthing connection;
- switch the system on and ensure correct ignition;
- check the intervention of the main switch located upstream from the system;
- Check that all the requirements relating to the boiler (if present) and the central heating circuit have been complied with, as described in the relative boiler instruction book.

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

Hydraulic unit safety valve.

There is a safety valve present on the hydraulic unit that protects the system from an excessive increase in pressure. This valve intervenes by discharging the liquid contained in the circuit when the pressure reaches 8 bar.
If the safety valve intervenes and therefore part of the liquid contained in the circuit is lost, it must be re-integrated.

1.39 BOILER COMMISSIONING (IF PRESENT).

See operation and maintenance manual of the boiler.

1.40 GAS SYSTEM COMMISSIONING (WHERE THE OPTIONAL BOILER IS PRESENT).

To start up the system, refer to the technical standards in force.
In particular, for new gas systems:

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

1.41 COMMISSIONING SOLAR HEATING SYSTEM COUPLING KIT (OPTIONAL).

Preliminary checks on the solar system.

Before filling the hydraulic circuit and starting the system, carry out the following checks:

- make sure the safety devices are included and are operating properly, particularly:
  - safety valve (6 bar)
  - expansion vessel
  - thermostatic mixing valve (present in Trio V2)
- check that there are no leaks in the hydraulic circuit;
- make sure the air vent valve is positioned in the highest point of the circuit above the manifold and that it is operational.
- check that the pack is connected to a 230V-50Hz power mains, that L-N polarity is observed and that there is an earthing connection;
- check that all the requirements relating to the system and the central heating circuit have been complied with, as described in the relative pack instruction book.

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

Expansion vessel factory-set pressure of the solar circuit hydraulic unit.

To compensate the high temperatures that can be reached by the liquid in the circuit and therefore its dilation, the Trio V2 pack has been equipped with an expansion vessel of sufficient capacity to perform this task.
The expansion vessels are supplied pre-loaded at 2.5 bar. It is therefore necessary to deflate them and reload them at the pressure required for the circuit.

The expansion vessel must be charged to:

1.5 bar + 0.1 bar for every metre of the water column.

"*metre of the water column*" means the vertical distance that is present between the expansion vessel and the solar collector.
Example:
The circulation unit is found on the ground floor and the solar collector is found on the roof at a hypothetical height of 6 m, the distance to be calculated is:
6 m x 0.1 bar = 0.6 bar
therefore the expansion vessel must be charged to:
1.5 + 0.6 = **2.1 bar**

Solar hydraulic unit safety valve.

There is a safety valve present on the hydraulic unit that protects the system from an excessive increase in pressure. This valve intervenes by discharging the liquid contained in the circuit when the pressure reaches 6 bar.
If the safety valve intervenes and therefore part of the liquid contained in the circuit is lost, it must be re-integrated.

1.42 COOLING / CENTRAL HEATING CIRCUIT / C.H. CIRCUIT SYSTEM FILLING.

Once hydraulically installed, proceed with system filling via the filling cock. Filling is performed at low speed to ensure release of air bubbles in the water via the boiler (if present), heat pump and heating system vents.
The pumps can be noisy on start-up due to the presence of air. This noise should stop after a few minutes of functioning and however after having correctly bled the air contained in the hydraulic circuit.

<u>*Make sure that the vent hoods are loosened.*</u> Open the radiator vent valves.
Close radiator vent valves when only water escapes from them.
Close the filling cock when the pack or boiler (if present) manometer indicates approx. 1.2 bar.

N.B.: during these operations activate the automatic vent functions featured on the boiler (if present) (active upon initial ignition) and on the heat pump (see relative instructions booklet). *Vent the pumps by loosening the front cap and keeping the motor running and assuring that the liquid that escapes cannot cause injury to persons/objects.* Screw the cap back on after the operation. Start the pumps of the hydronic unit by activating the pack via the relative remote panel.

1.43 FILLING THE SOLAR CIRCUIT SYSTEM (OPTIONAL).

The system can only be filled when:

- the system is completely assembled;
- any processing residues that cause obstructions and through time deteriorate the features of the glycol have been eliminated;
- any presence of water in the system has been eliminated, which could otherwise cause damage to the system in winter;
- the absence of leaks has been verified by checks using air;
- the storage tank unit has been filled;
- the expansion vessel has been charged according to system requirements.

The system must be filled using only the glycol supplied by Immergas via an automatic pump. The system must be filled with vent valve closed. Proceed as follows to fill the system (*Fig. 65*):

1 connect the automatic pump flow pipe to the filling cock fitting (9) positioned below the pump and open the valve itself.

2 connect the automatic pump return pipe to the draining cock fitting (8) and open the draining valve.

3 The flow rate regulator adjustment screw (11) must be horizontal in order to guarantee closure of the integrated ball valve. Open the ball valve with thermometer (2) positioned over the pump.

4 fill the filling pump tank with the amount of glycol necessary plus a minimum stock to be left on the bottom of the tank in order to prevent air circulating inside the circuit.

5 The filling phase must have minimum duration of 20 ÷ 25 minutes. This time is required to completely remove all air from the circuit. Every now and again open the flow rate regulator adjustment screw in order to eliminate air from inside (vertical position).

6 Eliminate any air in the solar circuit preferably using the so-called "pressure shot" method, which consists in raising the filling pressure of the circuit followed by a quick opening of the return valve (8). This method allows air to be expelled from the circuit.

7 Close the filling cock and switch the filling pump off, open the adjustment screw of the flow rate regulator (notch in vertical position).

8 Leave the circuit pressurised. Any pressure drop indicates a leak in the system.

9 Set the functioning pressure in the circuit at 1.5 bar + 0.1 bar for every metre in the distance between the solar collector and the expansion vessel (practically, set the same pressure between expansion vessel and system). **N.B.: Do not exceed 2.5 bar.**

10 Switch the solar pump on at a maximum speed and make it function for at least 15 minutes.

11 Disconnect the filling pump and close the fittings using the relevant screwing plugs.

12 Open the ball valve above the pump completely.

Do not fill the system in conditions with strong insolation and with the manifolds at high temperatures.

Make sure that all air bubbles have been completely eliminated.

1.44 SIZING THE SYSTEMS.

The flow temperatures to the various system zones may be reduced compared to the boiler outlet temperatures, according to the mixture of the flow and return fluids inside the manifold of the two-zone hydraulic unit. In the event that the two-zone hydraulic unit is used to feed Low Temperature zones, check that the design parameters allow you to achieve a maximum surface temperature of the radiant floor in compliance with standard EN 1264.

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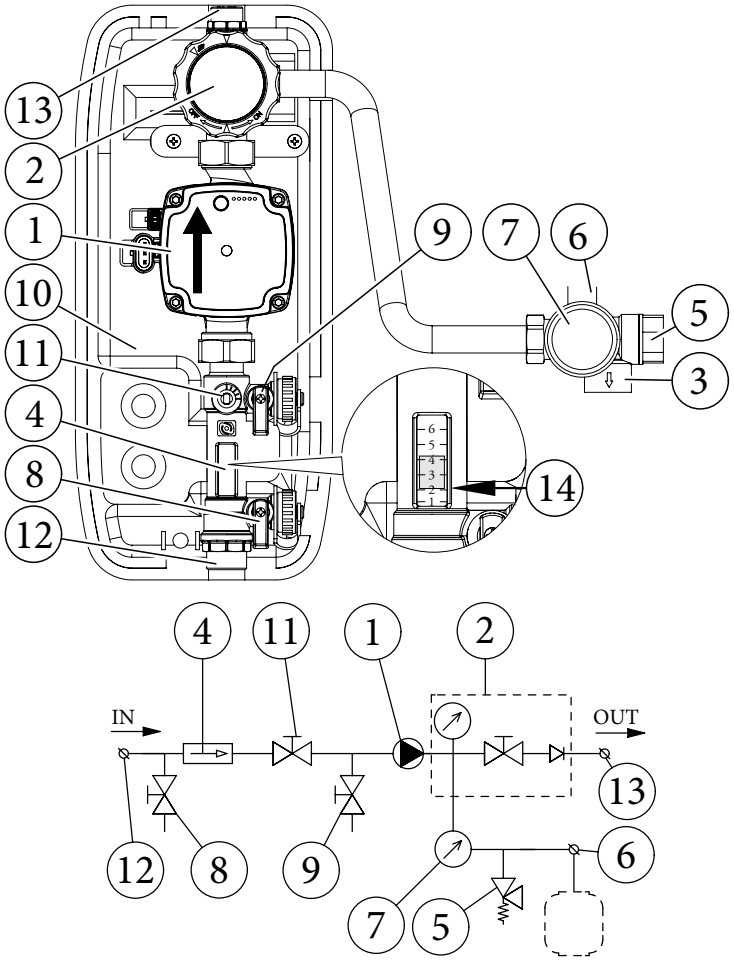


Key:

1 - Solar circulator pump
2 - Non return valve, thermometer and cock
3 - Safety valve drain fitting
4 - Flow meter
5 - 6 bar safety valve
6 - 3/4" connection for expansion vessel
7 - Pressure gauge
8 - Draining cock
9 - Filling cock
10 - Insulating casing
11 - Flow rate regulator
12 - Inlet
13 - Outlet
14 - Reference for flow rate reading

1.45 KITS AVAILABLE ON REQUEST.

- System shut-off valves kit (on request). The Trio V2 is designed for the installation of system interception cocks, to be placed on the flow and return pipes of the connection assembly. This kit is particularly useful for maintenance as it allows the Trio V2 to be drained separately without having to empty the entire system.
- Connection unit (on request). The system is dispatched from the factory without the connection unit. The kit includes the pipes and fittings for connecting the Trio V2 pack. It is also possible to select the connection choosing between the kit with bottom, rear or side connection.
- For the new Victrix Tera and Victrix kW TT models there is a DHW inlet probe kit, check the possibility of installation in the boiler instructions manual. To avoid unnecessary boiler ignition, it is possible to install the DHW inlet probe kit which allows to check the Domestic hot water / D.H.W. temperature at storage tank outlet so as to avoid unnecessary boiler ignition if the water is sufficiently hot.
- Domus Container Kit. The Trio V2 is designed to be installed inside the Domus Container which has been conceived to minimise the installation space of the Trip kit inside the home (not recessed). The bottom of the frame is equipped with levelling feet and the necessary holes for the connections, while the back of the frame is provided with special wall fixing brackets.
- Solar heating system coupling kit. The system is designed to be combined with the thermal solar system as supplementary energy source. The coupling kit is supplied complete with expansion vessel, circulation unit and solar control unit.

The above-mentioned kits are supplied complete with instructions for assembly and use.

1.46 CIRCULATION PUMP (TRIO).

The system is supplied with pumps equipped with speed regulators.
These settings are suitable for most systems.

Central heating/cooling system pumps. The circulators are equipped with electronic control that allows to set advanced functions. For proper operation one must select the most suitable type of operation for the system and select a speed in the available range.

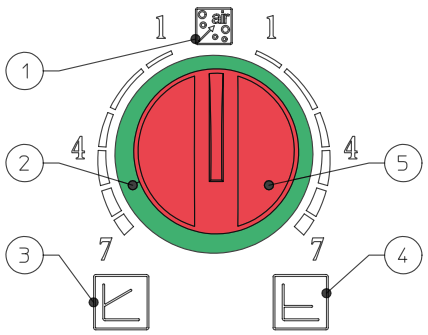
The central heating/cooling system pumps control the room central heating or cooling requests downstream of the hydraulic manifold.

- **Constant head (ΔP C) (***Ref. 4* ***Fig. 66*** **).** The circulator pump maintains the pressure level (head) constant as the system heat demand decreases (flow rate reduction). With these settings, the circulator pump is suitable for all floor systems where all the circuits must be balanced for the same drop in head. One can select the power level from a minimum one to a maximum one by turning the selector switch clockwise in the relative power scale.
- **Proportional head (ΔP V) (***Ref. 3* ***Fig. 66*****).** This allows the pressure level (head) to be proportionally reduced as the system heat demand decreases (flow rate reduction). Thanks to this function, the electric power consumption of the circulator pump is reduced further: the energy (power) used by the pump decreases according to the pressure level and flow rate. With this setting, the pump guarantees optimal performance in most heating systems, proving particularly suitable in single-pipe and two-pipe installations. Any noise originating from the water flow in the pipes, valves and radiators is eliminated by reducing the head. Optimal conditions for thermal comfort and acoustic well-being. One can select the power level from a minimum one to a maximum one by turning the selector switch counterclockwise on the relative power scale.

Adjustment. Turn the selector and set it on the desired curve to adjust the pump.

Automatic vent function (*Ref. 1* ***Fig. 66*****).** The circulator pump is equipped with a function that activates its operation for 10 minutes, alternating the speed between minimum and maximum, so that the air contained in the circulator pump is expelled by the air vent valve.

Diagnostics in real time: a light ring (*Ref. 2 Fig. 66*) provides, in various colours, information regarding the pump operating status, see table below..



Key:
1 - Automatic vent mode operation
2 - Light ring to indicate the operating status
3 - Proportional head operation
4 - Constant head operation
5 - Operating mode selector switch

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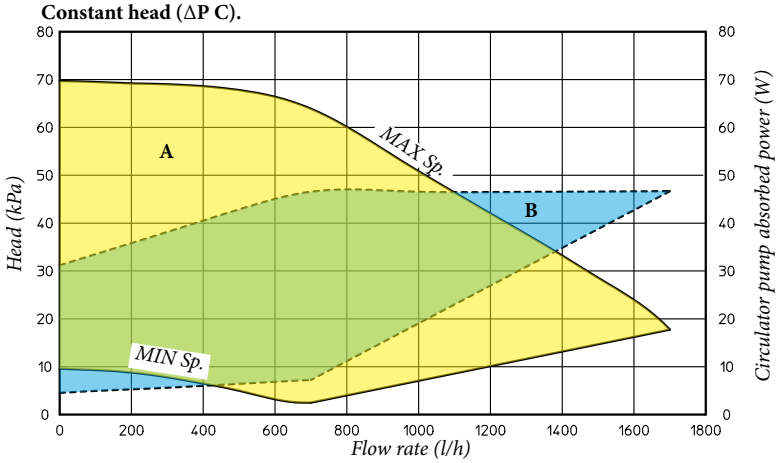
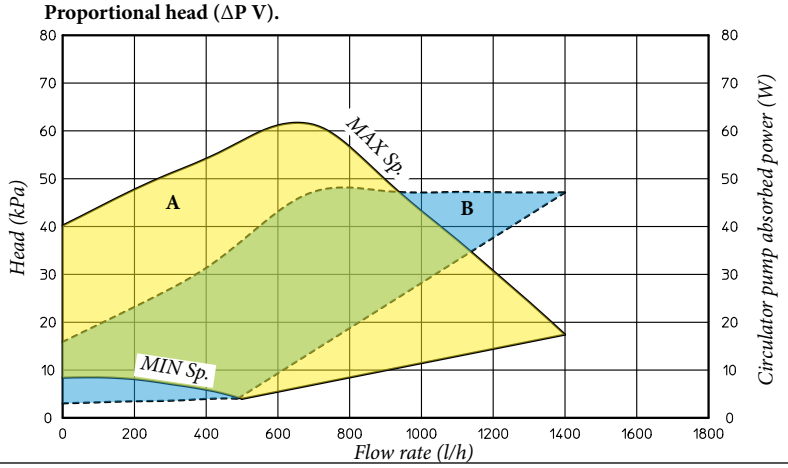
LED	Description	Diagnostics	Cause	Remedy
Green (on)	Normal functioning			
Green (fast flashing)	Automatic vent in operation	The circulator pump vents for 10 minutes	Air in circulator pump	If the circulator pump requires the automatic vent function often, one must adjust the operating mode properly.
Red (on) Green (flashing)	Abnormal situation Circulator pump working but stationary	The circulator pump restarts once the abnormal situation has been solved	a) voltage off range (160 ÷ 253V) b) high pump temperature	a) check power supply b) check temperature of room and of the water contained in the system
Red (flashing)	Pump blocked	the circulator pump cannot restart automatically due to an anomaly	check the circulator pump	if the problem persists replace the circulator pump
LED (off)	circulator pump not working	electronics not powered	a) pump not connected b) LED damaged c) electronics damaged	a) check the electrical connections b) check that the pump is working c) replace the pump

Head available at the system high temperature zone, low temperature zone with mixer open Trio V2 and Trio Mono V2.

Constant head (ΔP C).



Proportional head (ΔP V).



Key:
A = Available head
B = Absorbed power by the circulator (dotted area)

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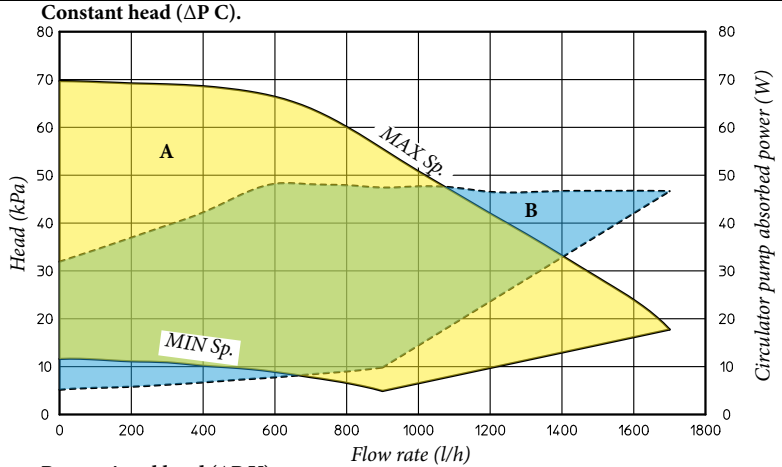
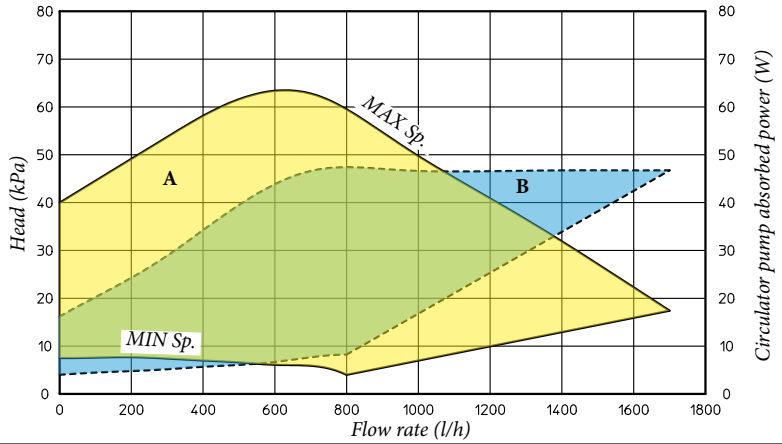
Head available to the system low temperature zone with mixing valve closed Trio V2.

Constant head (ΔP C).



Proportional head (ΔP V).



Key:
A = Available head
B = Absorbed power by the circulator (dotted area)

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1.47 CIRCULATION PUMP (SOLAR THERMAL SYSTEM COUPLING KIT).

The units are supplied with circulating pumps fitted with speed regulator.
These settings are suitable for most systems.

In fact, the pump is equipped with electronic control to set advanced functions. For proper operation one must select the most suitable type of operation for the system and select a speed in the available range, with a focus on energy savings.

Display of operation status. During normal operation the status LED (2) is on green (flashing (FL) when it is in stand-by), the four yellow LEDs (3) indicate circulator absorption according to the following table:

Circulating pump LED	Absorption
G Y Y Y Y FL Off Off Off Off	Circulator in stand-by
G Y Y Y Y On On Off Off Off	0 ÷ 25 %
G Y Y Y Y On On On Off Off	25 ÷ 50 %
G Y Y Y Y On On On On Off	50 ÷ 75 %
G Y Y Y Y On On On On On	75 ÷ 100 %

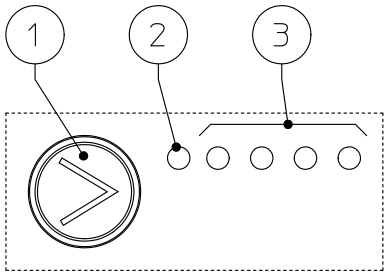
Selection of operating mode. To see the current operation mode it is sufficient to press button (1) once.

To change operation mode press the button for between 2 to 10 seconds until the current configuration flashing, each time the button is pressed all possible functions are scrolled cyclically according to the table (*Fig. 70*). After a few seconds without doing any operation the circulator memorises the selected mode and goes back to operation display.

- Constant curve: the pump operates with a constant curve. The circulator working point will move up or down according to the system's demand.
- PWM profile: **do not use this operation mode.**

Selection button lock. The button has a feature that locks its operation to prevent accidental modifications, to lock the control panel it is necessary to press button (1) longer than 10 seconds (during which the current configuration flashes), the active lock is signalled by all LEDs of the control panel flashing. To unlock the button press again longer than 10 seconds.

Real time diagnostics: in the event of malfunction the LEDs provide information on the circulator operation status, see table (*Fig. 71*):



Key:
1 - Function selection button
2 - Green (G) / red (R) LED
3 - 4 yellow LEDs (Y)

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Circulating pump LED	Description
G Y Y Y Y On On On Off Off	Constant curve speed 1
G Y Y Y Y On On On On Off	Constant curve speed 2
G Y Y Y Y On On On On On	Constant curve speed 3
G Y Y Y Y On On On Off On	Constant curve speed 4 **(default)**

DO NOT USE	
Circulating pump LED	**Description**
R Y Y Y Y On Off On Off Off	PWM Profile speed 1
R Y Y Y Y On Off On On Off	PWM Profile speed 2
R Y Y Y Y On Off On On On	PWM Profile speed 3
R Y Y Y Y On Off On Off On	PWM Profile speed 4

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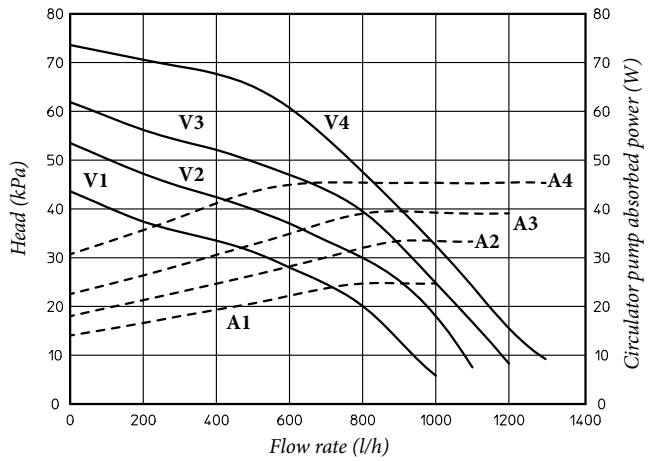
Circulating pump LED (first red LED)	Description	Diagnostics	Remedy
R Y Y Y Y On Off Off Off On	Pump blocked	The circulator pump cannot restart automatically due to an anomaly	Wait for the circulator to make automatic release attempts or manually release the motor shaft acting on the screw in the centre of the head. If the anomaly persists replace the circulator.
R Y Y Y Y On Off Off On Off	Abnormal situation (the circulator continues operating). low power supply voltage	Voltage off range	Check power supply
R Y Y Y Y On Off On Off Off	Electrical fault (Pump blocked)	The circulator is locked due to power supply too low or serious malfunction	Check the power supply, if the anomaly persists replace the circulator

Solar circulation unit available head.



Key:
Vn = Available head
An = Pump absorbed power

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2 INSTRUCTIONS FOR USE AND MAINTENANCE.

2.1 CLEANING AND MAINTENANCE.

Attention: the heating systems must undergo periodical maintenance (regarding this, see the section dedicated to the technician, relative to "yearly control and maintenance of the appliance") and regular checks of energy efficiency in compliance with national, regional or local provisions in force.

This ensures that the optimal safety, performance and operation characteristics of the boiler, which distinguish the Trio V2 pack, remain unchanged over time.

The system can reach high temperatures during the irradiation hours, especially if domestic hot water is not used, with obvious thermal stress.

We recommend stipulating a yearly cleaning and maintenance contract with Your Local Technician.

Use damp cloths and neutral detergent to clean the casing of the Trio V2 pack. Never use abrasive or powder detergents.

2.2 GENERAL WARNINGS.

Use of the pack by unskilled persons or children is strictly prohibited.

For safety purposes, check that the concentric air intake/flue exhaust terminal (if fitted), is not blocked.

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

a) drain the heating system if antifreeze is not used;

b) shut-off all electrical, water and gas supplies (if the latter is present).

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

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

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

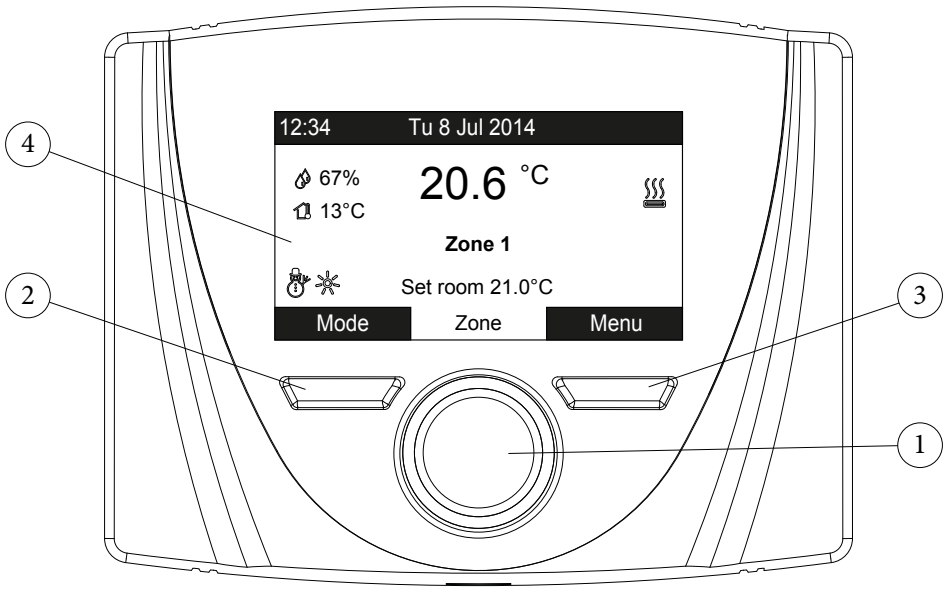
- **Attention:** using any components that use electrical power requires some fundamental rules to be observed:
  - do not touch the appliance with wet or moist parts of the body; do not touch it when barefoot;
  - do not pull the electric cables;
  - if the appliance is not to be used for a certain period, disconnect the main power switch.

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

2.3 DECOMMISSIONING.

In the event of permanent shutdown of the Trio V2 pack, contact professional staff for the procedures and ensure that the electrical, water and gas supply lines are shut off and disconnected.

2.4 TRIO REMOTE PANEL (MAIN).



Key:

1 - Main parameters switch with button to confirm and save data
2 - Left context button
3 - Right context button
4 - Display

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2.5 SYSTEM USE.

The integrated electronics, depending on the climatic conditions and on the settings, establishes which system to use to satisfy the system requests, choosing the most convenient and suitable energy sources, or using them simultaneously to achieve the best possible comfort.

Once the device has been powered, it goes into the status prior to switch-off. Press the "Modo" (Mode) button to cyclically select the desired mode amongst those available.
The operation mode is general and applies to all zones, the current mode in use is displayed by the relative icon at the bottom left corner (*Fig. 73*).

Also, depending on the system's configuration, the main screen displays various information regarding the system, amongst which:

Status	Description
nn	Room humidity value (if humidity probe is present)
nn	External temperature value (external probe enabled)

	Production of Domestic Hot Water in progress
	Request for room central heating or cooling in progress
	Dehumidify and cool room in progress
	Dehumidify room in progress
	Comfort temperature operation
	Economy temperature operation
	Operation in manual mode
	External probe enabled
	Anomaly present

The area to which the information refers is shown at the centre of the display. It is possible to display one of the two areas and the information on the domestic hot water part.
Simply press the main switch to cyclically go from Zone 1, Zone 2 and DHW (Domestic hot water).

The lower part of the display shows the parameter that can be changed (it varies according to configuration). Once the system has captured the data (indicated with the text "Attesa dati..." (Waiting for data...)), it is possible to change the value by turning the main switch and pressing to confirm the parameter change.

The values that can be found according to the configuration, are:

- Set room: defines the room zone temperature.
- Set flow: defines the system's flow temperature to the zone.
- Flow offset: changes the operation curve of the external probe.
- DHW (Domestic hot water) set: this defines the DHW temperature.

Status	Description	DHW	Cooling	Central heating	Antifreeze
	Stand-by	Disabled	Disabled	Disabled	Activated
	Summer	Enabled	Disabled	Disabled	Activated
	Summer with Cooling	Enabled	Enabled	Disabled	Deactivated
	Winter	Enabled	Disabled	Enabled	Activated

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2.6 COMFORT / ECONOMY / MANUAL OPERATION.

Once the calendar is set and the relative association of days is executed, the system operates automatically by switching from "comfort" to "economy" according to what has been set.

- **Comfort ( ).** During periods in comfort mode, a relative icon appears next to the operation mode.
- **Economy ( ).** During periods in economy mode, a relative icon appears next to the operation mode.
- **Manual ( ).** If the remote panel was set to manage the room temperature of the zone, if required, it is possible to change the value manually for a determined range.

  Turning the main switch changes the room temperature, and pressing it confirms the change. The change is displayed by the symbol " ". This change remains activate until the next time slot change within the active calendar or until the default value of the parameter is restored. In each operation mode, it is possible to manually set a room temperature set from 5°C to 35°C.

2.7 OPERATION WITH EXTERNAL PROBE.

When the system is associated with the external probe, the relative symbol ( ) **is displayed.** From this moment, the system's flow temperature for room central heating is managed by the external probe depending on the external temperature measured (*Par. 3.3* and *Par. 3.1* "Assistance" "Central heating thermoregulation" menu). It is possible to change the operation curve by using the main switch and changing the external probe offset (*Fig. 82*).

2.8 CLOCK AND PROGRAMS.

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

- Date and time. On first electric supply voltage from the remote panel, or in the event of a voltage drop, you must set the date and time. Proceed as follows.
  - Press the "Menu" button (*Ref. 3 Fig. 73*), select by pressing the main switch (*Ref. 1 Fig. 73*) the item "Clock and Programs", then "Date and time".
  - Once you have accessed the menu, adjust the various items highlighted by turning the main switch. Set the value and save it by pressing the main switch. Each time it is saved, it moves to the next item.
  - After programming, press "Conferma" (Confirm).

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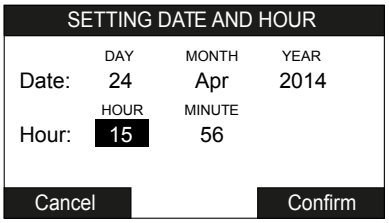

- **Time slots.** The remote panel enables you to set 4 calendars with 4 time operating slots in system comfort mode. The system will operate in economy mode during out-of-range time of these 4 time slots.

  After setting these 4 calendars it is possible to associate them to the various days of the week and DHW function according to one's needs.
  - Press the "Menu" button, select by pressing the main switch (*Ref. 1 Fig. 73*) the item "Clock and Programs", then "Time slots".
  - Once you have accessed the menu, adjust the various items highlighted by turning the main switch. Set the value and save it by pressing the main switch. Each time it is saved, it moves to the next item.
  - After programming, press "Conferma" (Confirm).

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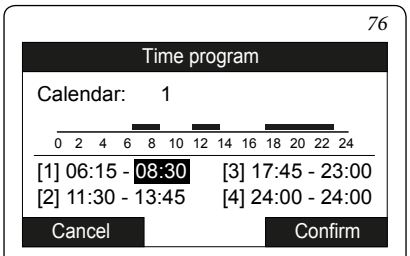
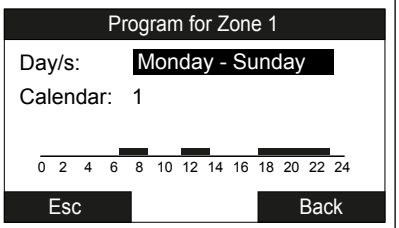


- **Program for Zone 1; Program for Zone 2 and Program for DHW (Domestic hot water).** Time ranges (Calendars from 1 to 4) are assigned to Zone 1, Zone 2 and DHW (Domestic hot water) in these menus. You can assign the calendar to a single day or to a group of days. (single day, Monday - Friday, Saturday - Sunday, Monday - Saturday, Monday - Sunday).

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

  For convenient selection, the bottom part displays the graphics of the relevant calendar being selected (see *Fig. 77*).

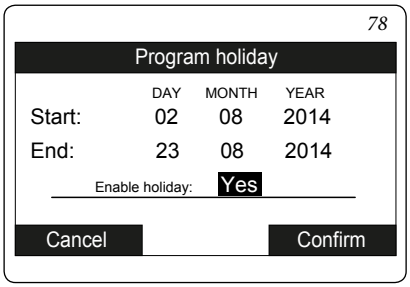
77



- **Holiday program ( ).** If required, it is possible to pause system operation for an established period. Access the "Orologio e programmi" (Clock and Programs) menu, select "Programma vacanze" (Holiday programming) and set the period in which you wish to pause system operation. During this time, the previously set calendars will not be taken into consideration.

  The antifreeze function is still ensured during the holiday period.

78

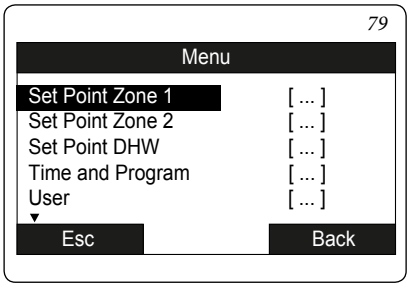


2.9 SETTINGS MENU.

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

To browse the menus, which can be accessed by pressing the relative "RH" or "LH" context buttons, scroll through the sub-menus displayed by turning the main switch. Press the said selector to select the one highlighted. By pressing repeatedly, you can scroll down the menu levels and go back to a previous level by pressing the "Indietro" (Back) context button. To exit the menu completely, press the "Esci" (Exit) button, which will take you back to the initial page of normal operation.

To confirm the parameter change, press the main switch.



Hereunder is a list of available menus

MAIN MENU	
Menu item	Description
Zone 1 Set Point	Defines the operating parameters to manage the zone 1
Zone 2 Set Point	Defines the operating parameters to manage the zone 2 (not present on the Trio Mono version)
DHW Set point	Defines the operation parameters in domestic circuit mode
Clock and Programs	Defines the date/time and time operating slots
User	Defines the system parameters that can be modified by the user
Information	Display system operating data
Anomalies log	Displays the list of the last 10 anomalies
Support	Password protected menu dedicated to a qualified technician
Language	Defines the remote panel operation language

Zone 1 Set Point Menu				
Menu item	Description	Range	Default	Customised value
Set central heating comfort	Room temperature in central heating zone 1 Comfort mode	15 ÷ 35 °C	20	
Set central heating economy	Room temperature in central heating zone 1 Economy mode	5 ÷ 25 °C	16	
Set central heating flow	Flow temperature in room zone 1 central heating mode	20 ÷ 85 °C*	25	
Central heating flow offset	Offset temperature for central heating zone 1	- 15 ÷ + 15°C	0	
Set cooling comfort	Room temperature in cooling zone 1 Comfort mode	15 ÷ 35 °C	25	
Set cooling economy	Room temperature in cooling zone 1 Economy mode	15 ÷ 35 °C	28	
Cooling humidity set	Humidity value set for zone 1 in cooling mode	30 ÷ 70 %	50	
Set cooling flow	Flow temperature in room zone 1 cooling mode	5 ÷ 25 C*	20	
Cooling flow offset	Offset temperature for cooling zone 1	-15 ÷ + 15 °C	0	

(*) the range can be limited based on the generator installed.

Zone 2 Set Point Menu (not present on the Trio Mono V2 version)				
Menu item	Description	Range	Default	Customised value
Set central heating comfort	Room temperature in central heating zone 2 Comfort mode	15 ÷ 35 °C	20	
Set central heating economy	Room temperature in central heating zone 2 Economy mode	5 ÷ 25 °C	16	
Set central heating flow	Flow temperature in room zone 2 central heating mode	20 ÷ 85 °C*	25	
Central heating flow offset	Offset temperature for central heating zone 2	- 15 ÷ + 15°C	0	
Set cooling comfort	Room temperature in cooling zone 2 Comfort mode	15 ÷ 35 °C	25	
Set cooling economy	Room temperature in cooling zone 2 Economy mode	15 ÷ 35 °C	28	
Cooling humidity set	Humidity value set for zone 2 in cooling mode	30 ÷ 70 %	50	
Set cooling flow	Flow temperature in room zone 2 cooling mode	5 ÷ 25 C*	20	
Cooling flow offset	Offset temperature for cooling zone 2	-15 ÷ + 15 °C	0	

(*) the range can be limited based on the generator installed.

DHW Set point				
Menu item	Description	Range	Default	Customised value
Set comfort	DHW storage temperature in Comfort phase	20 ÷ 50 (60) °C*	20	
Set economy	DHW storage temperature in Economy phase	10 ÷ 50 °C	10	
Set Pdc	Pdc DHW temperature in Comfort phase	10 ÷ 50 °C	10	

(*) the range is extended to 60°C in the presence of DHW (Domestic hot water) integration.
NOTE: the zone 2 central heating / C.H. flow must be greater or equal to the zone 1 flow setpoint.
the zone 2 cooling flow must be lower or equal to the zone 1 flow setpoint.

Clock and programs menu				
Menu item	Description	Range	Default	Customised value
Date and time	Current date and time setting			
Time slots	Defines the time range for operation in Comfort and Economy mode			
	Calendar 1 Slot 1 ON	0-24, 0-45	00:00	
Zone 1 Program	Zone 1 time scheduling			
	Zone 1: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 1: Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 1: Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 1: Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 1: Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 1: Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 1: Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
Zone 2 Program	Zone 2 time scheduling (not present on the Trio Mono V2 version)			
	Zone 2: Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 2: Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 2: Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 2: Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 2: Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 2: Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
	Zone 2: Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
DHW Program	DHW operation time programming			
	DHW (Domestic hot water) - Monday	CAL1, CAL2, CAL3,CAL4	CAL1	
	DHW (Domestic hot water) - Tuesday	CAL1, CAL2, CAL3,CAL4	CAL1	
	DHW (Domestic hot water)- Wednesday	CAL1, CAL2, CAL3,CAL4	CAL1	
	DHW (Domestic hot water) - Thursday	CAL1, CAL2, CAL3,CAL4	CAL1	
	DHW - Friday	CAL1, CAL2, CAL3,CAL4	CAL1	
	DHW (Domestic hot water) - Saturday	CAL1, CAL2, CAL3,CAL4	CAL1	
	DHW (Domestic hot water) - Sunday	CAL1, CAL2, CAL3,CAL4	CAL1	
Holiday Program	Defines the period during which the system disables both hot water heating and room central heating and/or cooling functions. At the end of the set days, the previously active functions will be reset.		Deactive	

User Menu				
Menu item	Description	Range	Default	Customised value
Time slot enabling	It allows to enable the DHW (Domestic hot water) management with time slots.	Yes/No	No	
Heat pump disabling	It allows to disable the heat pump according to the set time slot.	Yes/No	No	
Timed Pdc disabling (start time disabling)	Allows to set when disabling starts.	0 - 23	0	
Timed Pdc disabling (end time disabling)	Allows to set when disabling ends.	0 - 23	0	
Integration manual disabling	Allows to permanently disable the integration generator.	Yes/No	No	
F1 Electricity price	Allows to enter the price of electricity in € cents per kWh for time slot 1	0 ÷ 200,00 €	20	
F2 Electricity price	Allows to enter the price of electricity in € cents per kWh for time slot 2	0 ÷ 200,00 €	16	
F3 Electricity price	Allows to enter the price of electricity in € cents per kWh for time slot 3	0 ÷ 200,00 €	16	
F1 ON	Allows to set when time slot 1 starts	0 ÷ 24	00 : 00	
F2 ON	Allows to set when time slot 2 starts	0 ÷ 24	00 : 00	
F3 ON	Allows to set when time slot 3 starts	0 ÷ 24	00 : 00	
Type of gas	Type of gas with which to feed the boiler (optional)	Methane / LPG	M	
Gas unit of measurement	It establishes the unit of measurement for gas metering	m^3 / l/kg	m^3	
Gas price	Allows to enter the gas price in €	0 ÷ 200,00 €	0.80	

Information Menu	
Menu item	Description
Flow temperature	Instant outlet temperature from the system
PdC Return temperature	Heat pump return temperature
Outside temperature	External temper. detected by the external probe (optional)
Calculated set system temperature	Flow temperature requested by the generators
Zone 1 temperature set	Temperature set on zone 1
Zone 1 flow temperature	Flow temperature set on zone 1
Zone 1 dew temperature	Zone 1 dew temperature
Zone 2 temperature set	Temperature set on zone 2 (not present on the Trio Mono V2 version)
Zone 2 dew temperature	Zone 2 dew temperature (not present on the Trio Mono V2 version)
DHW set	Displays the domestic hot water flow set
Pdc DHW (Domestic hot water) set	Displays the domestic hot water flow set of the heat pump section (only active with boiler present)
DHW temperature	DHW (Domestic hot water) storage tank water temperature
Pdc DHW (Domestic hot water) temperature	Temperature of the water inside the DHW (Domestic hot water) storage tank in the heat pump section (only active with boiler present)
Pdc Power	Instantaneous power percentage being used at this moment by the system
HP operating mode	Describes the heat pump operation mode
Minimum COP	Displays the minimum COP needed to start the heat pump. (Only present with boiler enabled).
PdC COP	Displays the current COP of the heat pump. (Displayed only with DHW (Domestic hot water) or central heating / C.H. request).
System integration	Indicates whether the system request is integrated by another energy source in addition to the heat pump.
DHW integration	Indicates whether the system request is integrated by another energy source in addition to the heat pump.
System boiler set	Displays the flow set on the boiler (optional)
DHW (Domestic hot water) boiler set	Displays the DHW (Domestic hot water) set on the boiler (optional)
Software version	Remote panel software revision
Display software version	Display software revision installed on the remote panel
Hours of integration operation	No. of system operation hours with energy integration
HP hours of operation	Number of operating hours of the heat pump
Audax Model	Identifies the heat pump model of the Audax range (6 - 8 - 12 - 16 - 16 Mono - 18 - 21)

Anomalies Log Menu
Description
Displays the history log of the last 10 anomalies, see *Par. 2.9*

Assistance Menu				
Menu item	Description	Range	Default	Customised value
Password protected menu dedicated to a qualified technician				

Language Menu				
Menu item	Description	Range	Default	Customised value
Language	Defines the remote panel operation language	ITA - ENG	ITA	

2.10 DHW (DOMESTIC HOT WATER) SET SETTING.

To obtain a good DHW (Domestic hot water) comfort, pay attention to the setting of parameters relating to domestic hot water.
In the absence of integration or in case of integration with electrical resistance, there is only one DHW probe.
In this case, simply set only one DHW (Domestic hot water) set to regulate the water temperature.
The DHW (Domestic hot water) set can be the one in the main page or the "comfort/eco" set of the DHW (Domestic hot water) menu.
With boiler integration, there are two DHW probes.
For this reason it is necessary to set two sets.

- **DHW (Domestic hot water) set** (manual or eco/comfort). Setting of the wanted domestic hot water temperature.
- **Pdc set** (DHW (Domestic hot water) menu). Setting of the pre-heat water set (storage tank / cylinder section heated by the heat pump only).

2.11 FAULT AND ANOMALY SIGNALS.

The system signals any anomalies by displaying the attention screen with the relative anomaly code (*Fig. 80*).

By pressing the Reset button (for resettable anomalies) it is possible to reset the anomaly. Press the "esci" (exit) button to go back to the main screen and the anomaly is displayed with the symbol.

You must access the "Storico anomalie" (Anomalies log) menu to display the anomalies log where the last 10 system anomalies are displayed in time order (*Fig. 81*). Turn the main switch to scroll through the list.

From the "Anomalies log" menu, it is also possible to reset the list by selecting "Reset anomalies".

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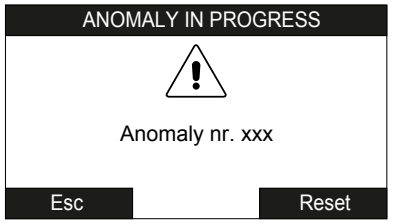
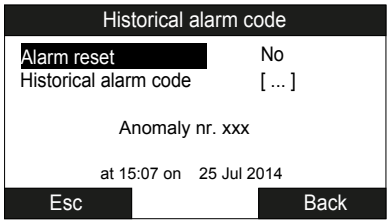


81



Error Code	Anomaly signalled	Cause	System status / Solution
15	**Configuration error**	The board detects an anomaly in the system parameter configuration	Check the configuration parameters (1).
36	**IMG Bus communication loss**	Communication between the control units is interrupted due to an anomaly on the boiler control unit or on the IMG Bus.	The boiler does not satisfy the room heating requests (1).
48	**System probe anomaly**	The board detects an anomaly on the system flow NTC probe.	(1)
55	**Zone 1 Low Temperature probe anomaly**	If the board detects an anomaly on the low temperature zone 1 probe, the system cannot work in the affected area. Or for low temperature safety thermostat intervention.	(1)
58	**Audax heat pump anomaly**	Anomaly on the Audax heat pump, check the type of anomaly directly on the heat pump display (see relative instructions manual).	(1) (2).
101	**Loss of communication with heat pump**	In the event of loss of communication, incorrect connection or heat pump switched off, the system electronics do not detect the heat pump.	(1) (2).
106	**System DHW probe alarm**	The board detects an anomaly on the storage tank probe. (only in the Trip Plus V2 configuration)	The system cannot produce domestic hot water with the heat pump. The production of the domestic hot water is guaranteed by the boiler. (1).
120	**Alarm set high for zone 1 dehumidification**	The cooling flow set calculated for dehumidification is higher than the limit set in zone 1	The calculated flow set is higher than the limit allowed by the dehumidifier. Cool the room and wait for the dew temperature to go back within acceptable values (1).
121	**Zone 1 remote control off-line alarm**	Communication with the zone control is not detected. It is not possible to perform the zone thermal regulation.	Check that the remote control is switched on (1)
122	**Zone 2 remote control off-line alarm**	Communication with the zone control is not detected. It is not possible to perform the zone thermal regulation.	Check that the remote control is switched on (1)
125	**Zone 1 room temperature probe anomaly**	Anomaly on the zone 1 room temperature probe (optional) It is not possible to perform the zone thermal regulation.	In addition to the temperature, the dew point is not calculated for the zone. (1)
126	**Zone 2 room temperature probe anomaly**	Anomaly on the zone 2 room temperature probe (optional) It is not possible to perform the zone thermal regulation.	In addition to the temperature, the dew point is not calculated for the zone. (1)
129	**Zone 1 humidity probe anomaly**	Anomaly on the zone 1 humidity probe (optional). Zone humidity cannot be checked.	In addition to the humidity, the dew point is not calculated for the zone (1) either
130	**Zone 2 humidity probe anomaly**	Anomaly on the zone 2 humidity probe (optional). Zone humidity cannot be checked.	In addition to the humidity, the dew point is not calculated for the zone (1) either
132	**Alarm set high for zone 2 dehumidification**	The cooling flow set calculated for dehumidification is higher than the limit set in zone 2	The calculated flow set is higher than the limit allowed by the dehumidifier. Cool the room and wait for the dew temperature to go back within acceptable values (1).
133	**Zone 1 dehumidifier fault alarm**	Anomaly coming from the dehumidifier (optional) on zone 1	The system does not dehumidify in the relative zone (1)

(1) If the block or anomaly persists, contact an authorised company (e.g. Authorized Technical After-Sales Service)

(2) All heat pump functions (room heating and cooling) are inhibited.

If possible, the room central heating / C.H. and the production of domestic hot water are guaranteed by the connected auxiliary systems.

Error Code	Anomaly signalled	Cause	System status / Solution
137	**System restored signal**	When the default parameters are restored, the system needs to be restarted.	Turn the system off and on.
139	**De-aeration alarm in progress**	The system is performing a de-aeration.	You can wait until the end of the function or stop it using the provided actions.
177	**DHW maximum time block**	Domestic hot water production is not met within the pre-established time.	(1).
178	**Anti-Legionella cycle block not successful**	The anti-Legionella cycle is run without success within the pre-established time.	(1).
1xxx	**Magis Pro Anomalies**	Anomaly on the Magis pro pack, check the anomaly signalled by code "xxx" on the device instruction manual.	(1) (2).
1xxx	**Audax heat pump anomaly**	Anomaly on the Audax heat pump, check the anomaly signalled by code "xxx" on the heat pump instruction manual.	(1) (2).

(1) If the block or anomaly persists, contact an authorised company (e.g. Authorized Technical After-Sales Service)

(2) All heat pump functions (room heating and cooling) are inhibited.

If possible, the room central heating / C.H. and the production of domestic hot water are guaranteed by the connected auxiliary systems.

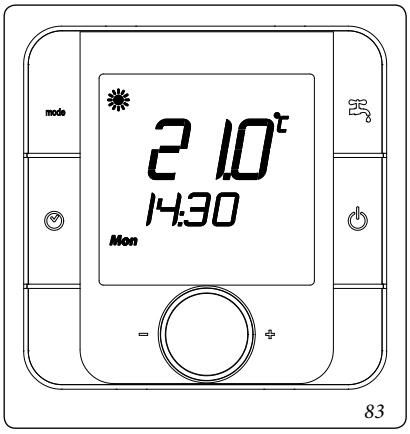
2.12 USE OF THE REMOTE ZONE CONTROL (OPTIONAL).

The zone remote control manages the heating/ cooling of the associated zone.

The functions valid for the remote zone control are enabled with:
- Buttons to the side of the display *(Ref. 2 - 5 Fig. 86)* allow to select the available functions.
- main switch *(Ref. 1 Fig. 86)* by turning it one can select the values of the parameters. The parameter being edited flashes, to store the selected value press the main switch.

Programming current time and day. The current day and time and the time slots must be programmed on the Trip panel.

Ignition. Press and hold the "on / off ⏻" button; the remote control goes into stand-by and displays the operating modes, the room temperature and the time.



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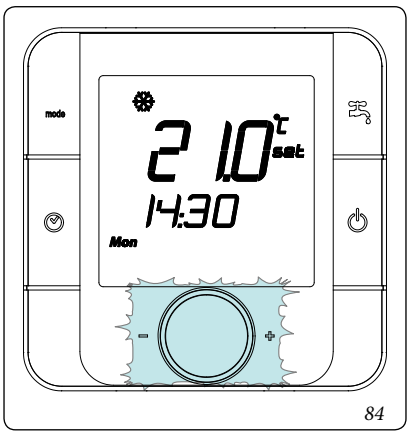
Selection of operating mode. By pressing the "Mode mode" button one can select the operating mode of the system in cyclic mode between:
- "Summer with cooling "☀", system operating in room cooling (performed by the heat pump) and domestic hot water production mode.
- "Winter "❄", system operating in room heating and domestic hot water production mode.
- "Domestic hot water 🚿", system operating in domestic hot water production mode only.

Room temperature manual adjustment. In the event the room thermostat is not enabled, one can set the room temperature simply by turning the main switch. Otherwise, turning the selector has no effect.



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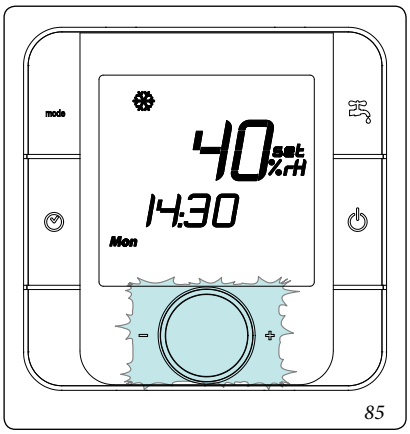
Room humidity adjustment. To display the humidity in the room, press the main selector, during the display of the humidity one can change the desired humidity value, simply by turning the main switch.



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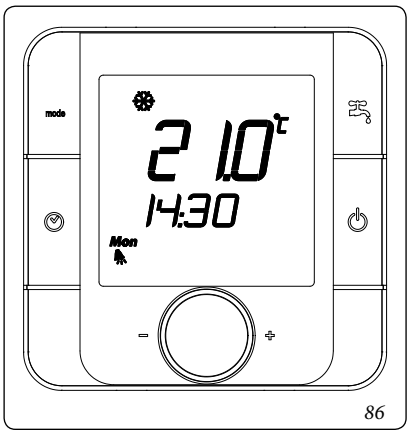
By pressing the new selector, the zone flow set and the system active dhw set can be displayed.

Anomalies display. In the event there is an anomaly in progress, the remote control displays the status via the symbol "🔥".



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Zone remote control panel

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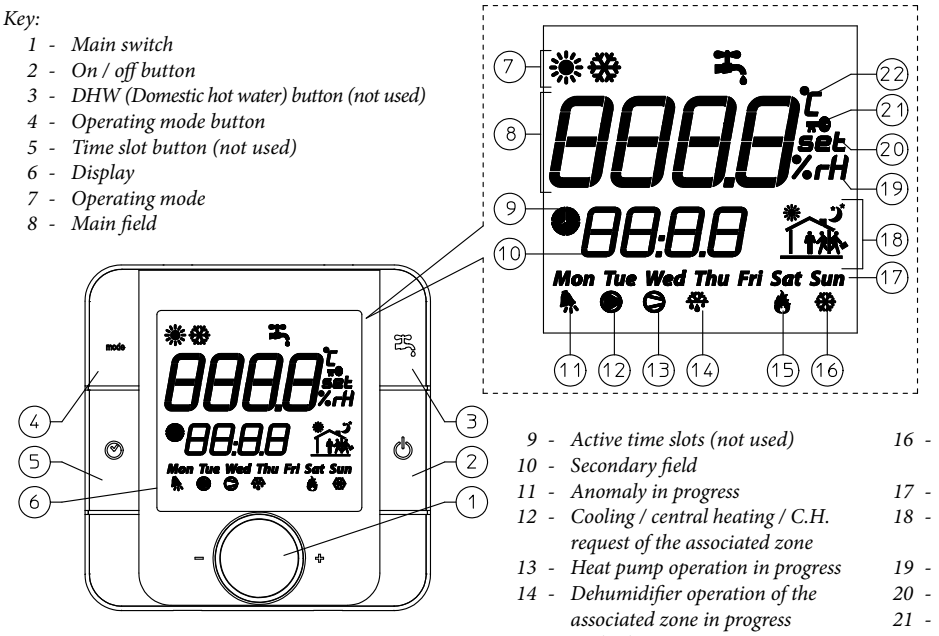
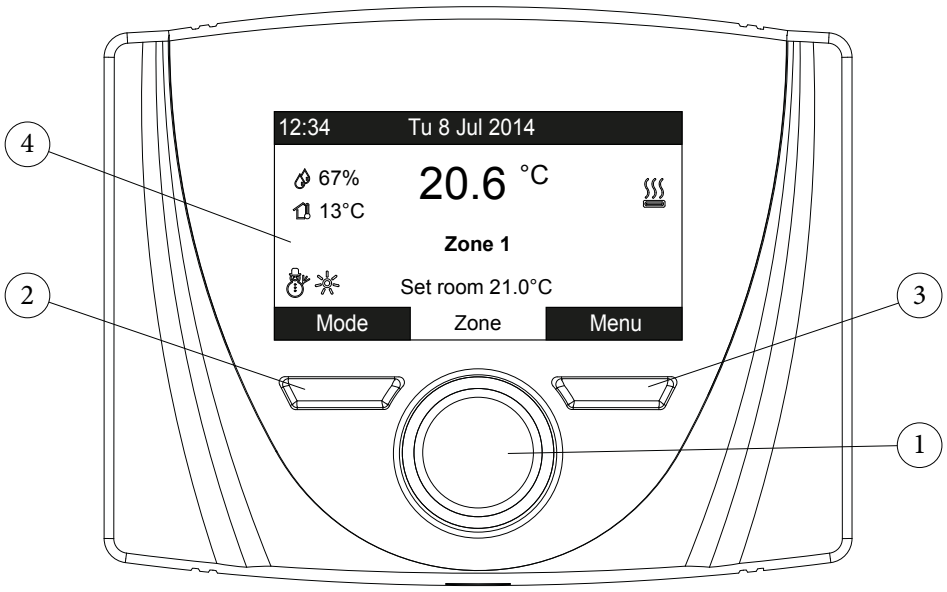
Key:
1 - *Main switch*
2 - *On / off button*
3 - *DHW (Domestic hot water) button (not used)*
4 - *Operating mode button*
5 - *Time slot button (not used)*
6 - *Display*
7 - *Operating mode*
8 - *Main field*



9 - *Active time slots (not used)*
10 - *Secondary field*
11 - *Anomaly in progress*
12 - *Cooling / central heating / C.H. request of the associated zone*
13 - *Heat pump operation in progress*
14 - *Dehumidifier operation of the associated zone in progress*
15 - *Boiler burner operation in progress*
16 - *Antifreeze in progress of the zone associated*
17 - *Day of the week*
18 - *Current time slot (not used)*
19 - *Relative humidity*
20 - *Set point*
21 - *Function locked*
22 - *Temperature unit of measurement*

2.13 USING THE SECONDARY ZONE REMOTE PANEL (OPTIONAL).



Key:

1 - Main parameters switch with button to confirm and save data
2 - Left context button
3 - Right context button
4 - Display

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Once the device has been powered, it goes into the status prior to switch-off. Press the "Modo" (Mode) button to cyclically select the desired mode amongst those available.
The operation mode is general and applies to all zones, the current mode in use is displayed by the relative icon at the bottom left corner (*Fig. 82*).

Also, depending on the system's configuration, the main screen displays various information regarding the system, amongst which:

Status	Description
nn	Room humidity value
nn	External temperature value (external probe enabled)
	Production of Domestic Hot Water in progress
	Request for room central heating or cooling in progress
	Dehumidify and cool room in progress
	Dehumidify room in progress
	Comfort temperature operation
	Economy temperature operation
	Operation in manual mode
	External probe enabled
	Anomaly present

The lower part of the display shows the parameter that can be changed (it varies according to configuration). Once the system has captured the data (indicated with the text "Attesa dati..." (Waiting for data...)), it is possible to change the value by turning the main switch and pressing to confirm the parameter change.

The values that can be found according to the configuration, are:

- Set room: defines the room zone temperature.
- Set flow: defines the system's flow temperature to the zone.
- Flow offset: changes the operation curve of the external probe.

Status	**Description**
	Stand-by
	Summer
	Summer with cooling
	Winter

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• **Comfort / Economy / Manual operation.**

Once the calendar is set and the relative association of days is executed, the system operates automatically by switching from "comfort" to "economy" according to what has been set.

• **Comfort ( ).** During periods in comfort mode, a relative icon appears next to the operation mode.

• **Economy ( ).** During periods in economy mode, a relative icon appears next to the operation mode.

• **Manual ( ).** If the remote panel was set to manage the room temperature of the zone, if required, it is possible to change the value manually for a determined range.

Turning the main switch changes the room temperature, and pressing it confirms the change. The change is displayed by the symbol " ". This change remains activate until the next time slot change within the active calendar or until the default value of the parameter is restored.

• **Operation with external probe.**

When the system is associated with the external probe, the relative symbol ( ) **is displayed.** From this moment, the system's flow temperature for room central heating is managed by the external probe depending on the external temperature measured. It is possible to change the operation curve by using the main switch and changing the external probe offset (*Fig. 87*).

• **Clock and programs.**

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

• Date and time. On first electric supply voltage from the remote panel, or in the event of a voltage drop, you must set the date and time. Proceed as follows.

- Press the "Menu" button (*Ref. 3 Fig. 87*), select by pressing the main switch (*Ref. 1 Fig. 87*) the item "Clock and Programs", then "Date and time".
- Once you have accessed the menu, adjust the various items highlighted by turning the main switch. Set the value and save it by pressing the main switch. Each time it is saved, it moves to the next item.
- After programming, press "Conferma" (Confirm).

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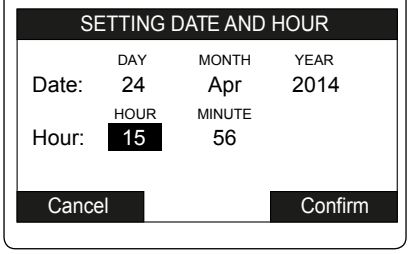

• **Time slots.** The remote panel enables you to set 4 calendars with 4 time operating slots in system comfort mode. The system will operate in economy mode during out-of-range time of these 4 time slots.

After setting these 4 calendars it is possible to associate them to the various days of the week and DHW function according to one's needs.

- Press the "Menu" button, select by pressing the main switch (*Ref. 1 Fig. 87*) the item "Clock and Programs", then "Time slots".
- Once you have accessed the menu, adjust the various items highlighted by turning the main switch. Set the value and save it by pressing the main switch. Each time it is saved, it moves to the next item.
- After programming, press "Conferma" (Confirm).

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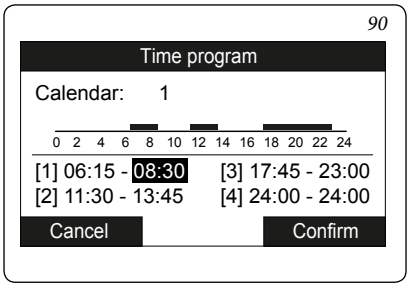
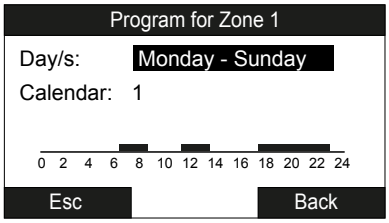


• **Time programme.** Time slots are assigned to Zones in these menus (Calendars from 1 to 4) to the associated Zone. You can assign the calendar to a single day or to a group of days. (single day, Monday - Friday, Saturday - Sunday, Monday - Saturday, Monday - Sunday).

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

For convenient selection, the bottom part displays the graphics of the relevant calendar being selected (*Fig. 91*).

91



• **Settings menu.**

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

To browse the menus, which can be accessed by pressing the relative "RH" or "LH" context buttons, scroll through the sub-menus displayed by turning the main switch. Press the said selector to select the one highlighted. By pressing repeatedly, you can scroll down the menu levels and go back to a previous level by pressing the "Indietro" (Back) context button. To exit the menu completely, press the "Esci" (Exit) button, which will take you back to the initial page of normal operation.

To confirm the parameter change, press the main switch.

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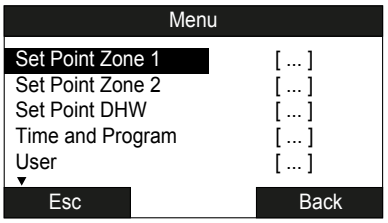

Hereunder is a list of available menus

MAIN MENU	
Menu item	Description
Zone Set Point	Defines the operating parameters to manage the zone
Clock and Programs	Defines the date/time and time operating slots
Information	Display system operating data
Support	Password protected menu dedicated to a qualified technician
Language	Defines the remote panel operation language

Zone Set Point Menu				
Menu item	Description	Range	Default	Customised value
Set central heating comfort	Room temperature heating zone in Comfort mode	15 ÷ 35 °C	20	
Set central heating economy	Room temperature heating zone in Economy mode	5 ÷ 25 °C	16	
Set cooling comfort	Room temperature cooling zone in Comfort mode	15 ÷ 35 °C	25	
Set cooling economy	Room temperature cooling zone in Economy mode	15 ÷ 35 °C	28	
Cooling humidity set	Humidity value set for zone in cooling mode	30 ÷ 70 %	50	

Clock and programs menu				
Menu item	Description	Range	Default	Customised value
Time slots	Defines the time range for operation in Comfort and Economy mode			
Zone Program	Time zone scheduling		Mon - Sun Cal 1	

Information Menu	
Menu item	Description
Outside temperature	External temper. detected by the external probe (optional)
Calculated set system temperature	Flow temperature requested by the generators
Board software version	System software revision
Display software version	Display software revision installed on the remote panel

Assistance Menu				
Menu item	Description	Range	Default	Customised value
Password protected menu dedicated to a qualified technician				

Language Menu				
Menu item	Description	Range	Default	Customised value
Language	Defines the remote panel operation language	ITA - ENG	ITA	

2.14 FAULT AND ANOMALY SIGNALS.

The system signals any anomalies by displaying the attention screen with the relative anomaly code (*Fig. 93*).

Press the "esci" (exit) button to go back to the main screen and the anomaly is displayed with the symbol.

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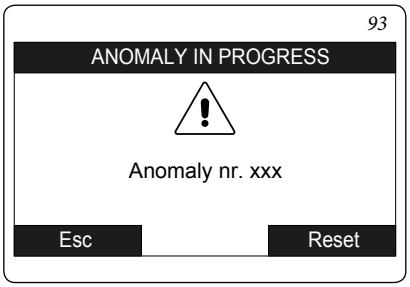
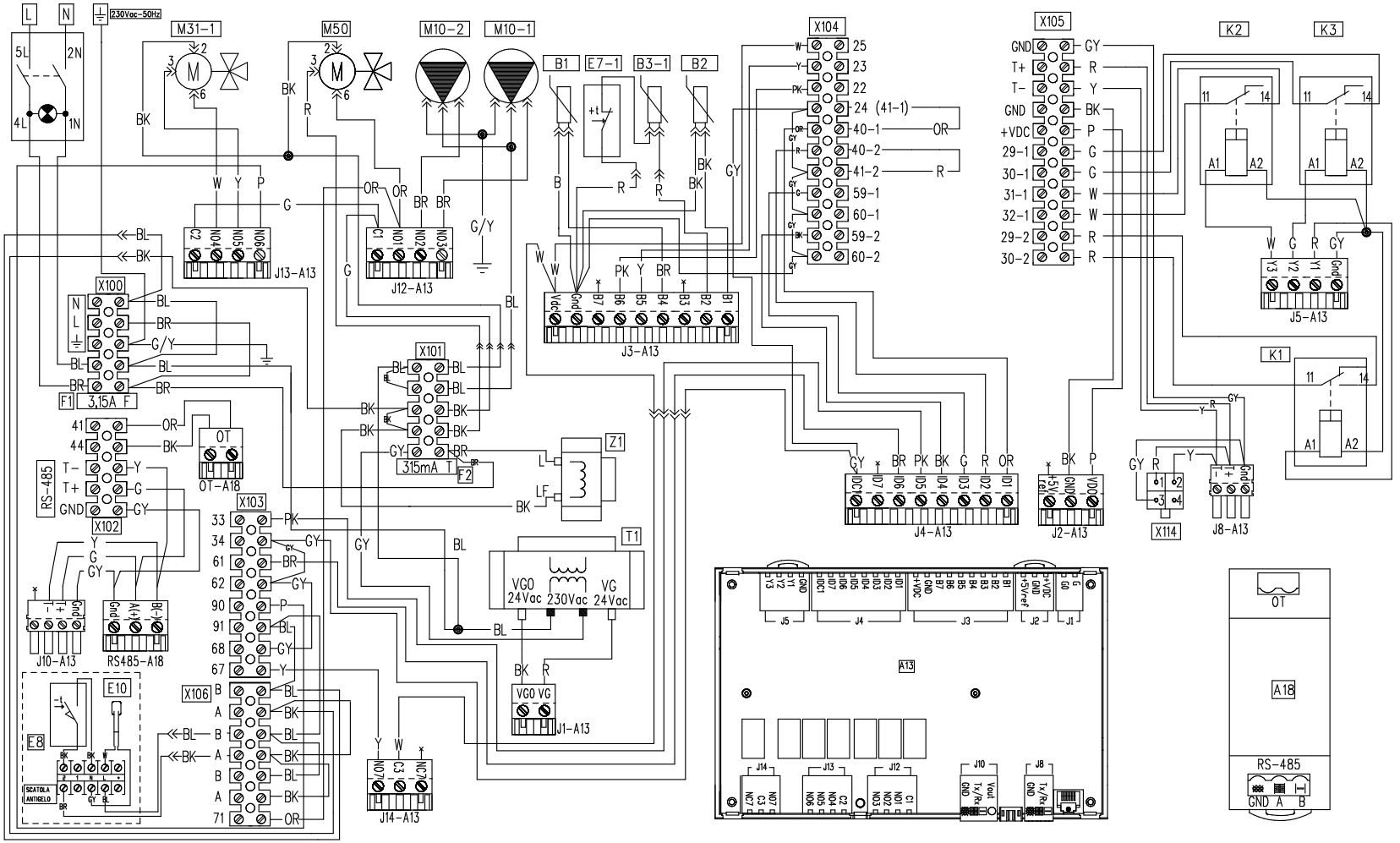


3 CONTROL AND MAINTENANCE.

- Using an omnipolar disconnector, check connection to 230V-50Hz mains power supply, correct L-N polarity and the earthing connection;
- make sure the central heating system is filled with water and that the manometer indicates a pressure of 1÷1.2 bar;
- make sure that the air vent valve cap (if present) is open and that the system is well deaerated;
- check activation of the main switch located upstream of the Trio V2 pack;
- check tightness of water circuits;
- check the correlation between the electric and hydraulic connections;
- with request for heat in TA zone 1 and TA zone 2, check that the mixing valve opens and closes properly; open the latter to check the intervention of the system safety thermostat (the boiler flow temperature must be set over 60 °C).

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

N.B.: the 8 l DHW (Domestic hot water) expansion vessel is connected to the hydraulic unit via a flexible hose; in the event of maintenance it is possible to temporarily move the vessel by unscrewing the lock nut that fastens it to the relative supporting bracket.



Key:

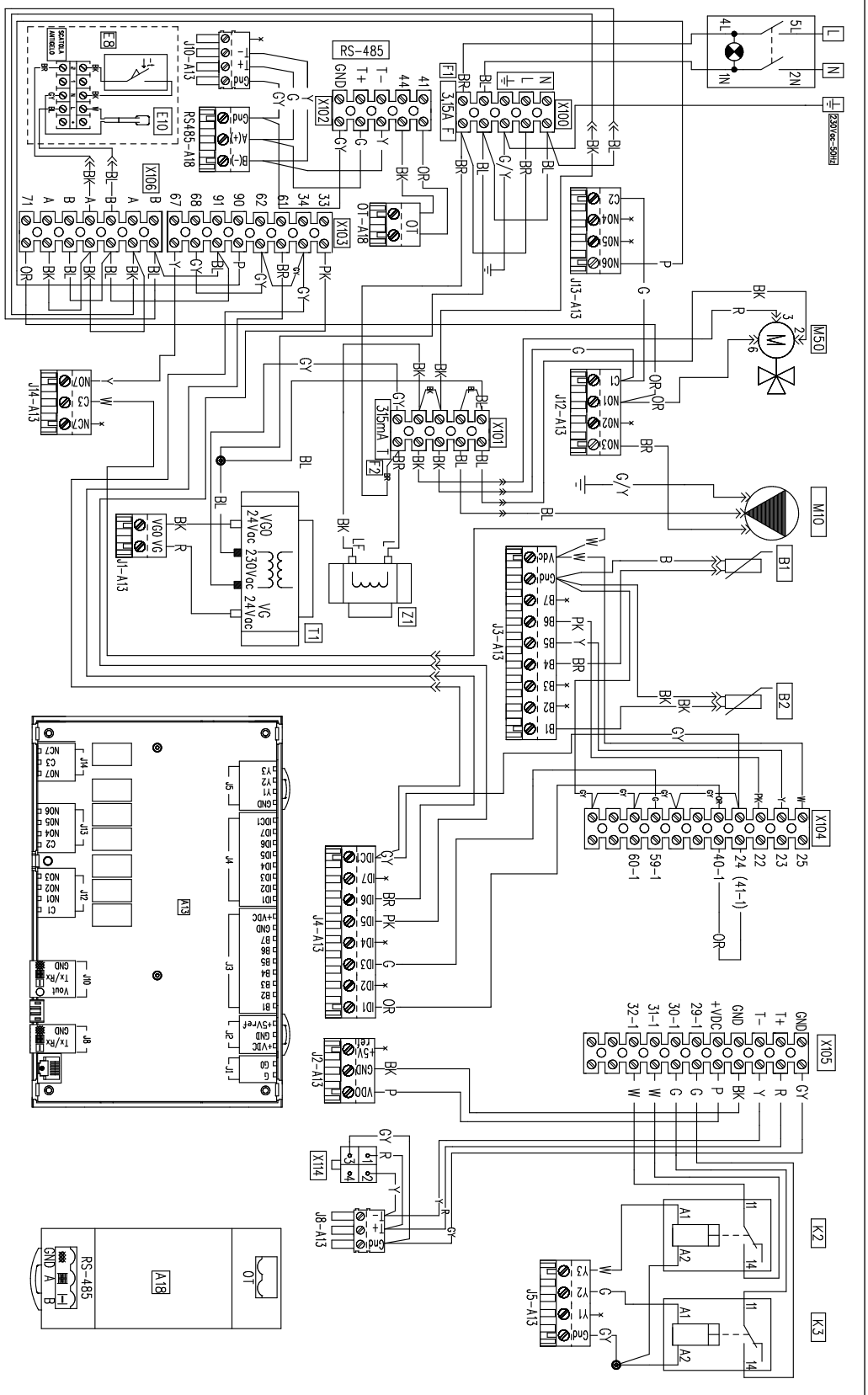
A13 - System supervisor
A18 - Modbus interface board
B1 - System flow probe
B2 - DHW probe
B3-1 - Zone 1 flow probe (low temperature)
E7-1 - Zone 1 Safety thermostat (low temperature)
E8 - Antifreeze thermostat
E10 - Anti-freeze resistance (heating cable)
F1 - 3.15 A F Line fuse
F2 - 315 mA T Transformer fuse
K1 - Zone 2 dehumidification control relay (high temperature)
K2 - Zone 1 air conditioning control relay (low temperature)
K3 - Zone 1 dehumidification control relay (low temperature)
M10-1 - Zone 1 system circulator (low temperature)
M10-2 - Zone 2 system circulator (high temperature)
M31-1 - Mixing valve (zone 1)
M50 - Priority 3-way valve
T1 - Transformer 230 Vac - 24 Vac
Z1 - Antijamming filter

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

IMMERGAS

MAINTENANCE TECHNICIAN | USER | INSTALLER

3.2 TRIO MONO V2 WIRING DIAGRAM.



3.3 SYSTEM PROGRAMMING.

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

Access the "Assistenza" (Assistance) menu by pressing the right "Menu" button and turning the main switch until selecting the desired menu. Press the main switch to confirm the selection. Insert the relative access code and customise the parameters according to your requirements.

Assistance Menu		
Menu item	Description	Range
Zone 1 Definition	Zone 1 system sub-menu settings	-
Defines Zone 2	Zone 2 system sub-menu settings (not present on the Trip Mono V2 version)	-
System definition	Sub-menu to define the devices connected to the system	-
Central heating temperature control	Central heating thermoregulation setting sub-menu	-
Cooling temperature control	Cooling thermoregulation setting sub-menu	-
DHW	Sub-menu settings of the system in DHW (Domestic hot water) mode	-
Electrical	System integration setting sub-menu	-
Heat pump	Heat pump operating parameters sub-menu	-
Manual	Manual operating parameters sub-menu	-
Restore default setting	Allows to reset all parameters with factory values	Yes / No

Assistance Menu -> Zone 1 Definition				
Menu item	Description	Range	Default	Customised value
Mode	Establishes the zone 1 operating mode	- Hot - Cold - Hot + Cold	Hot	
Remote control enabling	Enables operation with a remote zone control To be enabled if a remote zone control is used in zone 1 as room control and not the remote panel, which is used in zone 2 (main zone) - NO = No remote control installed - Contr = Remote zone control to manage zone 1 - Pan = Secondary remote zone panel used to control zone 1 - Probe = Temperature and humidity probe	No / Contr / Pan / Probe	No	
Room thermostat enabling	Enable operation of a room thermostat to check the zone	Yes / No	No	
Dew point enabling	In the presence of the humidity sensor, enable calculation of the dew point. The calculation is particularly needed in case of radiant panel systems.	Yes / No	Yes	
Dehumidifier enabling	Enables the operation of a dehumidifier	Yes / No	No	
Humidistat	Enables the operation of a humidistat	No / Yes	No	
Max dehumidifier temp.	Maximum flow temperature acceptable for the dehumidifier, beyond which it is kept switched off.	15 - 50	25	
Dehum. alarm set.	Maximum flow set calculated, acceptable by the dehumidifier.	15 - 50	25	

Assistance Menu -> Zone 2 Definition (not present on the Trio Mono V2 version)				
Menu item	Description	Range	Default	Customised value
Mode	Establishes the zone 2 operating mode	- Hot - Cold - Hot + Cold	Hot	
Remote control enabling	Enables operation with a remote zone control To be enabled if a remote zone control is used in zone 2 as room control and not the remote panel, which is used in zone 1 (main zone) - NO = No remote control installed - Contr = Remote zone control to manage zone 2 - Pan = Secondary remote zone panel used to control zone 2 - Probe = Temperature and humidity probe	No / Contr / Pan / Probe	No	
Room thermostat enabling	Enable operation of a room thermostat to check the zone	Yes / No	Yes	
Dew point enabling	In the presence of the humidity sensor, enable calculation of the dew point. The calculation is particularly needed in case of radiant panel systems.	Yes / No	No	
Dehumidifier enabling	Enables the operation of a dehumidifier	Yes / No	No	
Humidistat	Enables the operation of a humidistat	No / Yes	No	
Max dehumidifier temp.	Maximum temperature acceptable of the dehumidifier.	15 - 50	25	
Dehum. alarm set.	Maximum setpoint calculated, acceptable by the dehumidifier.	15 - 50	25	

Assistance Menu -> System definition				
Menu item	Description	Range	Default	Customised value
Main zone	Defines the main zone of the system in which the remote panel will be used	1 - 2	1	
PdC Model	Defines the heat pump model combined with the system (No = no heat pump installed)	No Audax, 6 Top,8 Top, 12 Top, 16 Top Pro5, Pro8, Pro10. 6 kW, 8 kW, 10 kW	No	
Mode	Enable the pump operation with speed set “Max.speeed” or the modulating mode with tracking of the “Modulating” temperature differential.	Max sp / Modul	Modul	
Speed Minimum	Value of minimum speed used in modulating operation.	19 - 50 %	50 %	
Speed Maximum	Value of maximum speed used in modulating operation.	50 - 100 %	100 %	
Delta T	Temperature delta to be maintained with modulating operation.	2 - 20	5	
Reduction enabling	Enable HP operation frequency reduction, which is controlled by the said terminal board.	No / Yes	No	
Power in reduced	Power percentage in reduction mode.	50 - 100 %	75 %	
Model to be config.	Select the Heat pump model to parametrise (only use this parameter when replacing the heat pump board).	1 - 10	0	
Configure	Select “Yes” to start parameterisation (only use this parameter when replacing the heat pump board).	Yes / No	No	
Photovoltaic function	Enables the operation combined with a photovoltaic system If the photovoltaic production is sufficient, the system sets itself for maximum exploitation of the electricity produced.	Yes / No	No	
Activation time	Waiting time before activation of the correction	1 - 120	20	
Increase time	Time interval for the increase or decrease of 1°C of correction.	1 - 20	5	
Max Heat correction	Max correction during central heating mode.	0 - 10	2	
Max Cool correction	Max correction during cooling mode.	-10 - 0	0	

Assistance Menu -> Central Heating thermoregulation				
Menu item	Description	Range	Default	Customised value
External probe	Defines the external probe connection.	No / PdC / Cald.	No	
Zone 1 external probe	Enables operation with the external probe for zone 1	No / Yes	No	
Zone 2 external probe	Enables operation with the external probe for zone 2	No / Yes	No	
Set zone 1 minimum flow	Without the external probe it defines the minimum flow temperature that can be set by the user. With the external probe present it defines the minimum flow temperature corresponding to operation with maximum external temperature	20 ÷ 85 °C	25	
Set zone 1 maximum flow	Without the external probe it defines the maximum flow temperature that can be set by the user. With the external probe present it defines the maximum flow temperature corresponding to operation with minimum external temperature	20 ÷ 85 °C	45	
Set zone 2 minimum flow	Without the external probe it defines the minimum flow temperature that can be set by the user. With the external probe present it defines the minimum flow temperature corresponding to operation with maximum external temperature (not present on the Trio Mono V2 version)	20 ÷ 85 °C	25	
Set zone 2 maximum flow	Without the external probe it defines the maximum flow temperature that can be set by the user. With the external probe present it defines the maximum flow temperature corresponding to operation with maximum external temperature (not present on the Trio Mono V2 version)	20 ÷ 85 °C	45	
External minimum temperature	With the external probe present it defines at what minimum external temperature the system must operate at the maximum flow temperature	-25 ÷ +15 °C	-5	
External maximum temperature	With the external probe present it defines at what maximum external temperature the system must operate at the minimum flow temperature	-5 ÷ +45 °C	25	

Assistance Menu -> Cooling thermoregulation				
Menu item	Description	Range	Default	Customised value
Set zone 1 minimum flow	Without the external probe it defines the minimum flow that can be set by the user. With the external probe present it defines the minimum flow temperature corresponding to operation with maximum external temperature	5 ÷ 25 °C	18	
Set zone 1 maximum flow	Without the external probe it defines the maximum flow that can be set by the user. With the external probe present it defines the maximum flow temperature corresponding to operation with minimum external temperature	5 ÷ 25 °C	20	
Set zone 2 minimum flow	Without the external probe it defines the minimum flow that can be set by the user. With the external probe present it defines the minimum flow temperature corresponding to operation with maximum external temperature (not present on the Trio Mono V2 version)	5 ÷ 25 °C	18	
Set zone 2 maximum flow	Without the external probe it defines the maximum flow that can be set by the user. With the external probe present it defines the maximum flow temperature corresponding to operation with maximum external temperature (not present on the Trio Mono V2 version)	5 ÷ 25 °C	20	
External minimum temperature	With the external probe present, it defines at what maximum external temperature the system must operate at the minimum flow temperature	20 ÷ 45 °C	25	
External maximum temperature	With the external probe present, it defines at what minimum external temperature the system must operate at the maximum flow temperature	5 ÷ 45 °C	35	

Assistance Menu -> DHW (Domestic hot water)				
Menu item	Description	Range	Default	Customised value
DHW hysteresis	It establishes at which temperature different must the system activate to heat the domestic hot water with respect to the set value.	3 ÷ 10 °C	5	
Legionella enabling	Enables the anti-legionella function.	Yes / No	No	
Legionella cycle time	Establishes the time of activation of the anti-legionella function.	-- : --	00 : 00	
Legionella cycle day	Establishes the day of activation of the anti-legionella function.	Mon ÷ Sun	Mon	
Max time allowed for DHW	Time after which an alarm is signalled for incomplete DHW (Domestic hot water).	1 - 48 (hours)	5	
Max time allowed for anti-legionella	Time after which an alarm is signalled for incomplete anti-legionella cycle.	1 - 48 (hours)	3	
Precedence	In case of simultaneous system request (heat or cool) and DHW, the heat pump works based on precedence or on the DHW or the system (only enabled with boiler present).	San / Sys	Sys	

Assistance menu -> Integration				
Menu item	Description	Range	Default	Customised value
Integration device	It establishes the type of integration in the system **Attention:** with the Trio Pro V2 version it is not possible to select the "Boiler with communication bus" option	- None - Boiler with communication bus - Electrical resistance	None	
Minimum integration temperature	Temperature threshold below which integration is activated at the heat pump	-25 ÷ +35 °C	-15	
Mode of integration	Establishes whether the heat pump can operate together with another energy source of integration	Simultaneous / Alternative	Alternative	
DHW integration enabling	It is possible to select which generator takes care of the dhw mode:	0 = Pdc 1 = Pdc - I 2 = Integ.		
Central heating / C.H. integration enabling	It is possible to select which generator takes care of the heating mode:	0 = Pdc 1 = Pdc - I 2 = Integ.		
Central heating wait time	Waiting time to reach the setting set before activation of the integration in room central heating / C.H.	0 ÷ 540' *	60'	
DHW wait time	Waiting time to reach the setting set before activation of the integration in the production of domestic hot water	0 ÷ 540' *	45'	
Domestic hot water priority time	It is the maximum time of operation in DHW in case of simultaneous request.	0 ÷ 540' *	60'	
Central heating priority time	It is the maximum time of operation in central heating in case of simultaneous request.	0 ÷ 540' *	180'	
Integration band	If the flow temperature of the heat pumps is lower than the heating-set value minus the activation band divided by 2, then after a period equal to the activation delay time, the supplementary heater will be turned on.	0 - 20 °C	3	
Reset HP counter	Reset the number of operating hours of the heat pump	Yes / No	No	
Reset system integration meter	Reset hours of operation of the room central heating / C.H. integration	Yes / No	No	

(*): in case of Magis Pro, the waiting range is reduced to 10 ÷ 240'.
NOTE: the manual operation is only active with the system in stand-by.

Assistance Menu -> Heat pump					
Parameter Name	Menu item	Description	Audax	Magis Pro	Unit of measurement
Pdc Setpoint	Heat pump set	Request setpoint to heat pump	-	-	° C
Flow temperature	Flow temperature	Instant outlet temperature from the heat pump	Flow sensor RT1 temperature	Flow probe temperature	° C
Return temperature	Return temperature	Instant inlet temperature to the heat pump	Return sensor RT2 temperature	Return probe temperature	° C
Compressor outlet temp.	Compressor outlet temperature °C	Current heat pump compressor temperature	TD (high-pressure pipe probe temp)	Compressor outlet instantaneous temperature	° C
Compressor int.temp.	Compressor intake temperature	Compressor inlet temperature	TS (low-pressure pipe probe temp.)	Not used	° C
Compressor int.sat.temp.	Compressor intake sat. temperature	Compressor inlet saturation temperature	Compr. in. saturation temp.	Not used	° C
Cool.temp. on het exchanger	Cool.temp. on het exchanger	Coolant temperature inside the plate heat exchanger	TR (coolant temp.)	Liquid phase temp.	° C
Battery temp.	Coil temperature	Coil temperature	TE (battery temp.)	Battery temp.	° C
External temp.	Outside temperature	Room temperature (heat pump installation place) °C	TO (external unit probe temp.)	Condensing unit external temperature	° C
Pdc Frequency	Pdc Frequency	Heat pump frequency	Heat pump current frequency	Operating frequency	Hz
Req.Mode Pdc	Pdc Request Mode	Status of the request to heat pump	0 = Stand-by; 1 = cool; 2 = heat; 8 = air purge	0 = no request; 1 = request present	
Pdc Status	Pdc Status	Heat pump status	System mode (see Audax manual)	Not used	
Flow switch	Flow switch	Pump flow status	-	-	
Pdc Software	Pdc Firmware version	Heat pump firmware version	Management board firmware version	Not used	
System state	Status parameter	Technical parameter (only for Authorized Assistance)	-	-	
Integration state	Integration state parameter	Technical parameter (only for Authorized Assistance)	-	-	
Expansion valve position	Exp.valve position	Position of the expansion valve	Expansion valve	Expansion valve	

Assistance menu -> Manual				
Menu item	Description	Range	Default	Customised value
Deaeration function enabling	Enables the deaeration function of the system	Yes / No	No	
DHW 3-way	Manual activation of the DHW (Domestic hot water) 3-way	Yes / No	No	
Boiler enabling	Manual activation of the boiler	On / Off	Off	
Boiler flow temperature	Operation temperature during manual activation of the boiler	25 ÷ 85 °C	25	
System resistance enabling	Manual ignition of the system resistance	On / Off	Off	
DHW (Domestic hot water) resistance enabling	Manual ignition of the DHW (Domestic hot water) resistance	On / Off	Off	
Zone 1 circulator pump	Manual ignition of zone 1 circulator pump	On / Off	Off	
Mixer zone 1	Manual enabling of the mixing valve on zone 1	- Off - Close - Open	Off	
Dehumidifier zone 1	Manual ignition of dehumidifier on zone 1	On / Off	Off	
Zone 1 air conditioning	Manual ignition of air conditioner on zone 1	On / Off	Off	
Zone 2 circulator pump	Manual ignition of the zone 2 circulator pump (not present on the Trio Mono V2 version)	On / Off	Off	
Dehumidifier zone 2	Manual ignition of the zone 2 dehumidifier (not present on the Trio Mono V2 version)	On / Off	Off	
Pdc manual drive	Heat pump operation override (all controls on the flow and return sensors are disabled with these modes). 0 - Off 1 - Test cooling 2 - Test central heating 3 - Test cooling with ramp 4 - Test central heating with ramp	0 - 4	0	
Pdc Circ.pump.override.	Enables the circulation pump to be manually overridden at the set speed.	0 - 100 %	0 %	
Pdc flow switch	Displays flow switch status.	OFF / ON		
Pdc Flow Temp	Heat pump flow temperature.			
Pdc frequency	Compressor frequency.	0 - 100 Hz		

3.4 PROGRAMMING AND USE OF THE ZONE REMOTE PANEL.

The Audax Top ErP heat pumps are supplied with a control panel.
In conjunction with Trio V2, the Audax Top ErP control panel can only be used to manage the secondary zone; for this application, the device is called **Remote zone panel**.
The main zone is managed by the Trip remote panel, standard supplied with the Trio V2.
To make both devices operational, it is essential to configure them as described below.
Attention: do not use the Audax Top ErP panel for the Trio Mono V2 version.

Trio remote panel on zone 1 and Remote zone panel on zone 2.

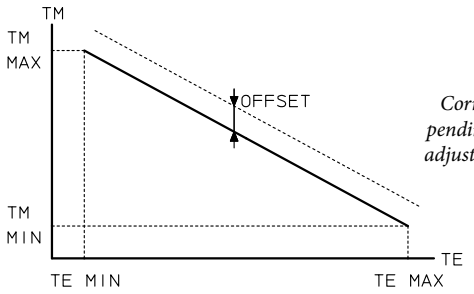
Zone 1	Zone 2
Trio remote panel	Remote zone control
Assistance Menu -> System definition -> Main zone: 1	Assistance Menu -> Device configuration -> Heat pump control: ..... NO
Assistance Menu -> Zone 1 Definition -> Remote control enabling: ..... NO	Assistance Menu -> Device configuration -> Slave address: 42
Assistance Menu -> Zone 2 Definition -> Remote control enabling: 2	

Trio remote panel on zone 2 and Remote zone panel on zone 1.

Zone 1	Zone 2
Remote zone control	Trio remote panel
Assistance Menu -> Device configuration -> Heat pump control: ..... NO	Assistance Menu -> System definition -> Main zone: 2
Assistance Menu -> Device configuration -> Slave address: 41	Assistance Menu -> Zone 1 Definition -> Remote control enabling: 2
	Assistance Menu -> Zone 2 Definition -> Remote control enabling: ..... NO

3.5 EXTERNAL TEMPERATURE PROBE (OPTIONAL).

The system is set up for using the external probe present on the heat pump, alternatively, in case of boiler presence (optional), it is possible to combine an external probe (optional) to be connected to the boiler itself (see boiler instruction manual for connection).
The correlation between system flow temperature and external temperature is determined by the parameters set in assistance menu "Central heating thermoregulation" according to the curves represented in the diagram (*Fig. 96*).



EXTERNAL PROBE
Correction law of the flow temperature depending on the external temperature and user adjustment of the central heating temperature.

TM-MAX/MIN = Selected flow temperature range.
TE = External temperature.

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3.6 PROGRAMMING THE REMOTE ZONE CONTROL PARAMETERS (OPTIONAL).

By simultaneously pressing and holding the buttons "⏻" and "🔧" one can access the communication parameters programming menu; to access it one must enter the access code "22". To enter the access code turn the main switch clockwise until reaching the access code, then press the main selector to access the menu.

Communication parameters					
Menu item		Description	Adjustment range	Default value	Customised value
Addr	address	Allows to adjust the address of the remote zone control	31 = remote control of zone 1 32 = zone 2 remote control	31	
bAud	communication speed	Allows to set the communication speed between the boiler and the remote zone control	0 = 4800 bps 1 = 9600 bps 2 = 19200 bps	Zone 1 and 2 = 1	
bLbE	Display lighting	Allows to set the display operation mode	0 = Minimum lighting 1 = Minimum lighting 2 = Maximum lighting	0	
bLIn	Light intensity	Allows to set the light intensity	0 ÷ 5	4	
PCAL	Probe calibration	Allows to calibrate the temperature probe in the remote zone control	- 15 ÷ 15 K	0	
CnSt	Display contrast	Allows to adjust the display contrast	0 ÷ 15	15	
bu_d	buzzer	Allows to adjust the buzzer of the remote zone control	0 = on 1 = off	0	
PSu I	Pwd	Password to change the internal communication parameters **(do not change)**	0 ÷ 999	22	
P_In	Initialisation by-pass	Setting the parameter with a value other than zero allows to prevent the initialisation of the remote zone control when it is powered **(do not change)**	0 ÷ 1	1	
YEAr	Year	Set the year	0 ÷ 99	0	
Mont	Month	Set the month	1 ÷ 12	1	
MdAY	Day	Set the day of the week	1 ÷ 31	1	
udAY	Day / week	Set the day of the week	1 ÷ 7	6	
hour	Time	Set the hours	0 ÷ 23	0	
MInS	Minutes	Set the minutes	0 ÷ 59	0	

3.7 PHOTOVOLTAIC FUNCTION.

If the photovoltaic input closes, it happens that:
- first, the DHW storage tank is heated up to 50°C, disabling any domestic hot water time slots;
- the minimum COP of functional convenience is taken to 0 and the minimum integration temperature to -15°C.

This favours the heat pump operation with respect to a possible integrative source.
In case of simultaneous DHW (Domestic hot water) and cooling request, with boiler present, after activating the photovoltaic, the heat pump works in cooling on the primary circuit.

3.8 DEAERATION FUNCTION.

During this phase the zone circulator pumps and heat pump are put into operation at pre-established intervals, thus allowing system deaeration.
The system must be in stand-by to activate the function.
The function automatically deactivates after 9 hours or:
- by changing the operating mode;
- by setting **Deaeration function enabling = NO.**

With boiler present, during the system deaeration phase, it is necessary to manually activate the boiler function (see instruction manual).

3.9 VICTRIX KW TT SPECIAL FUNCTIONS.

Chimney sweep function, complete calibration function, quick calibration.

Before performing the function:
- set the system to SUMMER or WINTER mode without requests present;
- disable the heat pump.

Perform the chimney sweep request subsequently forcing a system central heating or DHW (Domestic hot water) request.
At the end, re-enable the heat pump.

Flue test.

Set the system in stand-by then activate the function.

3.10 VICTRIX TERA SPECIAL FUNCTIONS.

Chimney sweep function.

Before performing the function:
- set the system to SUMMER or WINTER mode without requests present;
- disable the heat pump.

Perform the chimney sweep request subsequently forcing a system central heating or DHW (Domestic hot water) request.
At the end, re-enable the heat pump.

Screed heater function.

Do not activate this function.

Flue function, maintenance function.

Set the system in stand-by then activate the function.

DHW Mode.

To improve performance, we recommend changing the following parameters:
- A4 (storage tank / cylinder flow offset) = 15 °C.
- A5 (storage tank / cylinder act.offset) = 5 °C.

3.11 MAGIS PRO SPECIAL FUNCTIONS.

Screed heater function.

Do not activate this function.

3.12 RADIANT PANEL SYSTEMS.

To avoid possible forming of condensate during room cooling, we recommend enabling the calculation of the dew temperature.
To calculate the dew temperature, it is necessary for a remote device or temperature and humidity probe to be present in the zone of demand.

3.13 FLOW SET CALCULATION.

The maximum and minimum flow sets of the zones depend on the type of generator installed.
The following tables show the flow sets according to the type of generator.

	Audax kW	Audax Top	Audax	Magis Pro	Boiler
Maximum flow set (heat.)	**55**	**60**	**60**	**55**	**85**
Minimum flow set (heat.)	**25**	**20**	**20**	**25**	**20**
Minimum flow set (cool.)	**7**	**6**	**5**	**7**	-
Maximum flow set (cool.)	**20**	**18**	**18**	**20**	-

3.14 ANNUAL MAINTENANCE:

- Check the integrity of the storage tank magnesium anode.
- Check tightness of the assembly elements (screws, bolts, plugs, structure elements, etc.).
- Check that the system is in good condition.
- Check for water leaks or oxidation from/on the fittings.
- Perform a visual check to make sure that the safety and control devices have not been tampered with and in particular, the regulator probe, the expansion vessel and the safety valve.
- In case of hard water it is advisable to remove the lime scale from the boiler at least once a year.
- Service the boiler (if present) according to the guidelines in the relative instruction book.
- Service the heat pump (if present) according to the guidelines in the relative instruction book.

Vent

Any air present in the system must be bled:

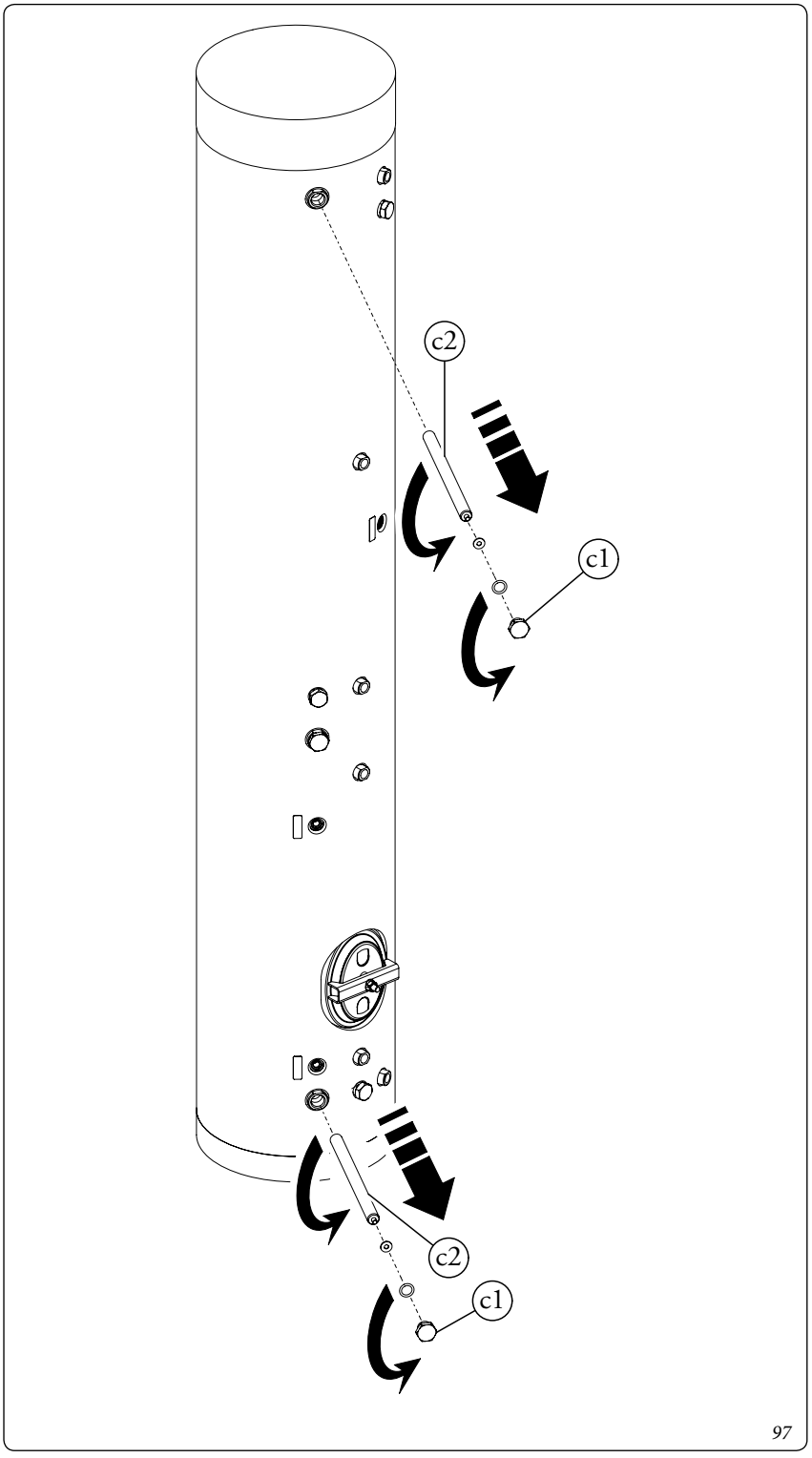
- upon start-up (after filling)
- if necessary, e.g. in the event of breakdown.

Replacing the anode

The anode (c2) present in the storage tank must be replaced every year, as shown below.

3.15 DECOMMISSIONING.

In the event of permanent system shutdown, contact professional staff for the procedures and ensure that the electrical, water and gas supply lines are shut off and disconnected and that the solar collector (if present) is covered.



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3.16 TECHNICAL DATA.

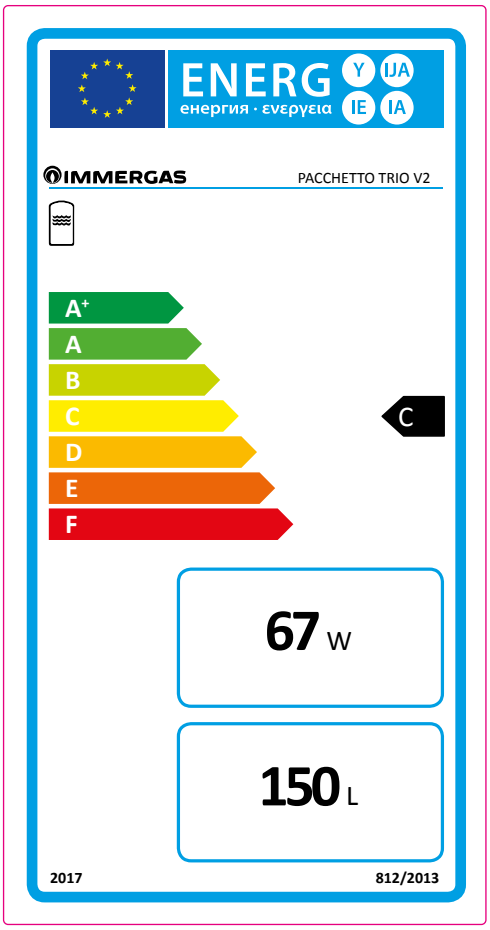
		Trio V2	Trio Mono V2
Maximum central heating circuit pressure	bar	3.0	3.0
Maximum domestic hot water circuit pressure	bar	8.0	8.0
Max. central heating circuit temperature	°C	90	90
Max. domestic hot water circuit operating temperature	°C	95	95
Domestic hot water adjustable temperature	°C	10-50	10-50
Domestic hot water adjustable temperature with boiler or DHW (Domestic hot water) integration resistance (optional)	°C	10-60	10-60
DHW expansion vessel	l	8.0	8.0
DHW expansion vessel pre-charged pressure	bar	3.0	3.0
Water content in the storage tank	l	156.22	156.22
Full hydronic unit weight	kg	33.2	33.2
Empty hydronic unit weight	kg	24.5	24.5
Full storage tank unit weight	kg	188.92	188.92
Empty storage tank unit weight	kg	32.7	32.7
Dispersions	kW/24h	1.60	1.60
Psbsol	W/K	1.48	1.48
Electrical connection	V/Hz	230 / 50	230 / 50
Nominal power absorption	A	1.0	0.7
Installed electric power	W	110	70
Power absorbed by the high temperature zone pump	W	47	47
Power absorbed by the low temperature zone pump	W	47	-
Solar system EEI value		≤ 0.20 - Part. 3	≤ 0.20 - Part. 3
System pumps EEI value		≤ 0.20 - Part. 3	≤ 0.20 - Part. 3
Equipment electrical system protection	-	IPX5D	IPX5D

3.17 PRODUCT SHEET.

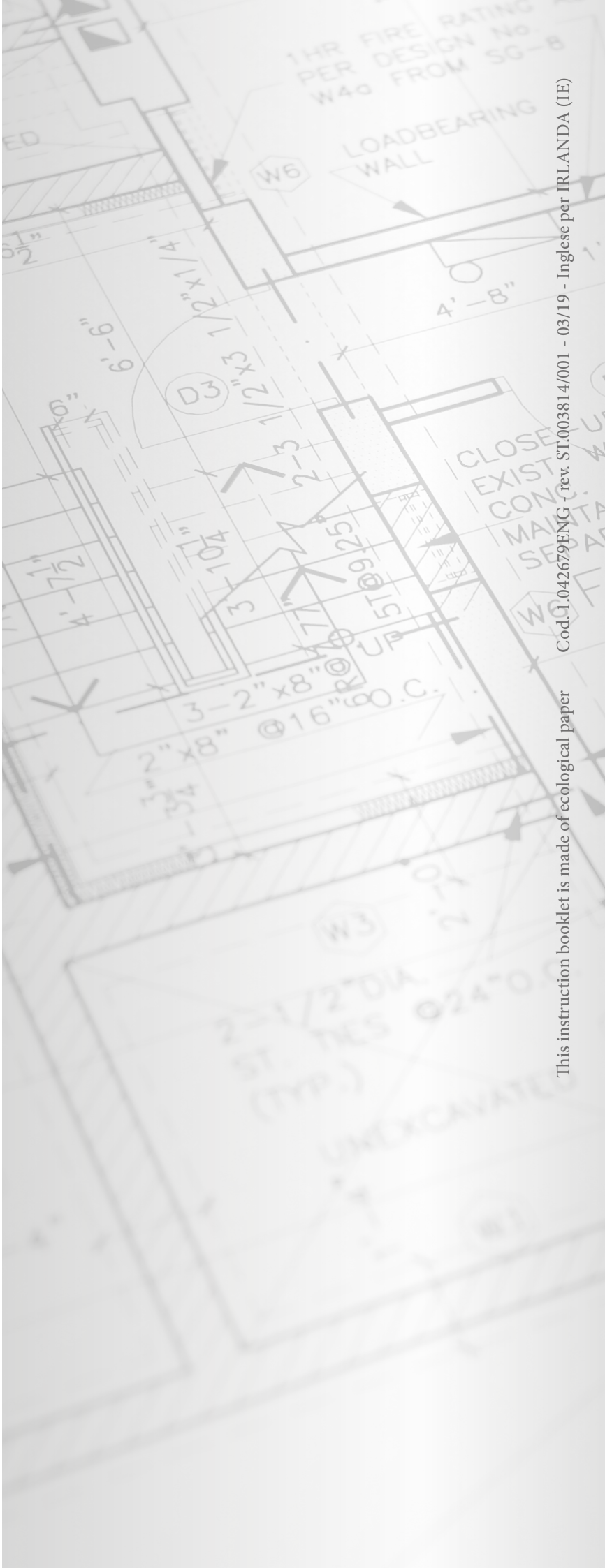
In compliance with Regulation 811/2013, the class of the temperature control device is:

Class	Contribution to room central heating seasonal energy efficiency	Description
VI	+4%	Remote panel to control the zone combined with the external probe / external sensor

3.18 PRODUCT FICHE (IN COMPLIANCE WITH REGULATION 812/2013).



For proper installation of the appliance refer to chapter 1 of this booklet (for the installer) and current installation regulations. For proper maintenance refer to chapter 3 of this booklet (for the maintenance technician) and adhere to the frequencies and methods set out herein.



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