USER'S MANUAL

IMMERGAS

COD. 3.027867

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

HYDRONIC KIT FOR MAGIS COMBO PLUS IN SOLAR CONTAINER COMBO

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 Magis Combo Plus. 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 Immergas 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 Immergas 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 booklet (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.

For further information regarding legislative and statutory provisions relative to the installation of gas heat generators, consult the Immergas site at the following address: www.immergas.com

The Kit 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:

Standard supply	Single-zone Hydronic Unit
	160 litre Storage Tank Unit
	Accessories kit for coupling to Magis Combo Plus V2
Excluded from this supply	Solar Container Combo
	Magis Combo Plus 4 - 6 - 9 V2
	Additional kit 2nd mixed zone
	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 **EN ISO 9001:2015**.

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

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

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1 INSTALLATION

1.1 DESCRIPTION OF THE DEVICE.

The kit described below enables to install a hydronic unit designed to be coupled with the Magis Combo Plus V2 models (excluded from this supply) in a special recessed frame called "Solar Container Combo" (not included in the 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 kit has been designed solely for wall installation using the special "Solar Container Combo" recessed frame.
The place of installation of the product 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 kit.
Installation must be carried out according to IEC and national regulation standards, current legislation and in compliance with local technical regulations and the required technical procedures. The National Standards must be respected. Before installing the kit, 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 Immergas 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.

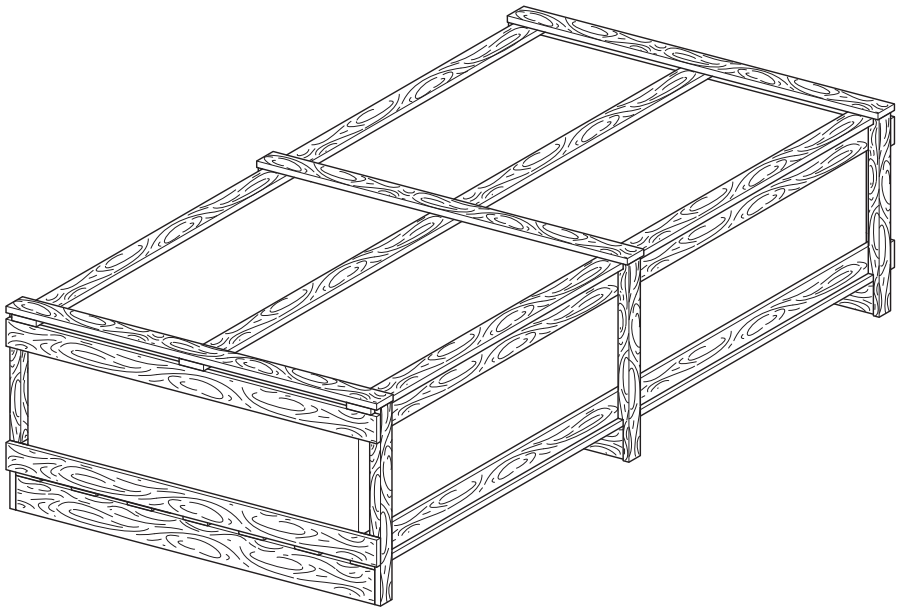
• Installation Standards.

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

Attention: installation of the "Solar Container Combo" in the wall must ensure a stable and efficient support of the pack. The kit ensures appropriate support only if installed correctly (according to the rules of good practice), following the instructions on its instructions leaflet. The "Solar Container Combo" is not a supporting structure and cannot replace the piece of wall removed. It is therefore necessary to check its correct positioning inside the wall. For safety reasons against any leaks it is necessary to plaster the pack housing in the brick wall. This kit 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.

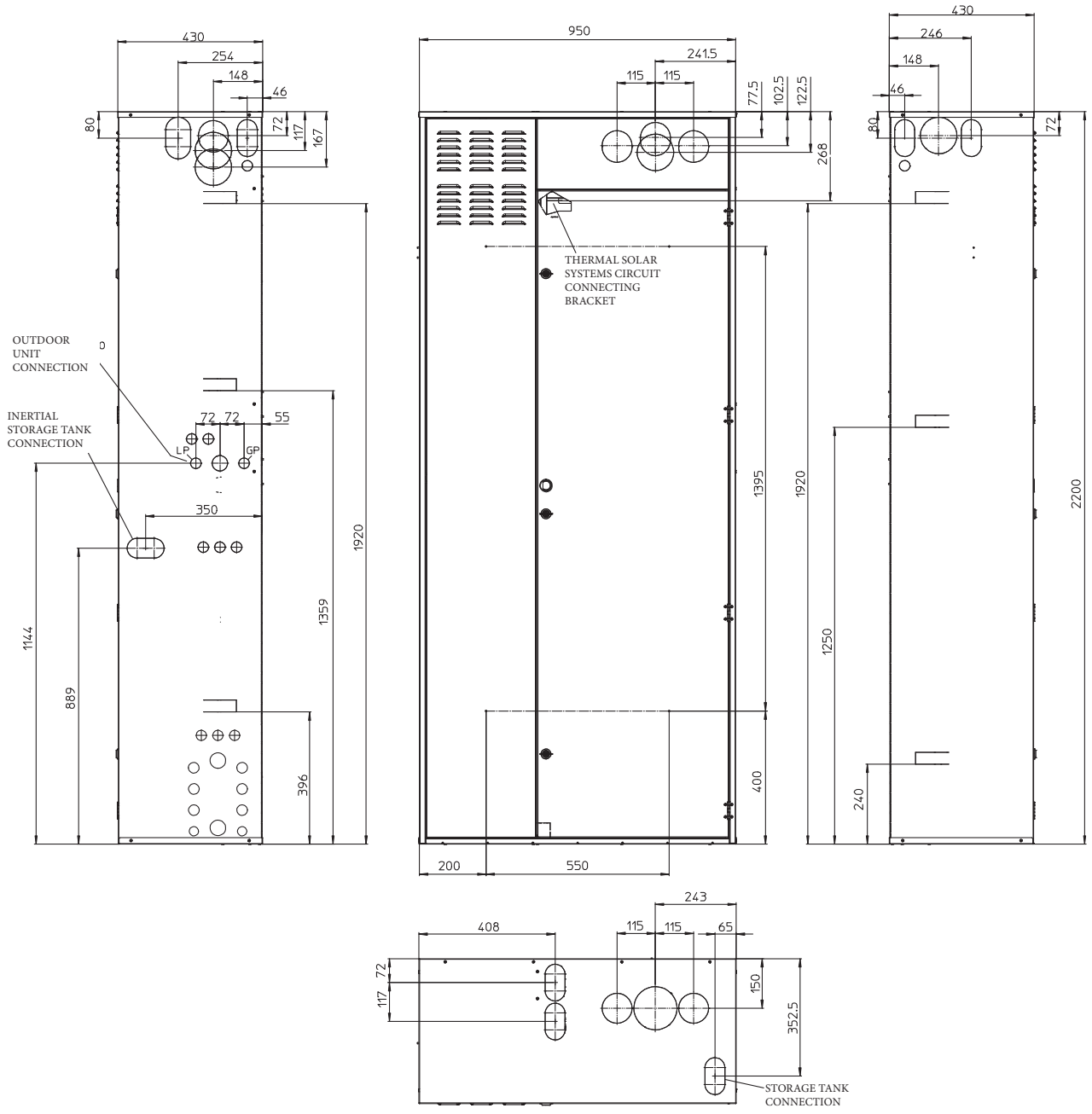
"Anti-legionella" heat treatment of the Immergas storage tank (activated by the specific function present on the predisposed thermoregulation systems): during this stage, the temperature of the water inside the storage tank exceeds 60°C with a relative risk of burns. Keep this domestic hot water treatment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

1.3 PACKAGING.



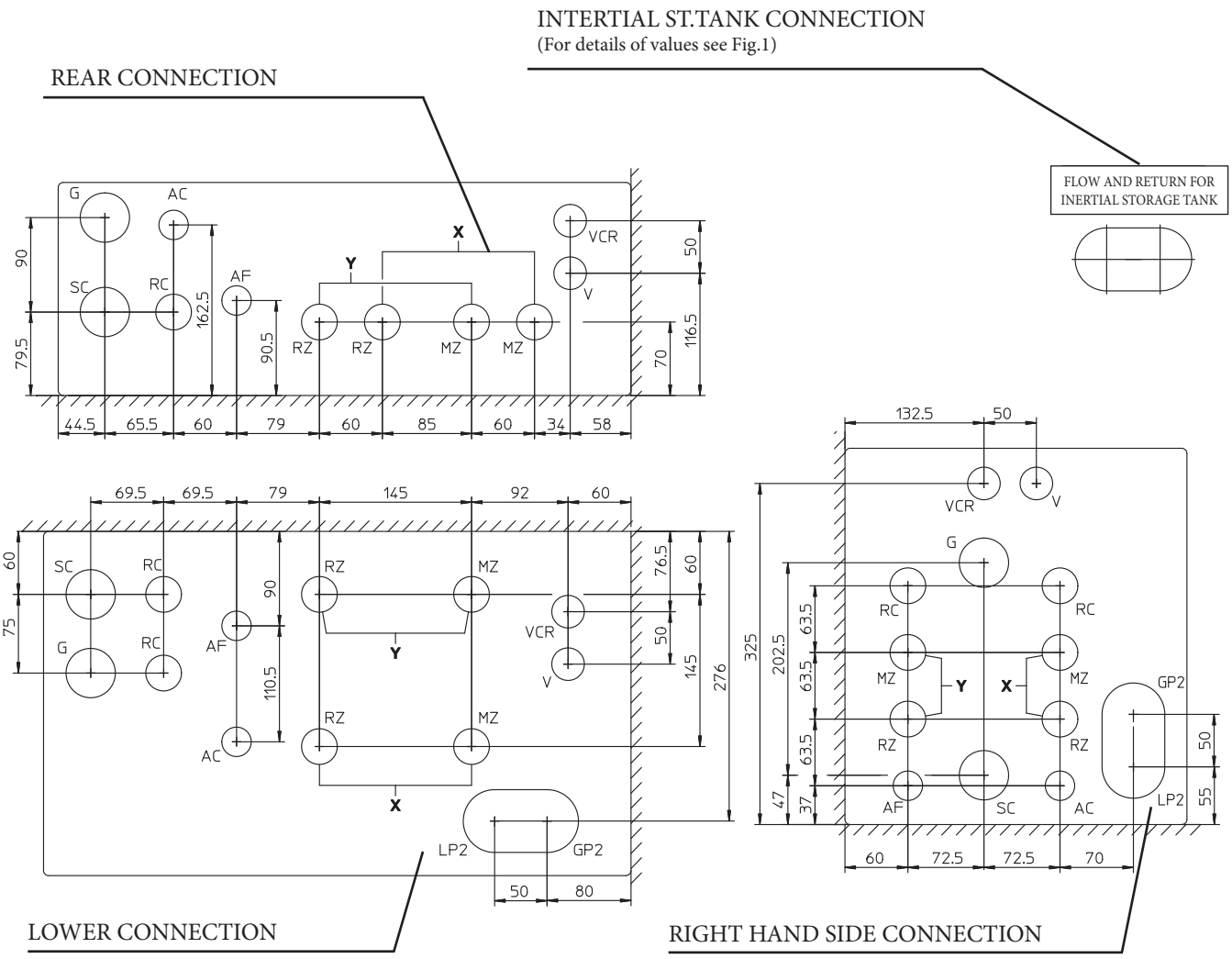
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1.4 OVERALL DIMENSIONS.



Height (mm)	Width (mm)	Depth (mm)
2200	950	430

1.5 CONNECTION TEMPLATE.



Key:

- *G - Gas supply*
- *AC - Domestic hot water outlet*
- *AF - DHW (Domestic hot water) water inlet*
- *LP - Chiller line - liquid phase*
- *GP - Chiller line - gaseous phase*
- *LP2 - Chiller line - liquid phase**
- *GP2 - Chiller line - gaseous phase**
- *MZ - System flow*
- *RZ - System return*
- *RC - DHW (Domestic hot water) recirculation*
- *SC - Condensate drain*
- *V - Electrical connection*
- *VCR - Remote control electrical connection*
- *VS - 3 bar discharge valve*

ZONE CONNECTION TABLE.		
	Zone Y	**Zone X**
Magis Combo Plus V2 hydronic kit	Zone 2 mixed (Optional)	Zone 1 direct

ATTACCHI										
GAS	WATER DOMESTIC CW		SYSTEM				CHILLER LINE			
G	AC	AF	RZ (Y)	MZ (Y)	RZ (X)	MZ (X)	LP	LP2	GP	GP2
G 1/2"	G 1/2"	G 1/2"	G 3/4"	G 3/4"	G 3/4"	G 3/4"	3/8" SAE - 1/4" SAE (V2)	-	5/8" SAE	-

** = not used on this model*

1.6 INSTALLATION.
Pack Composition.

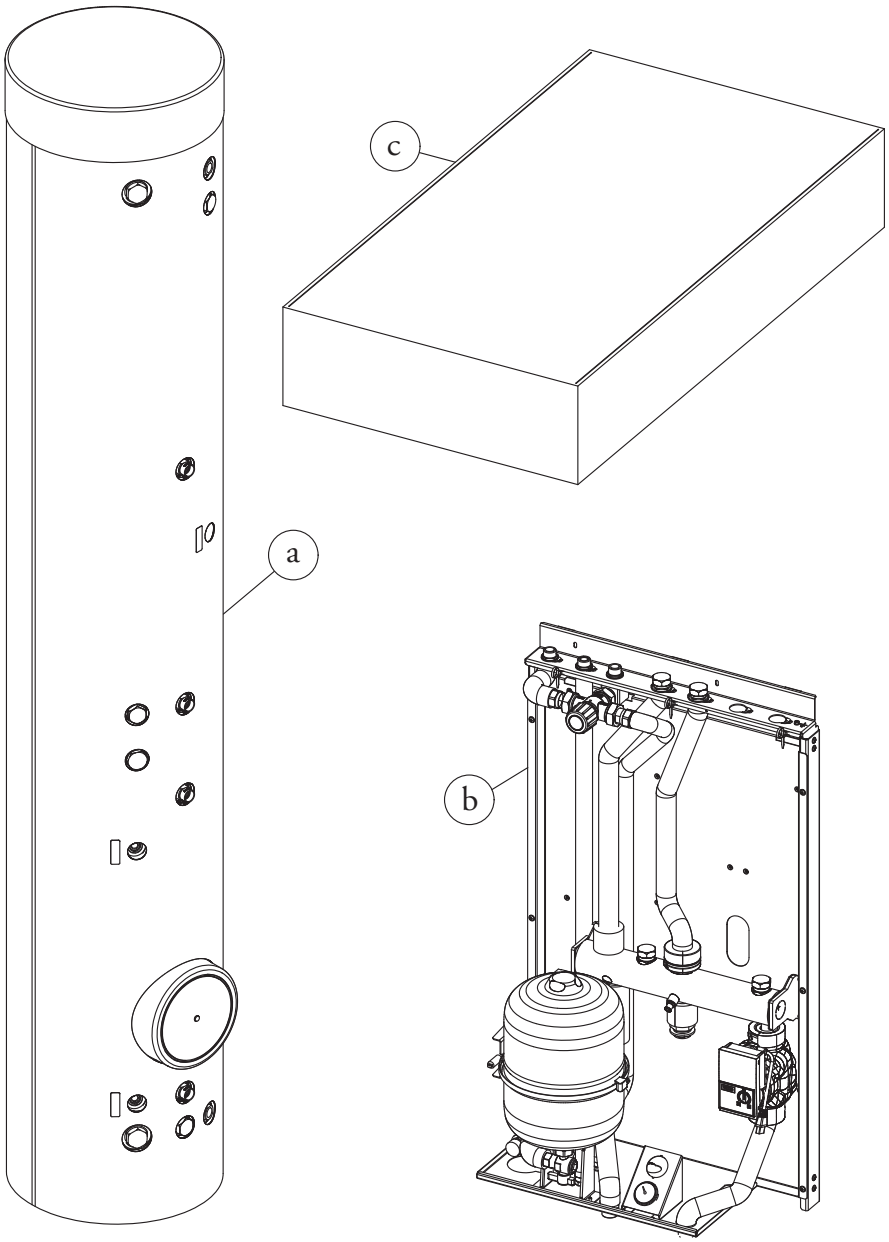
Ref.	Description	Q.ty
a	160-litre Storage Tank Unit	1
b	Single-zone Hydraulic Unit	1
c	Accessories kit for coupling to Magis Combo Plus V2	1

Installation drawings key:

(a) Unmistakeable component identification

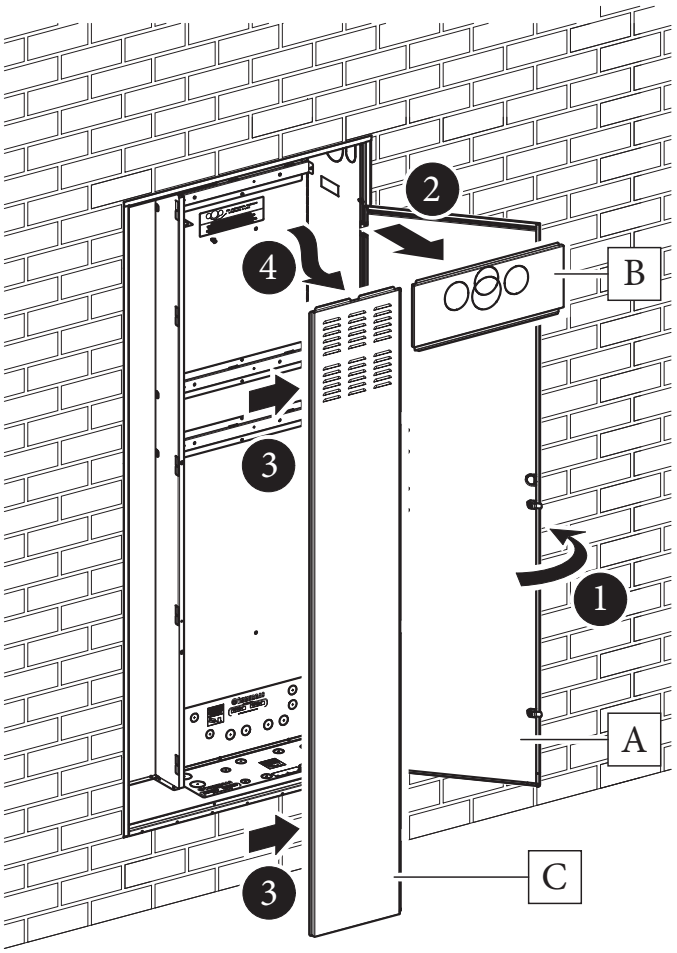
(1) Sequential identification of the operation to perform

[A] Identification of generic or not supplied component



4

Installation operations.
Before installing the kit, open the "Solar Container Combo" 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).

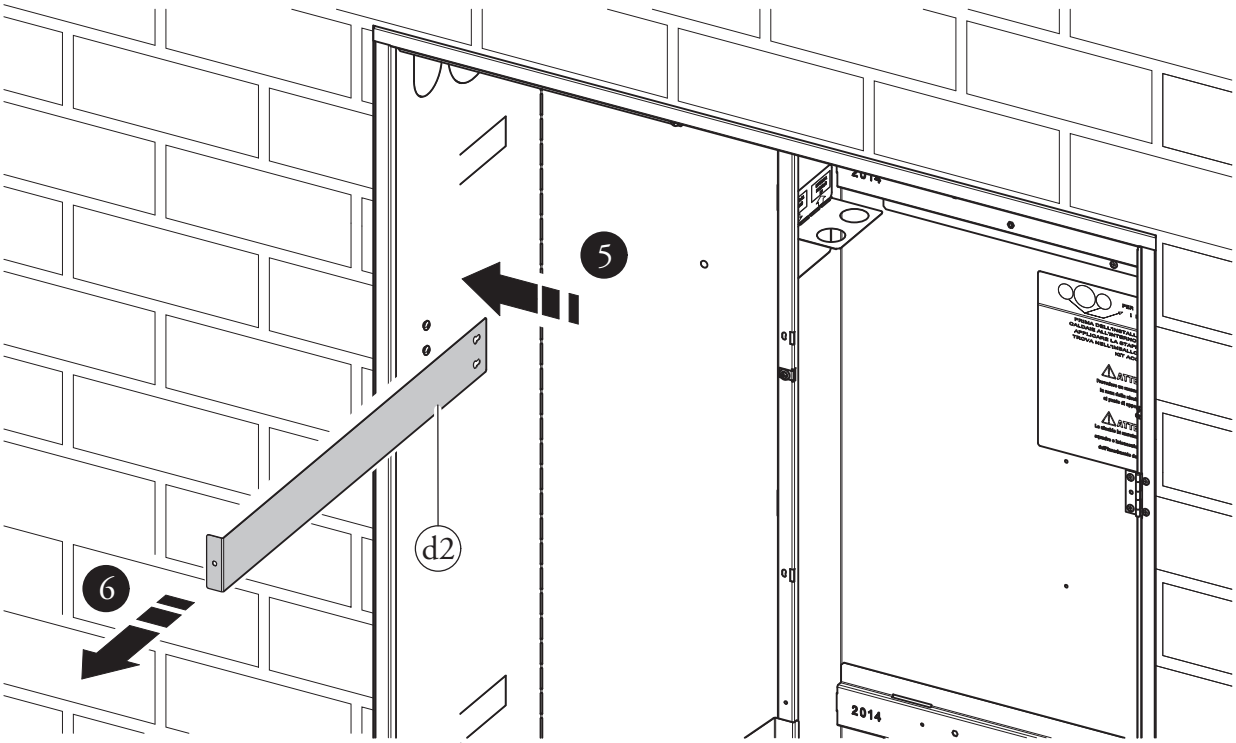


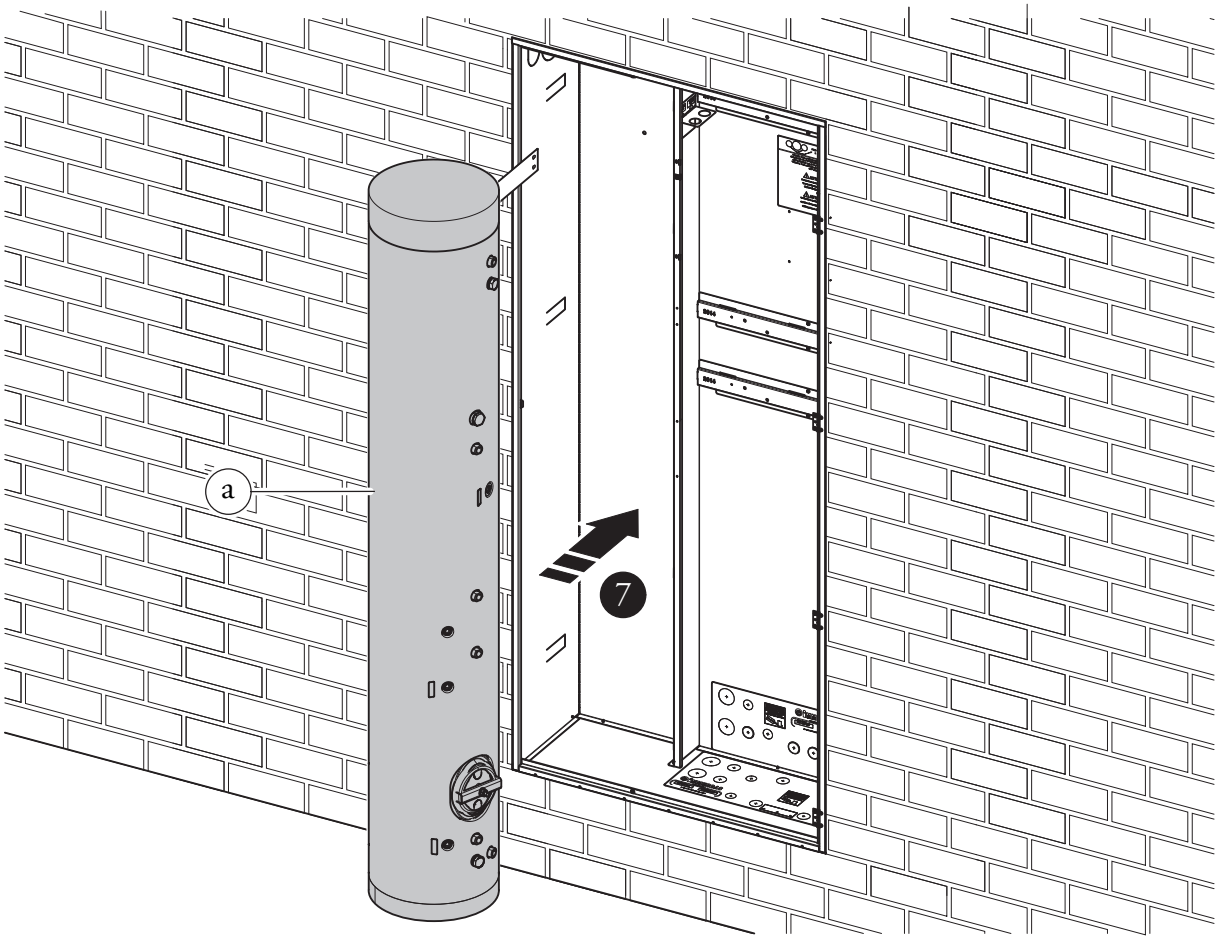
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• Insert and block the Storage Tank Unit retaining strip (d2) on the screws fitted on the Solar Container Combo.

• Insert the Storage Tank Unit (a) into the Solar Container Combo with the flange positioned on the right hand side and at the bottom, as shown in *Fig. 7*.

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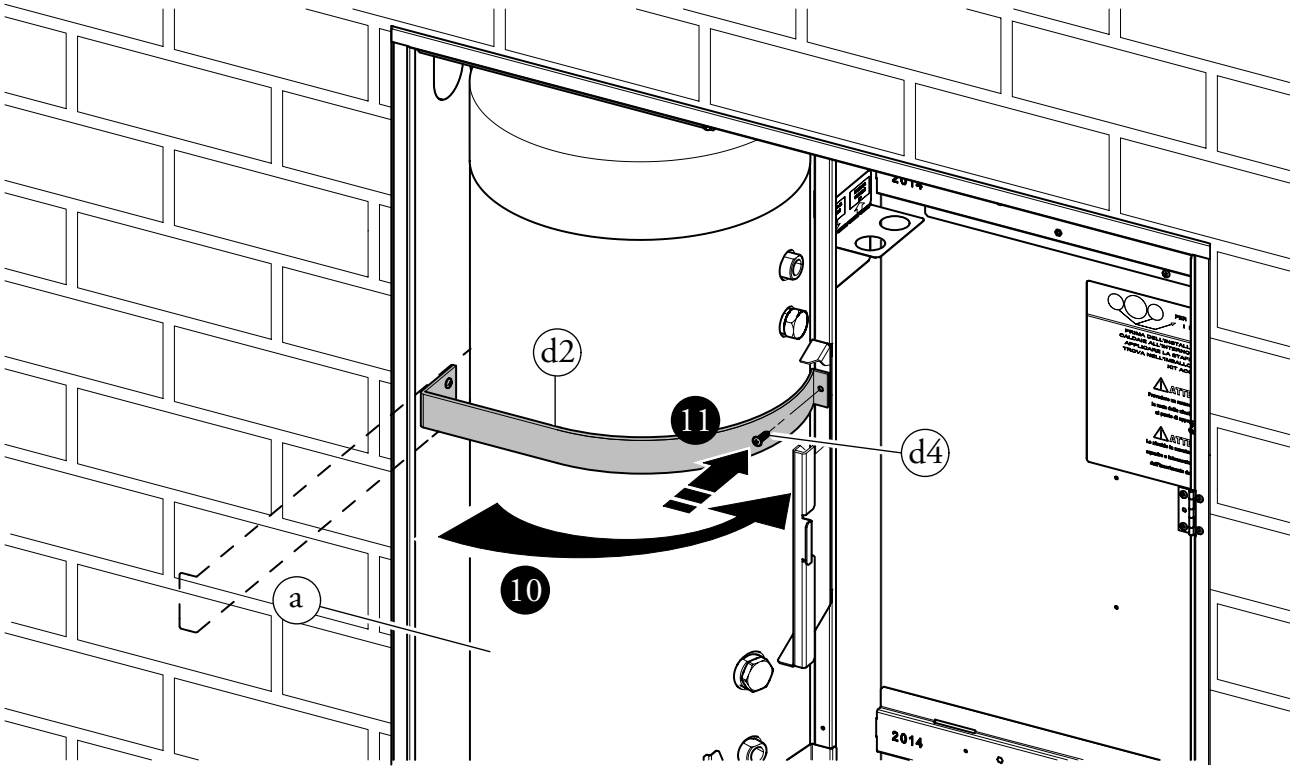




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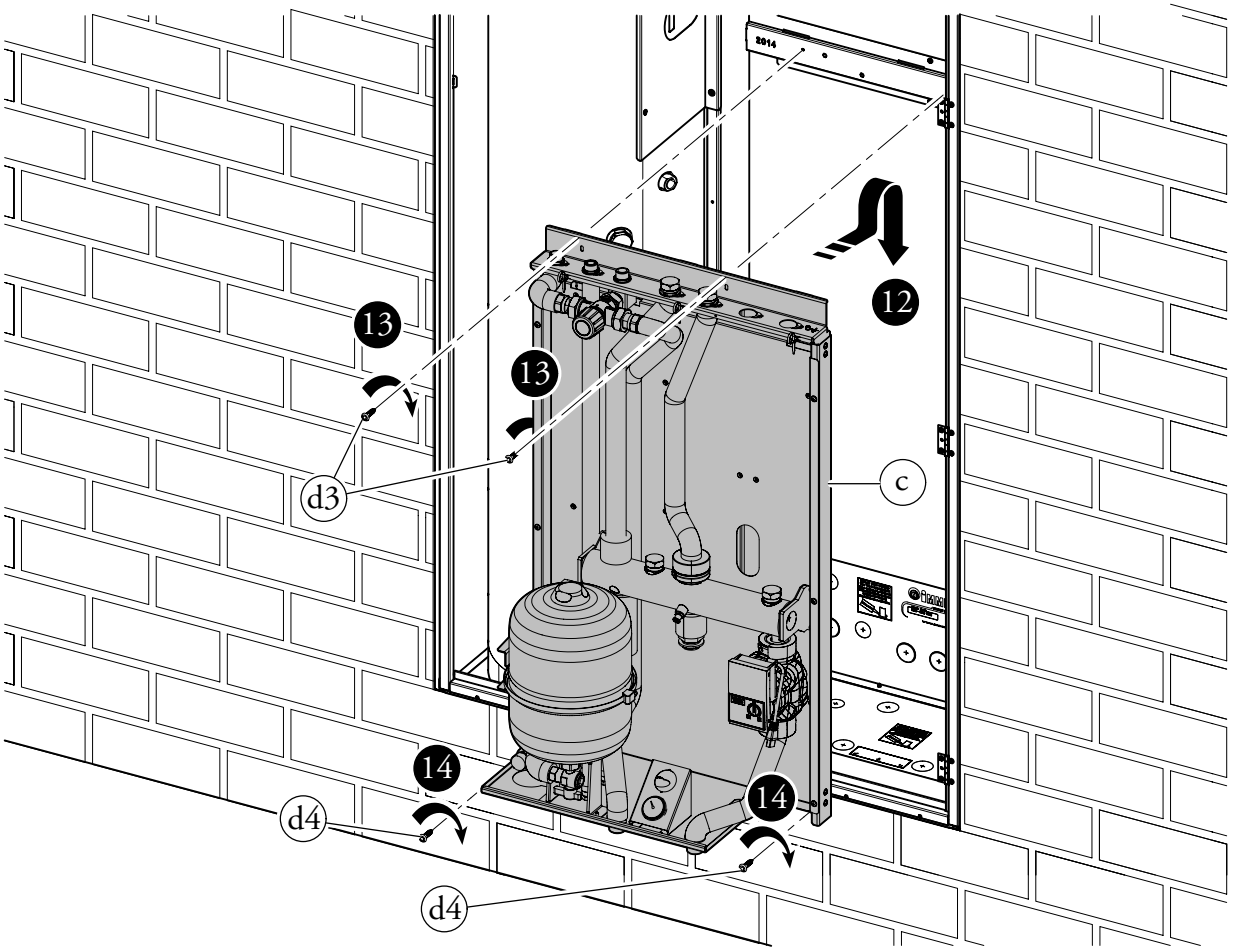
• Bend the strip (d2) around the Storage Tank Unit (a) and fasten it with the screw (d4) (*Fig. 8*).

8



• Hang the hydronic unit (c) on the central bracket of the Solar Container Combo. Secure the position of the hydronic unit by fastening the screws (d3) on the central bracket (*Fig. 9*).

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 (d4), inserting them into the holes on the lower part of the unit itself.
Attention: the fixing screws (d3 and d4) are present inside the connection kit.



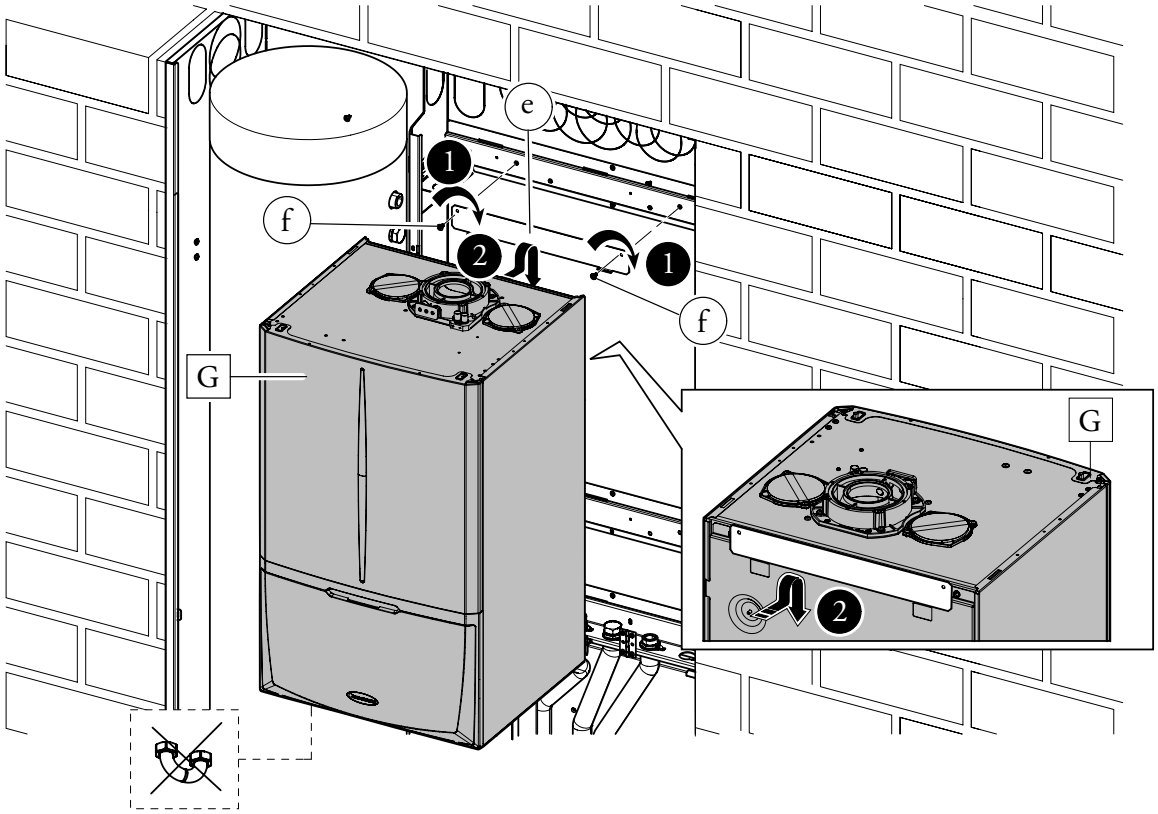
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Magis Combo Plus V2 Indoor Unit installation operations.

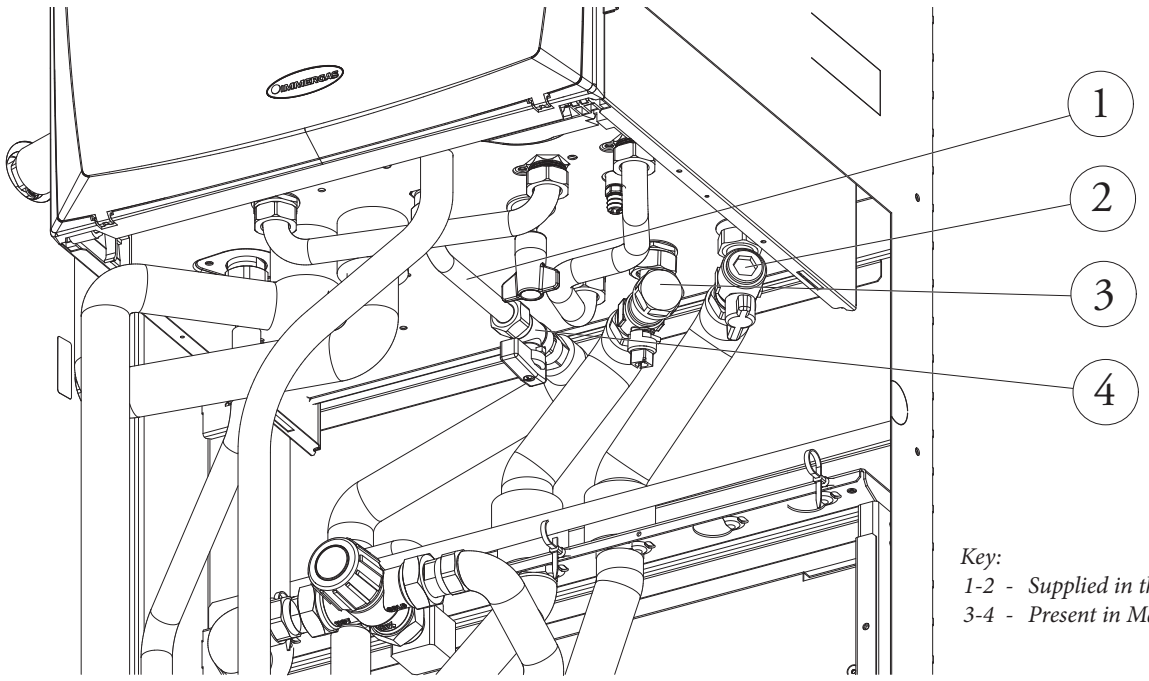
- Tighten the bracket (e) to the special upper cross member with screws (f).
- Hang the Indoor Unit (G) on the bracket (e) installed previously, (*Fig. 10*).
- Remove the by-pass pipe between the storage tank unit flow and return (MU-RU)

Attention: (Fig. 12): remove the grid and the square gas cock from the Magis Combo Plus V2. Turn the shut-off valves on the Magis Combo Plus V2 Indoor Unit return by 40° to connect it to the relative pipe in the accessory kit.

N.B.: To choose the Immergas flue to be combined with the Magis Combo V2 Indoor Unit, refer to the instructions contained in the specific use and maintenance manual of the product.



10



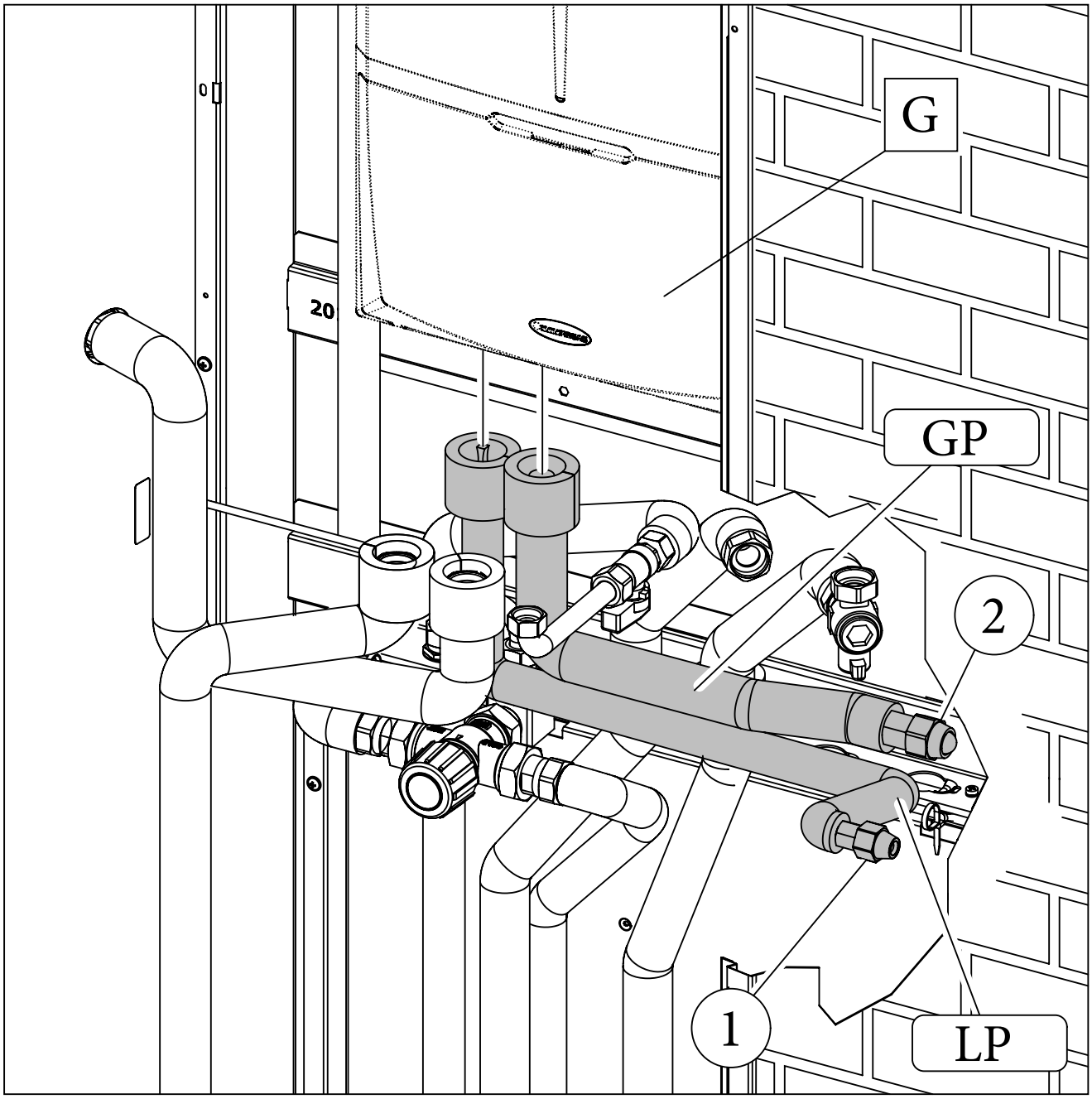
Key:
1-2 - Supplied in the kit
3-4 - Present in Magis Combo Plus

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As a first step, connect the refrigeration line of the outdoor unit as shown in Fig. 12.
Use the pipes present in the accessories box identified with the letters LP and GP.
Using a torque wrench, tighten the nuts (1 and 2) with a tightening torque as indicated in the booklet of the outdoor unit

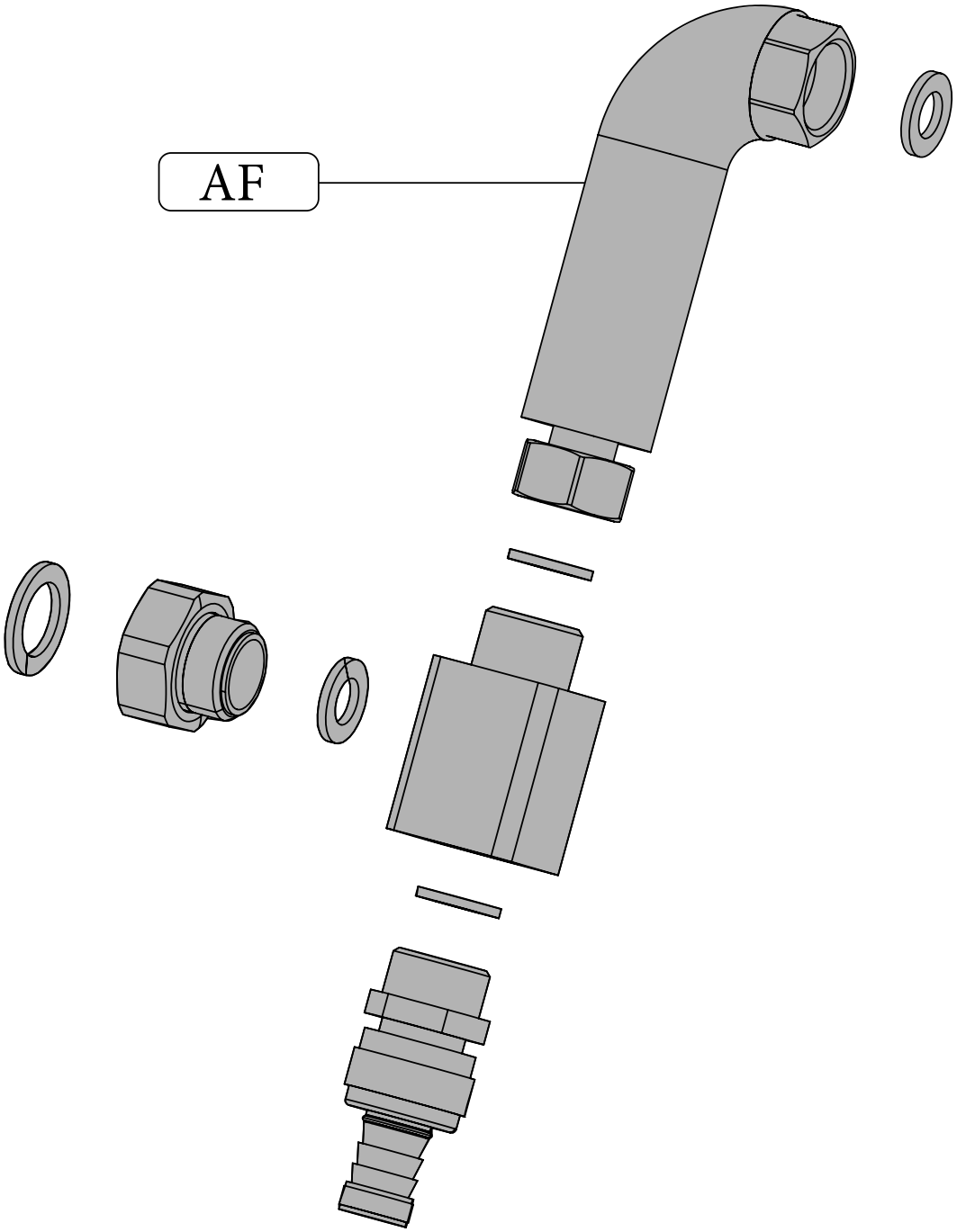
As regards the connection of the refrigeration line, it is necessary to comply with all the instructions contained in the instruction booklet of the external condensing unit.

N.B.: It is suggested to apply thermal insulation on the entire length of the pipes and on the connection fittings in order to reduce the formation of condensation in summer operation.



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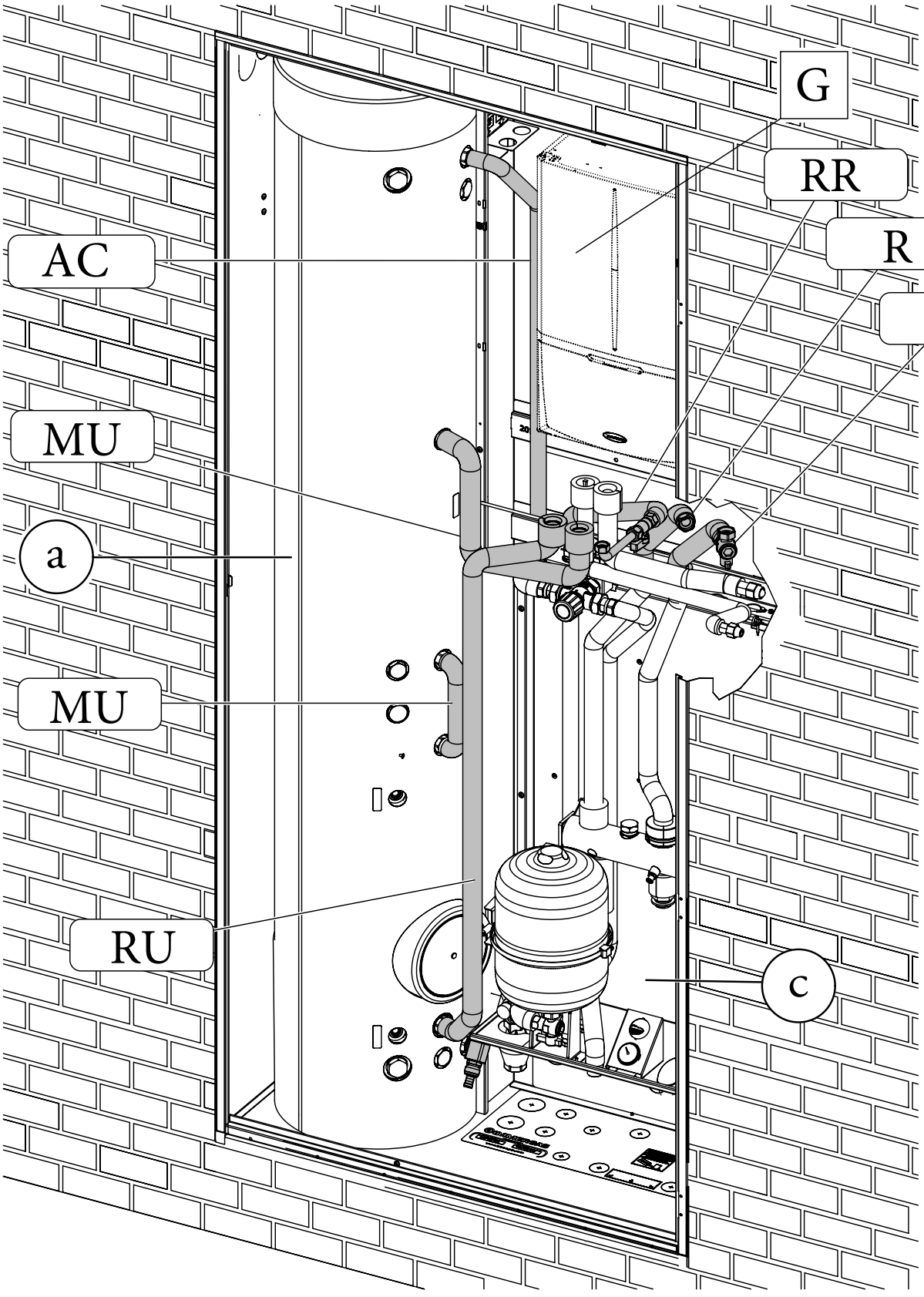
- Assemble the storage tank drain cock with the relative connection pipe identified with the AF code (Fig. 13). Connect the storage tank unit (a) with the single-zone hydronic group (c) with the previously assembled group (Fig. 14).



13

Using the pipes inside the accessories box, make the remaining hydraulic connections between the Storage Tank Unit (a), the single-zone hydronic unit (c) and the Magis Combo Plus V2 Indoor Unit (G), as shown in Fig. 14.
For easier assembly, start with the pipes closest to the rear wall up to those closest to the installer, remembering to interpose the appropriate gaskets supplied.

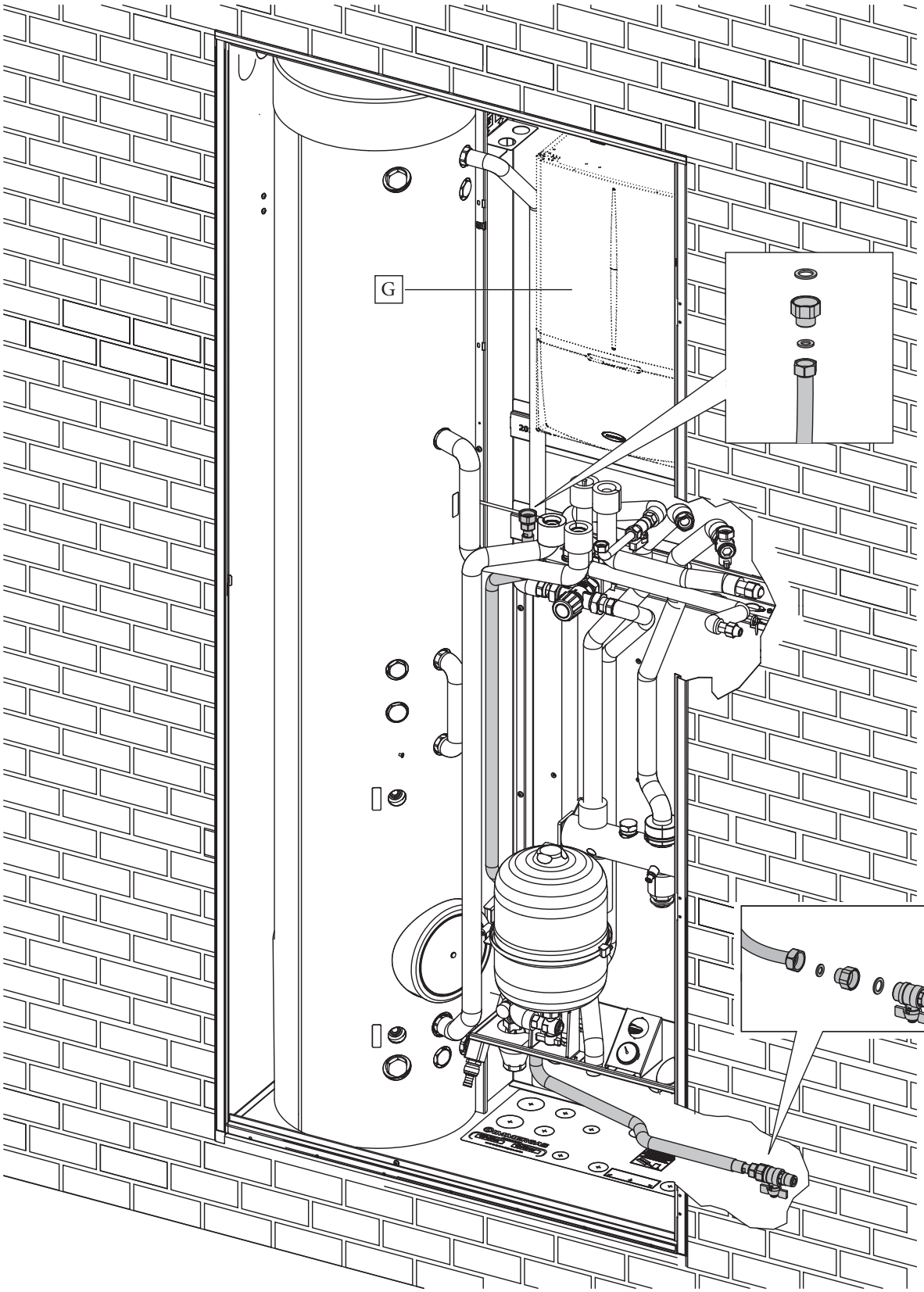
Attention:: some components required to complete the hydraulic connections are located inside the accessories box of the Magis Combo Plus V2.
At the end of the installation, insulate all the connections with the material present inside the accessories box.



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1.7 GAS CONNECTION.

Complete the gas connection of the Magis Combo Plus V2 Indoor Unit (G) (Fig. 15) using the special pipe, cock and reductions supplied and referring to the connection template on the Solar Container Combo (not included in the supply) and the specific use and maintenance manual of it.

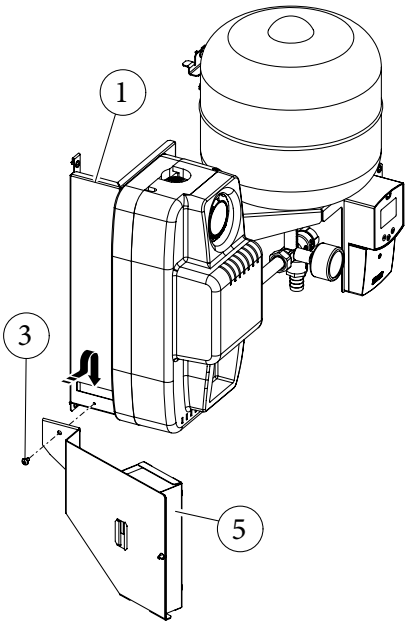


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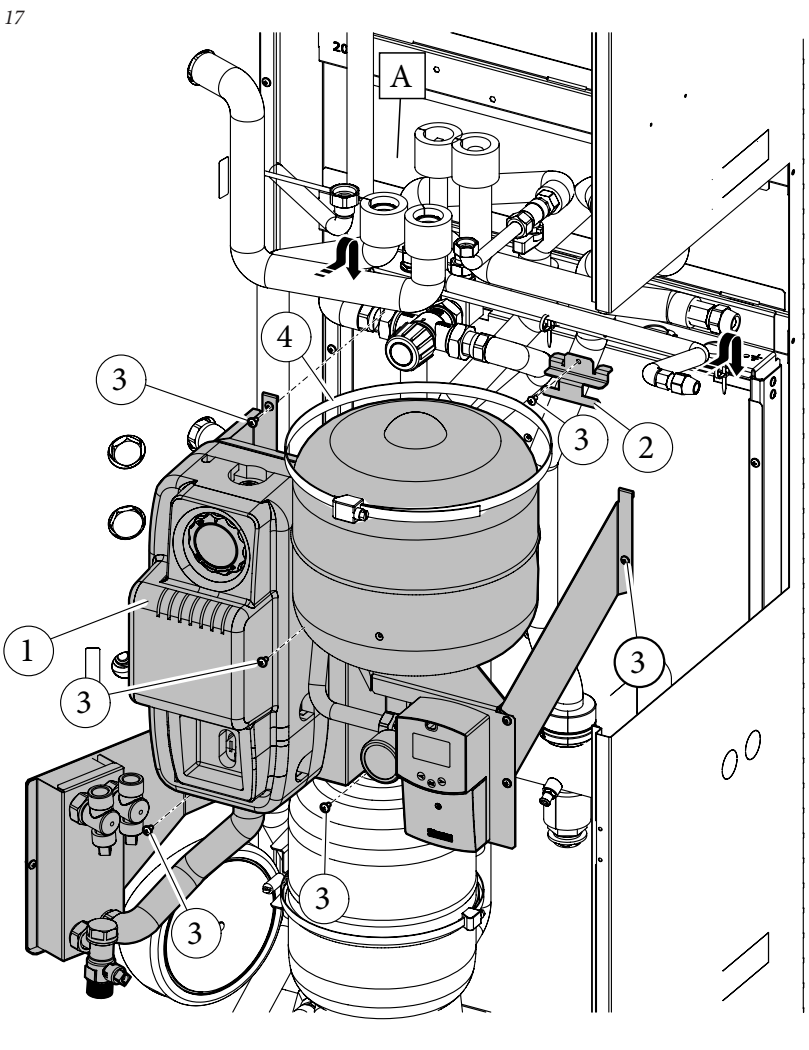
SOLAR HEATING SYSTEM COUPLING KIT installation operations.

- Close the cold water inlet upstream of the system and empty the Storage Tank Unit.
- Disconnect power supply.
- Fix the support bracket (2) for the clip (4) to the hydronic unit (A) using the screw (3), (*Fig. 16*).
- 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. 16*).
- 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. 16*).
- 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. 17*).
  - Remove the two caps present on the storage tank unit 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 / seal.
  - 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 / cylinder probe (9) in the appropriate seat.
- Re-open the cold water inlet and power supply the system again.

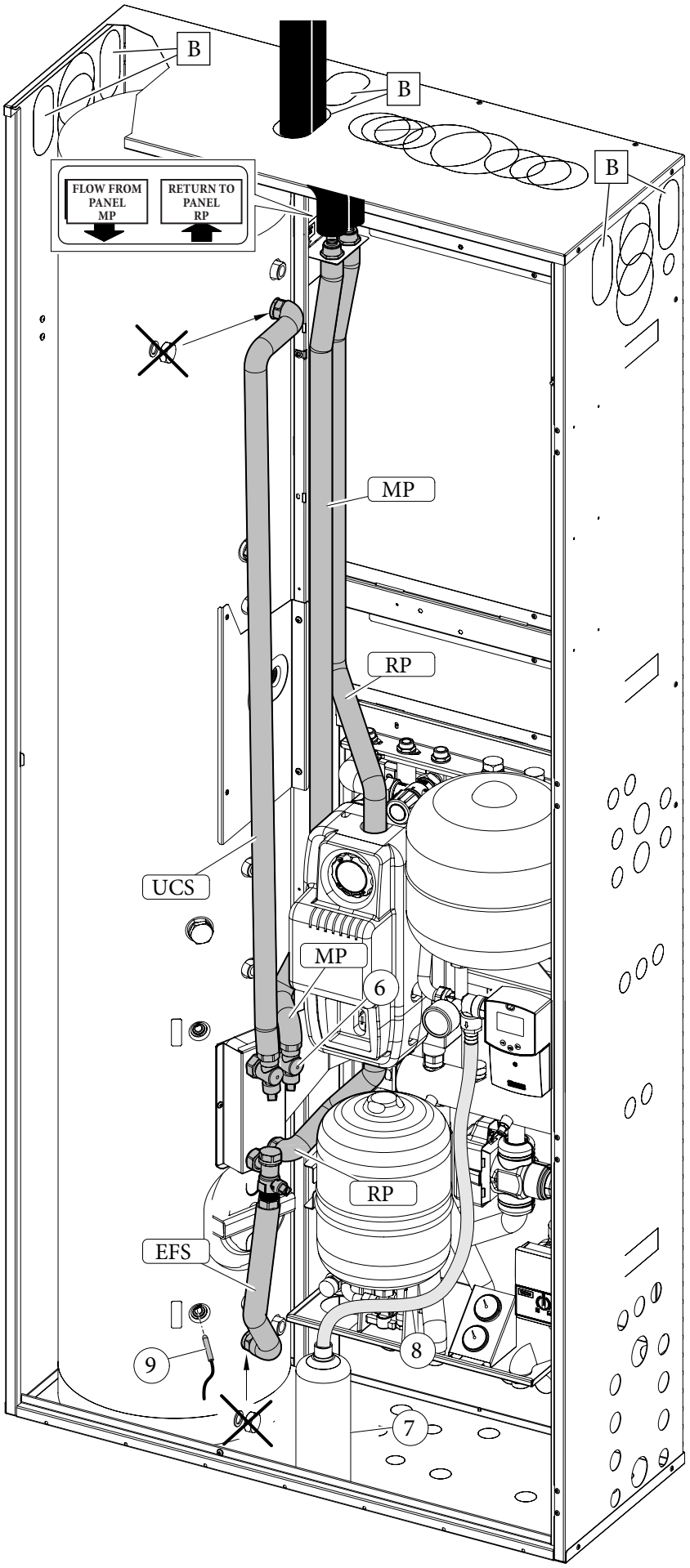
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18

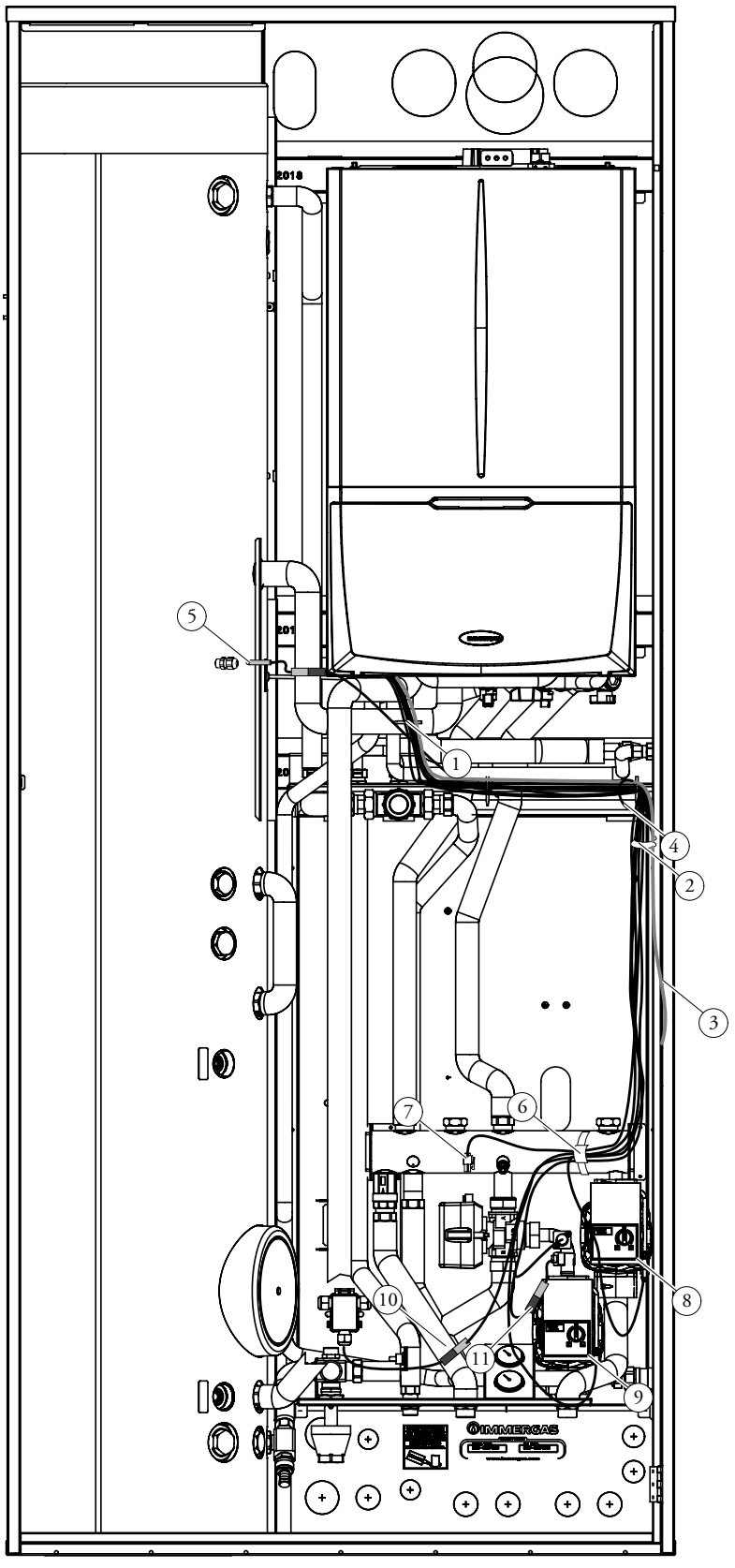

B
B
B
FLOW FROM PANEL MP
RETURN TO PANEL RP
MP
RP
UCS
MP
6
RP
EFS
9
8
7

1.8 HYDRONIC KIT WIRING CONNECTION DIAGRAM.

Once the kit is assembled, proceed with the wiring according to the diagram *Fig. 18.*

- Connect the cables in the Indoor Unit Magis Combo Plus V2 control panel following the connection diagram in *Fig. 23, 24.*
- Lower the wiring exiting the Indoor Unit Magis Combo Plus V2 until it can be secured with the clips (1-2).
- Fix the earthing eyelet (4) in the appropriate hole marked on the frame.

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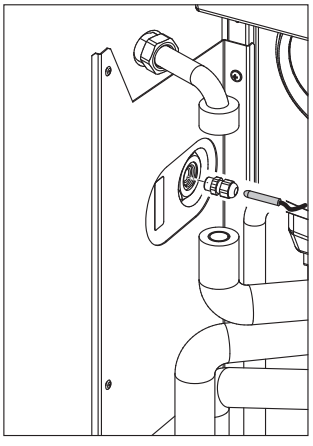
- Connect the storage tank probe terminals (5) to the device terminal block / terminal board (see wiring diagram) and position it on the Storage Tank Unit in the appropriate seat (*Fig. 19*) (red band), using the relative cable clamp.
- Connect the flow probe connector (11) to the wiring marked by the label "SONDA" (PROBE), then connect the wiring to the probe and connect the "T-SIC" connector to the safety thermostat (Not for the Single-zone version).
- Connect the connector with the red "M-Z1" label to the pump / circulator (8) and connect the wiring terminals to the device terminal block / terminal board (see wiring diagram).
- Connect the connector with the green "M-Z2" label to the pump / circulator (9) (Not for the Single-zone version).
- Connect the connector of the mixing valve (7) marked with the "V.MISC" (MIX.V) label (Not for the Single-zone version).
- Connect the antifreeze box connector (10) to the wiring connector with the "ANTIFREEZE" label, and connect the wiring terminals to the device terminal block / terminal board (see wiring diagram).
- Make the connection to the power supply using the cable (3) as shown in the wiring diagram (*Fig. 23, 24*)
- Now group the various cables and join them with the clip (6) supplied with the hydraulic manifold.

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.

DHW probe - positioning (Det. 5)

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1.9 HYDRAULIC CONNECTION.

Perform the hydraulic connection of the kit, referring to the relative instruction sheet and to the connection template on the Solar Container Combo.

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 Indoor Unit Magis Combo Plus V2, the hydraulic unit and the Storage Tank Unit.

N.B.: remove all the protection caps on the flow and return pipes of the hydraulic unit, before making the hydraulic connections. The connections can be made directly using the female couplings on the hydraulic unit or by inserting system cut-off cocks (optional). These cocks are particularly useful for maintenance as they allow you to drain the 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 scale deposits.*

1.10 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.

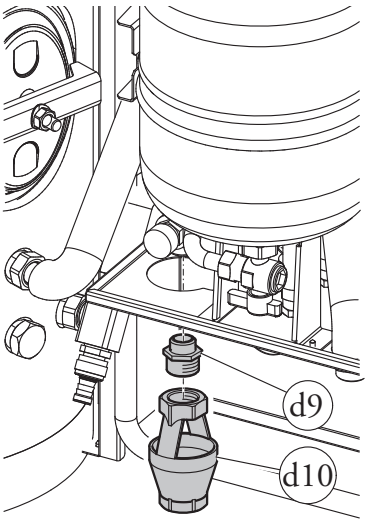
Indoor unit Magis Combo Plus V2 safety valve 3 bar.

Connect the silicone pipe (d12) to the hose union (d11) in the Indoor Unit Magis Combo Plus V2 and, after having cut it to size, insert it into the funnel (d10) as shown in *Fig. 22*.

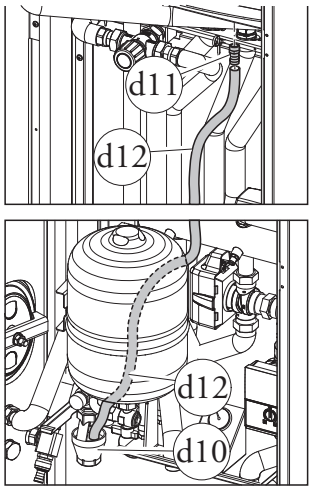
1.11 CONDENSATE DRAIN.

To drain the condensation produced by the Indoor Unit Magis Combo Plus V2, dismantle the relevant pipe on the Indoor Unit itself and replace it with the one supplied with the 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 standards in force with national and local regulations on discharging waste waters.

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1.12 ELECTRICAL CONNECTION.

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

The hydronic kit has an IPX5D protection rating 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.

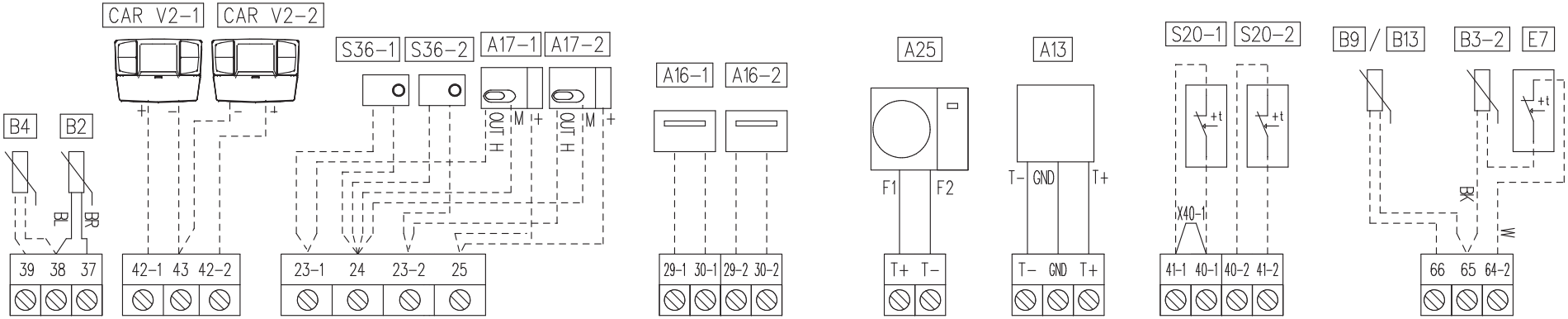
Attention: the manufacturer declines any responsibility for damage or physical injury caused by failure to connect the kit to an efficient earth system or failure to comply with national reference standards.

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

- **Wiring connection.**

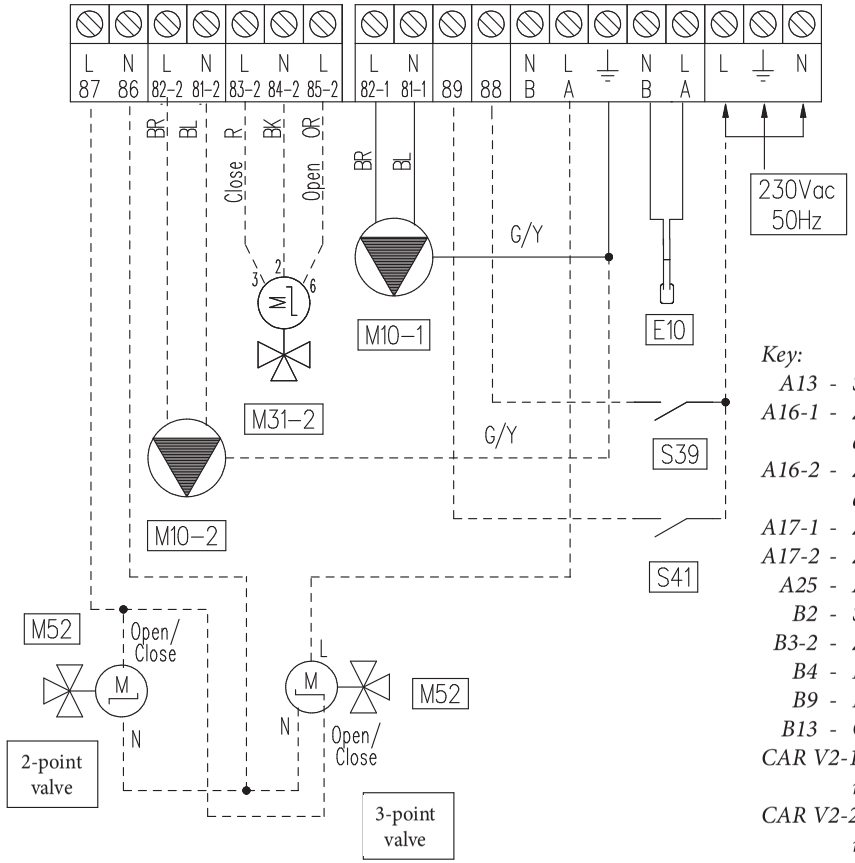
  Connect the wiring as described in *Par. 1.7*.
- **External unit electrical connection.** Make the connection as indicated in the Indoor Unit Magis Combo Plus V2 instructions booklet.
- **Indoor unit electrical connection.** The power cable must be connected to a 230V ±10% / 50Hz mains, respecting L-N 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 Immergas Authorised After-Sales Technical Assistance Service). For the main power supply to the appliance, never use adapters, multiple sockets or extension leads.
- **Important:** it is mandatory to prepare separate lines with different supply voltage; it is essential to separate the low voltage connections from the 230 V ones. All hydronic kit pipes must never be used for earthing the electrical or telephone system. Make sure this does not happen before making the hydronic kit electrical connections.
- **Manifold solar probe electrical connection.**

  Connect the manifold solar probe (in the kit) to the manifold and control unit.
- **Solar control unit electrical connection.**
  Connect the solar control unit to the system as indicated in the relative instructions booklet.



With the possible electrical connection of the CAR V2-1 keep the bridge X40-1

Remove jumper X40-1 before the thermostat electrical connection zone 1 environment

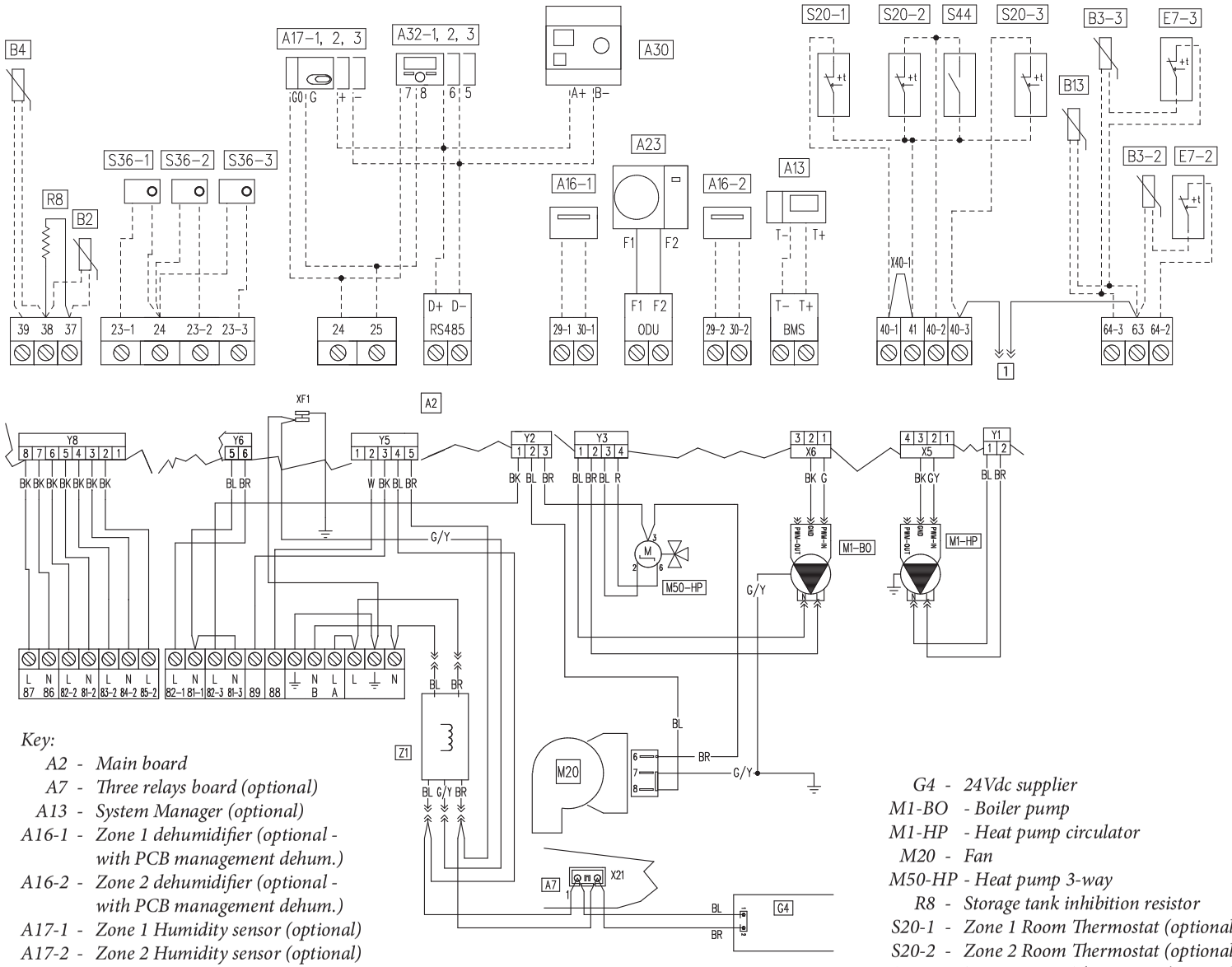


Key:

- *A13 - System manager (optional)*
- *A16-1 - Zone 1 dehumidifier (optional - with dehum. management board)*
- *A16-2 - Zone 2 dehumidifier (optional - with dehum. management board)*
- *A17-1 - Zone 1 humidity sensor (optional)*
- *A17-2 - Zone 2 humidity sensor (optional)*
- *A25 - Audax Pro V2*
- *B2 - Storage tank probe*
- *B3-2 - Zone 2 flow probe (optional)*
- *B4 - External probe (optional)*
- *B9 - DHW inlet probe (optional)*
- *B13 - Central heating probe (optional)*
- *CAR V2-1 - Comando Amico Remoto remote control V2 zone 1 (optional)*
- *CAR V2-2 - Comando Amico Remoto remote control V2 zone 2 (optional)*
- *E7 - Safety thermostat low temperature (optional)*
- *E10 - Anti-freeze resistance (heating cable)*
- *M10-1 - Zone 1 circulator pump*
- *M10-2 - Zone 2 circulator pump (optional)*
- *M31-2 - Zone 2 mixing valve (optional)*
- *M52 - Hot cold three-way (optional)*
- *S20-1 - Zone 1 room thermostat (optional)*
- *S20-2 - Zone 2 room thermostat (optional)*
- *S36-1 - Zone 1 humidistat (optional)*
- *S36-2 - Zone 2 humidistat (optional)*
- *S39 - Solar inlet*
- *S41 - Audax Pro V2 disabling*
- *X40-1 - Zone 1 room thermostat jumper*

Colour Key:

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



RT inputs, as 40-1, 40-2, ecc..., must be decoupled, ex: a single command cannot dirve multiple input

Install 2 relay board (optional) before connecting A16-1 and A16-2 dehumidifiers

Remove X40-1 jumper before connecting Zone 1 room thermostat

Key:

- *A2 - Main board*
- *A7 - Three relays board (optional)*
- *A13 - System Manager (optional)*
- *A16-1 - Zone 1 dehumidifier (optional - with PCB management dehum.)*
- *A16-2 - Zone 2 dehumidifier (optional - with PCB management dehum.)*
- *A17-1 - Zone 1 Humidity sensor (optional)*
- *A17-2 - Zone 2 Humidity sensor (optional)*
- *A17-3 - Zone 3 Humidity sensor (optional)*
- *A23 - Outdoor unit*
- *A32-1 - Zone 1 Remote Panel (optional)*
- *A32-2 - Zone 2 Remote Panel (optional)*
- *A32-3 - Zone 3 Remote Panel (optional)*
- *B2 - DHW probe (optional)*
- *B3-2 - Zone 2 probe (optional)*
- *B3-3 - Zone 3 probe (optional)*
- *B4 - External probe (optional)*
- *B13 - Puffer probe (optional)*
- *E7-2 - Zone 2 Low Temp. safety thermostat (optional)*
- *E7-3 - Zone 3 Low Temp. safety thermostat (optional)*
- *G4 - 24Vdc supplier*
- *M1-BO - Boiler pump*
- *M1-HP - Heat pump circulator*
- *M20 - Fan*
- *M50-HP - Heat pump 3-way*
- *R8 - Storage tank inhibition resistor*
- *S20-1 - Zone 1 Room Thermostat (optional)*
- *S20-2 - Zone 2 Room Thermostat (optional)*
- *S20-3 - Zone 3 Room Thermostat (optional)*
- *S36-1 - Zone 1 Hygrostat (optional)*
- *S36-2 - Zone 2 Hygrostat (optional)*
- *S36-3 - Zone 3 Hygrostat (optional)*
- *S44 - Heat/Cool Selector (Only for Magis Pro)*
- *X40-1 - Zone 1 Room Thermostat jumper*
- *Z1 - Suppression filter*

Colours Key:

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

1.13 ROOM CHRONO-THERMOSTATS AND REMOTE CONTROLS (OPTIONAL).

See the Indoor Unit Magis Combo Plus V2 instructions booklet.

1.14 SOLAR CONTROL UNIT INSTALLATION (OPTIONAL).

If necessary, it is possible to remove the contact cover, by undoing the relevant fixing screw (*Fig. 25*) and access the connections area (*Fig. 26*).

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.

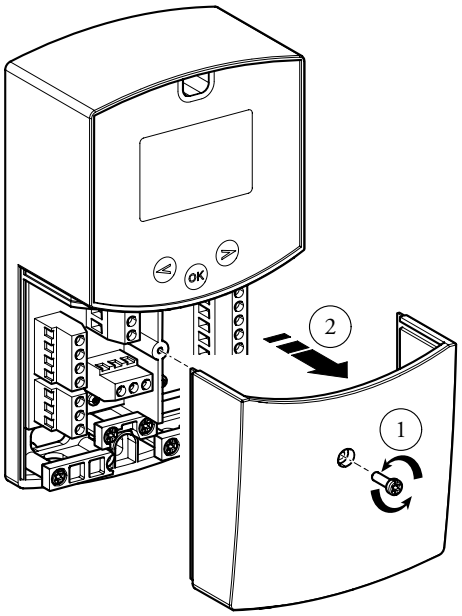
When you access the installation menu (the first parameter "Syst" is displayed), it is possible to select another parameter by pressing the (**OK**) navigation key.

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

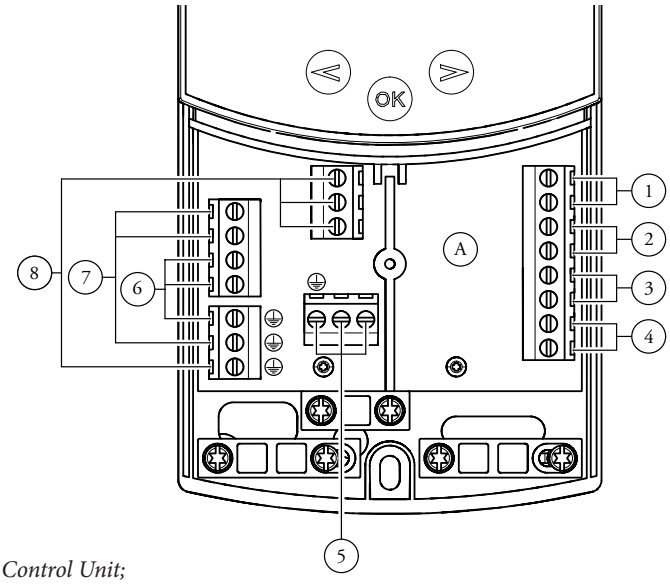
Block function.

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.



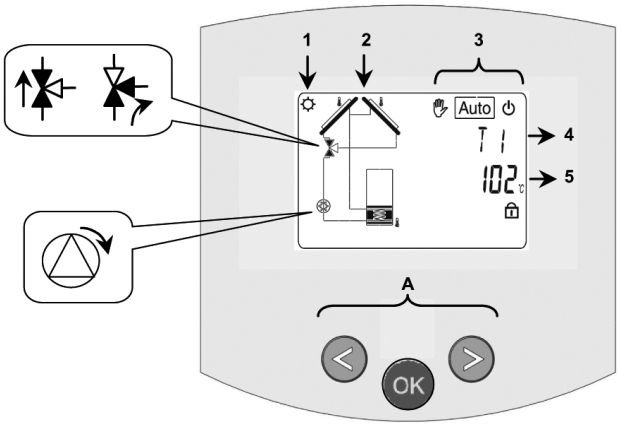
25



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).*

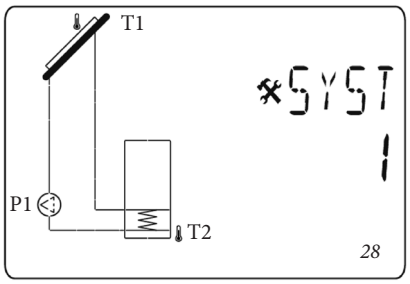
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System selection.
"**SySt**" parameter (Default value "**1**" not editable).

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)..

1.15 ANTIFREEZE PROTECTION.

Assembly instructions.

- Wind the heating cable (d13) around the connection pipes and safety valve.
- The wiring of the antifreeze kit must be connected to the Indoor Unit as shown in the relative instructions booklet.

Minimum temperature -5°C.

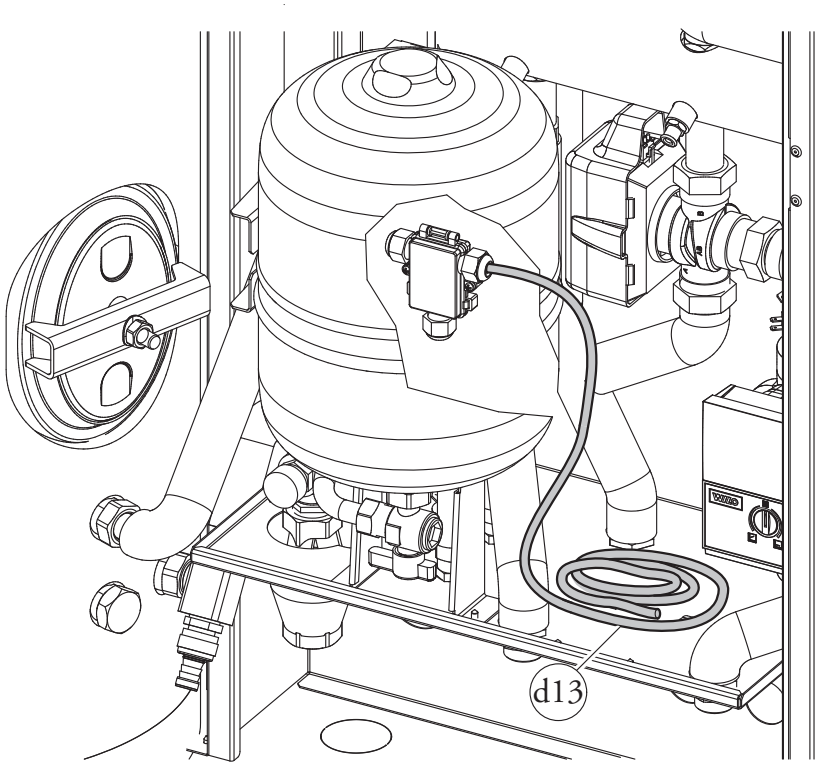
The electronics of the indoor unit comes standard with an antifreeze function that activates the electric resistance when the temperature in the Solar Container Combo falls below 4°C.

The antifreeze function is only guaranteed if:

- the indoor unit 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.

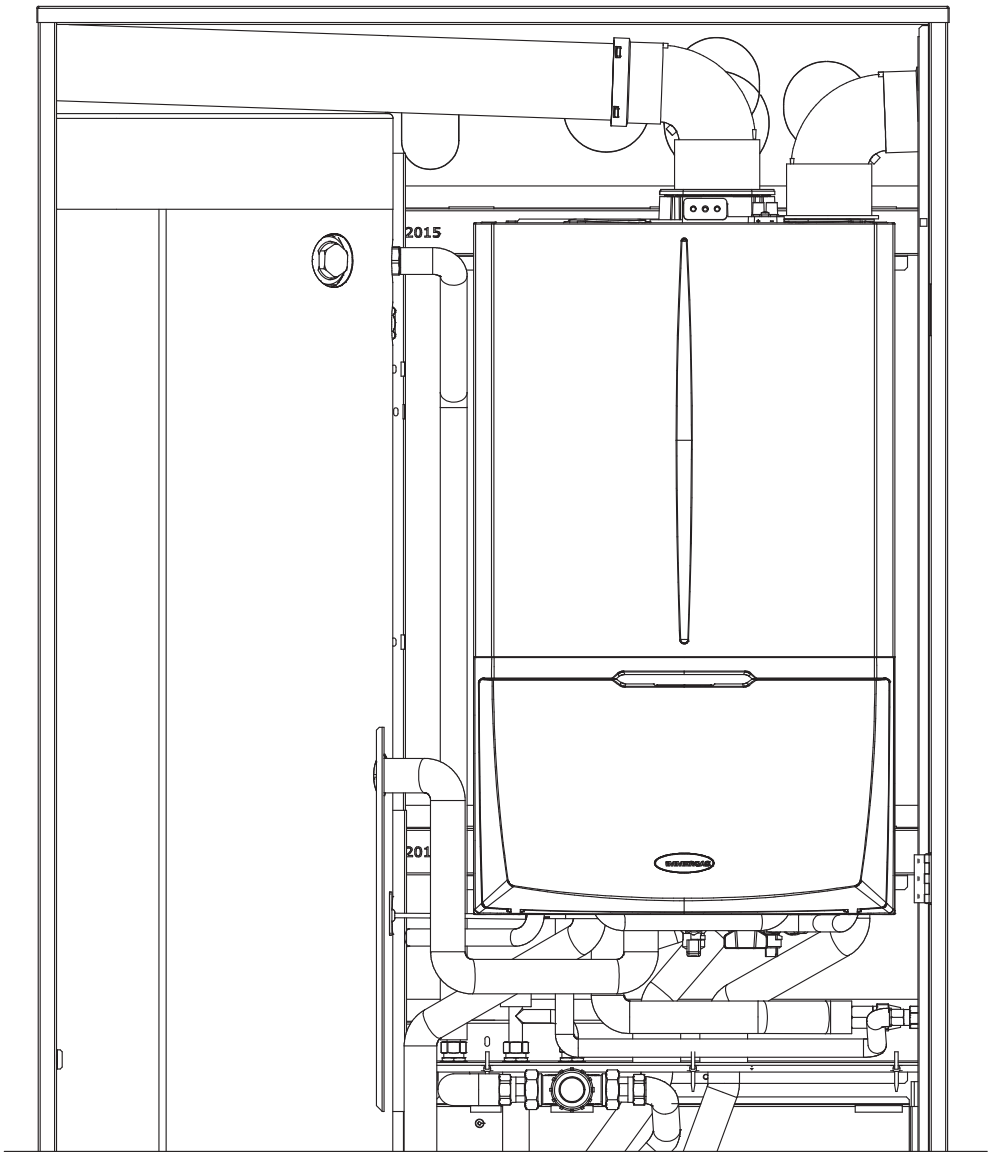
29



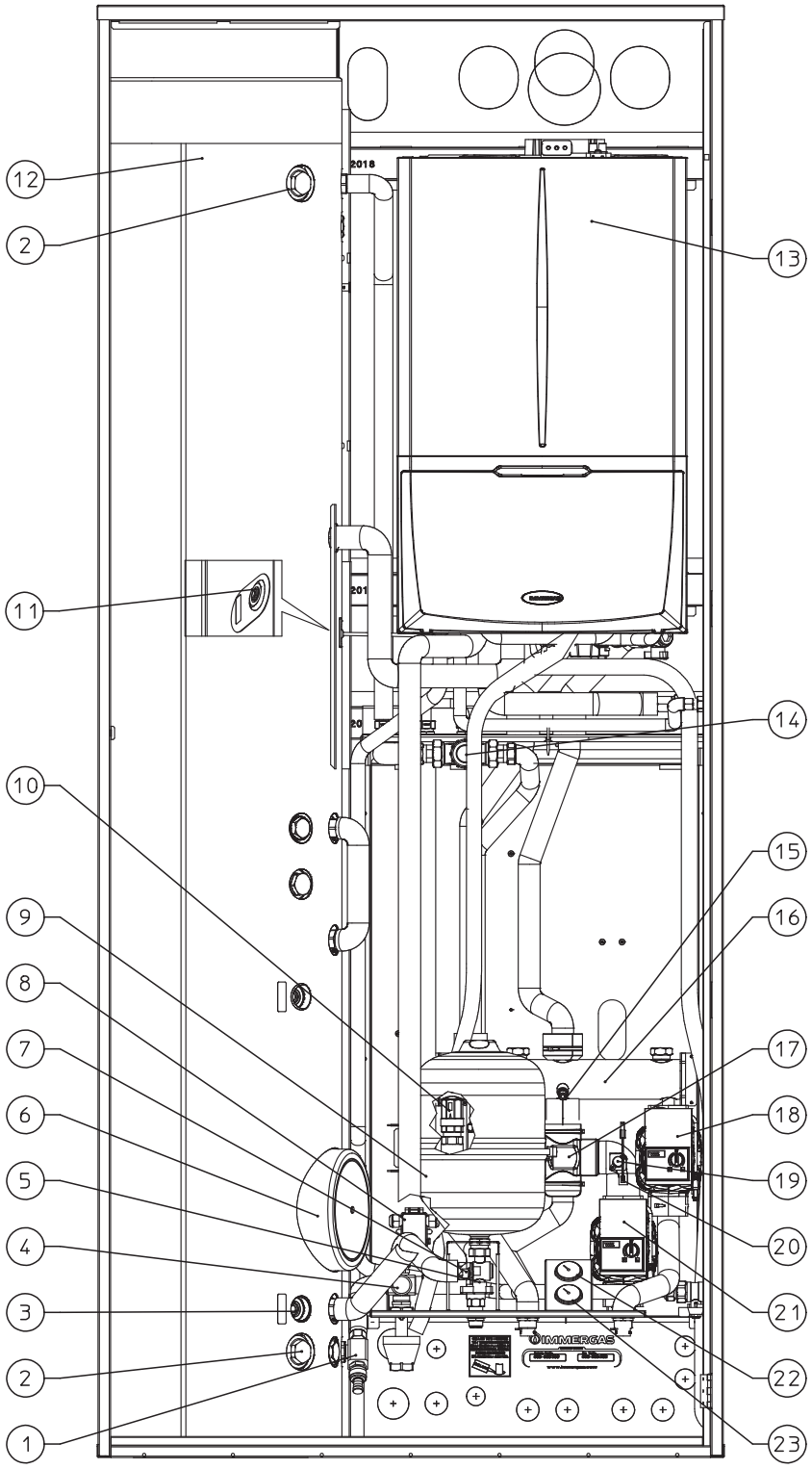
ATTENTION:

Connection from the left side of the Solar Container Combo is <u>only</u> possible with the drain of the separator kit D.80-80 and with right/rear/front intake.

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1.16 MAGIS COMBO PLUS V2 MAIN COMPONENTS.



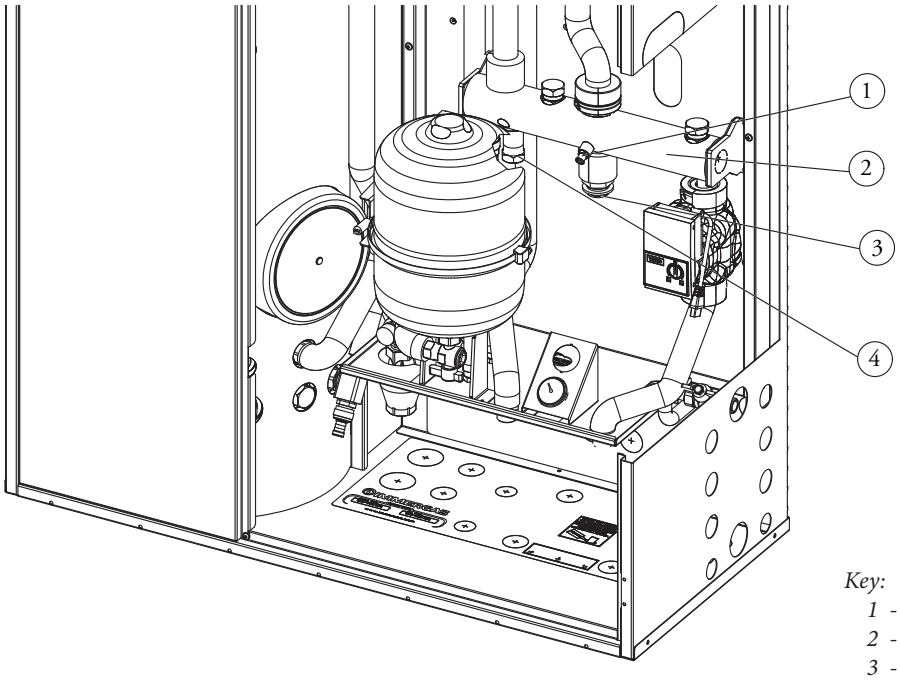
Key:

1 - *Storage Tank Unit draining tap*
2 - *Sacrificial anodes*
3 - *Solar probe (optional)*
4 - *8 bar safety valve*
5 - *Vessel interception cock domestic hot water*
6 - *Storage Tank Unit flange*
7 - *Antifreeze thermostat*
8 - *Antifreeze kit connection box*
9 - *8 l domestic hot water expansion vessel*
10 - *One-way valve*
11 - *DHW probe*
12 - *Storage tank unit*
13 - *Magis Combo Plus V2 Indoor Unit*
14 - *DHW circuit mixing valve*
15 - *Manifold draining valves*
16 - *Hydraulic manifold*
17 - *3-way Mixing valve (*)*
18 - *Direct zone pump*
19 - *Safety thermostat (*)*
20 - *Zone 2 flow probe (mixed zone) (*)*
21 - *Mixed zone pump (*)*
22 - *Zone 2 flow temperature thermometer (mixed zone) (*)*
23 - *Zone 1 flow temperature thermometer (direct zone)*

(*) the following components are only present with the assembly of the additional second mixed zone kit.

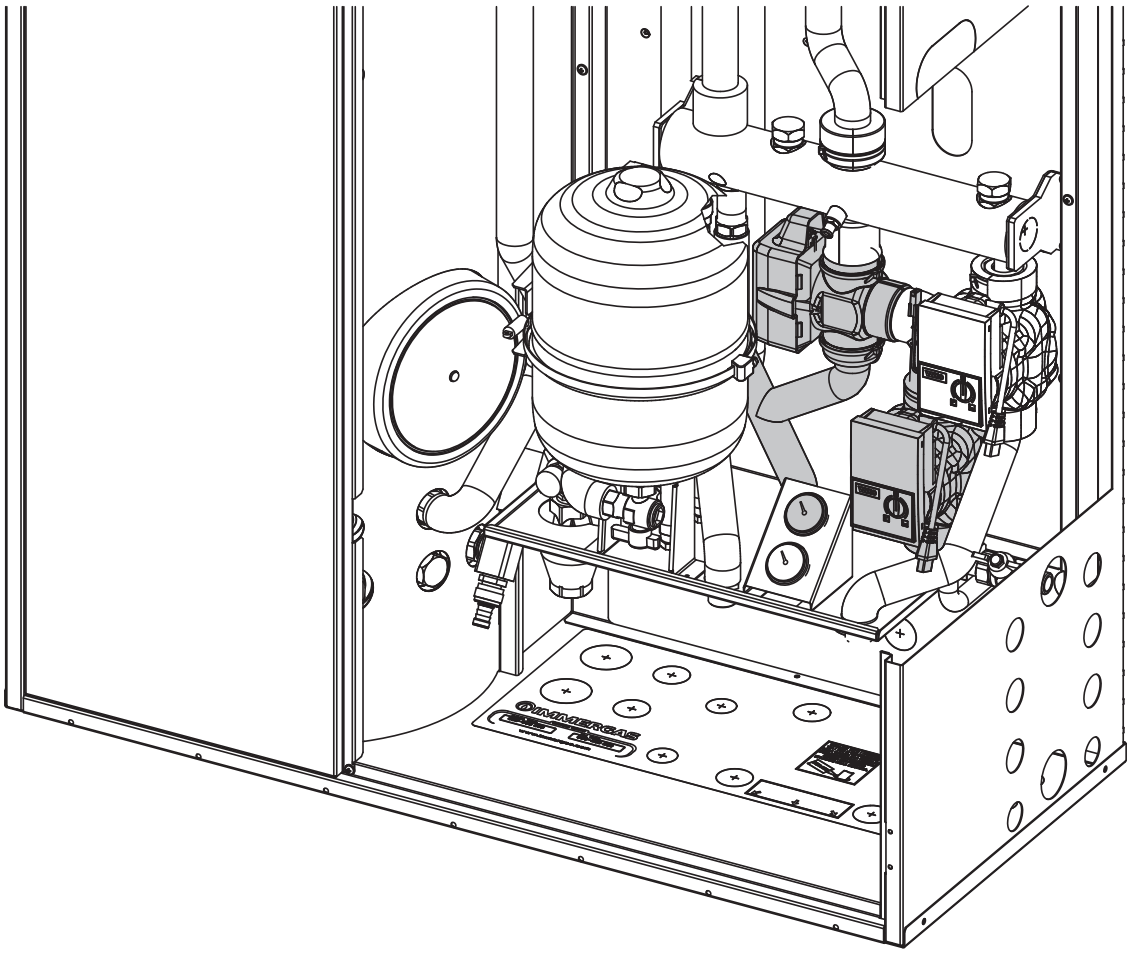
1.17 SOLAR CONTAINER COMBO WITH MAGIS COMBO PLUS V2.

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Key:
1 - Drain fitting
2 - Manifold
3 - Cap
4 - Cap

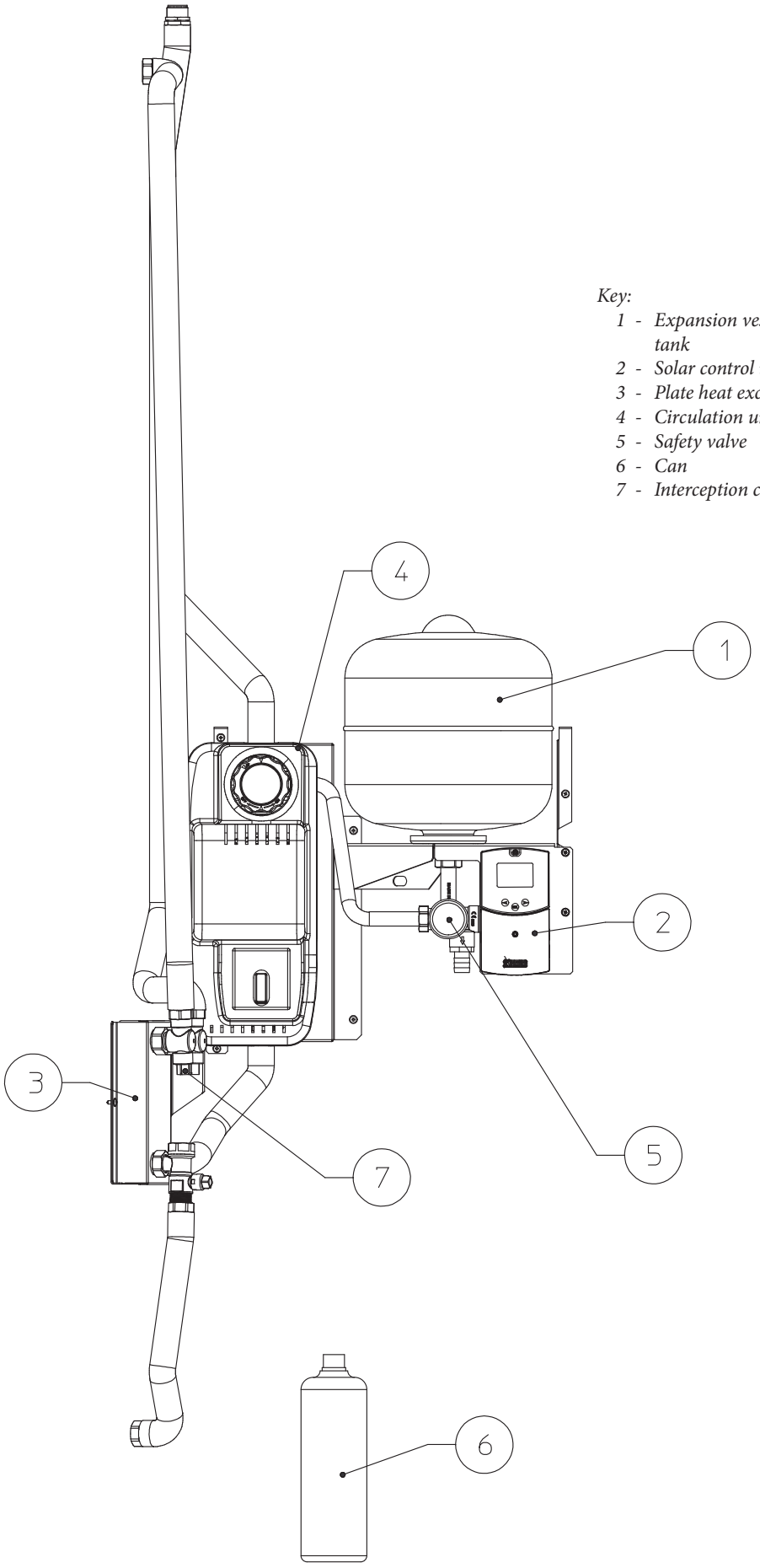
1.18 SOLAR CONTAINER COMBO WITH MAGIS COMBO PLUS V2 WITH SECOND MIXED ZONE KIT (OPTIONAL).



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

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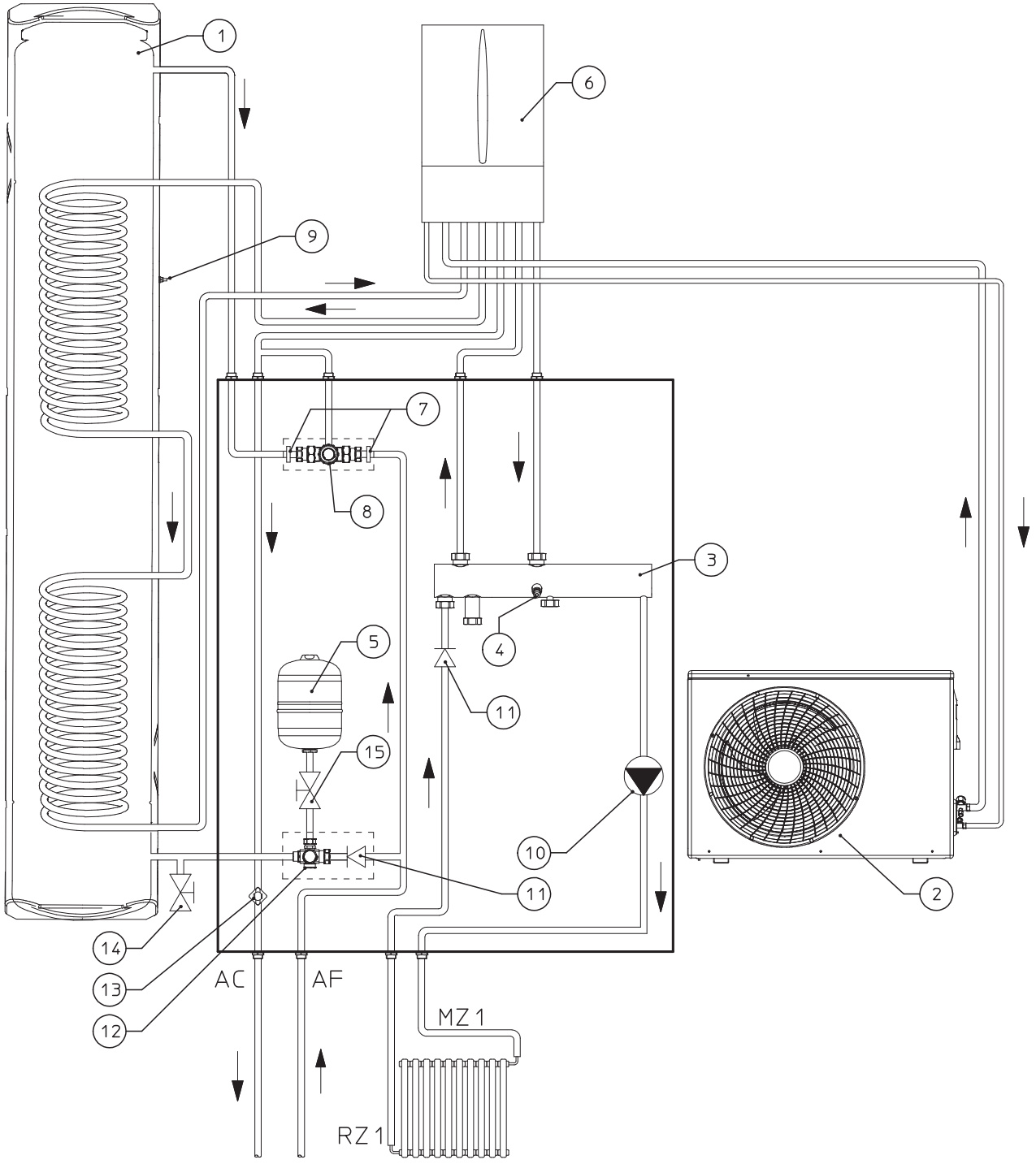


Key:

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

1.20 HYDRAULIC DIAGRAM WITH MAGIS COMBO PLUS V2.

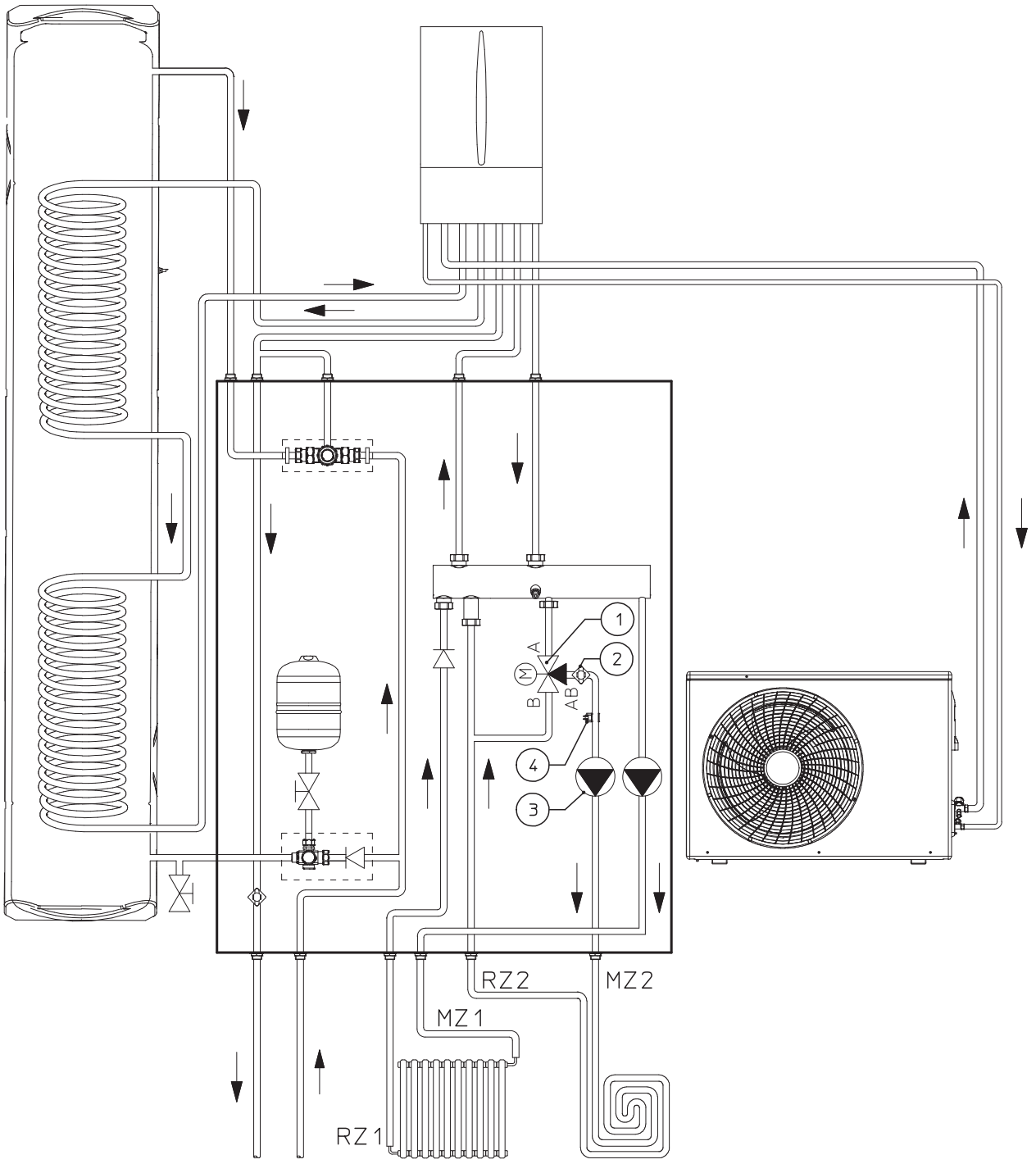
35



Key:

1 - Storage Tank Unit
2 - Outdoor Unit
3 - Hydraulic manifold
4 - Manifold draining valves
5 - 8 l domestic hot water expansion vessel
6 - Magis Combo Plus V2 Indoor Unit
7 - Mixing valve filter
8 - DHW circuit mixing valve
9 - DHW probe
10 - Direct zone pump
11 - One-way valve
12 - 8 bar safety valve
13 - Antifreeze thermostat
14 - Storage Tank Unit draining tap
15 - Domestic hot water vessel shut-off cock
AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Direct zone system flow
RZ1 - Direct zone system return

1.21 HYDRAULIC DIAGRAM WITH MAGIS COMBO PLUS V2 WITH SECOND MIXED ZONE KIT.



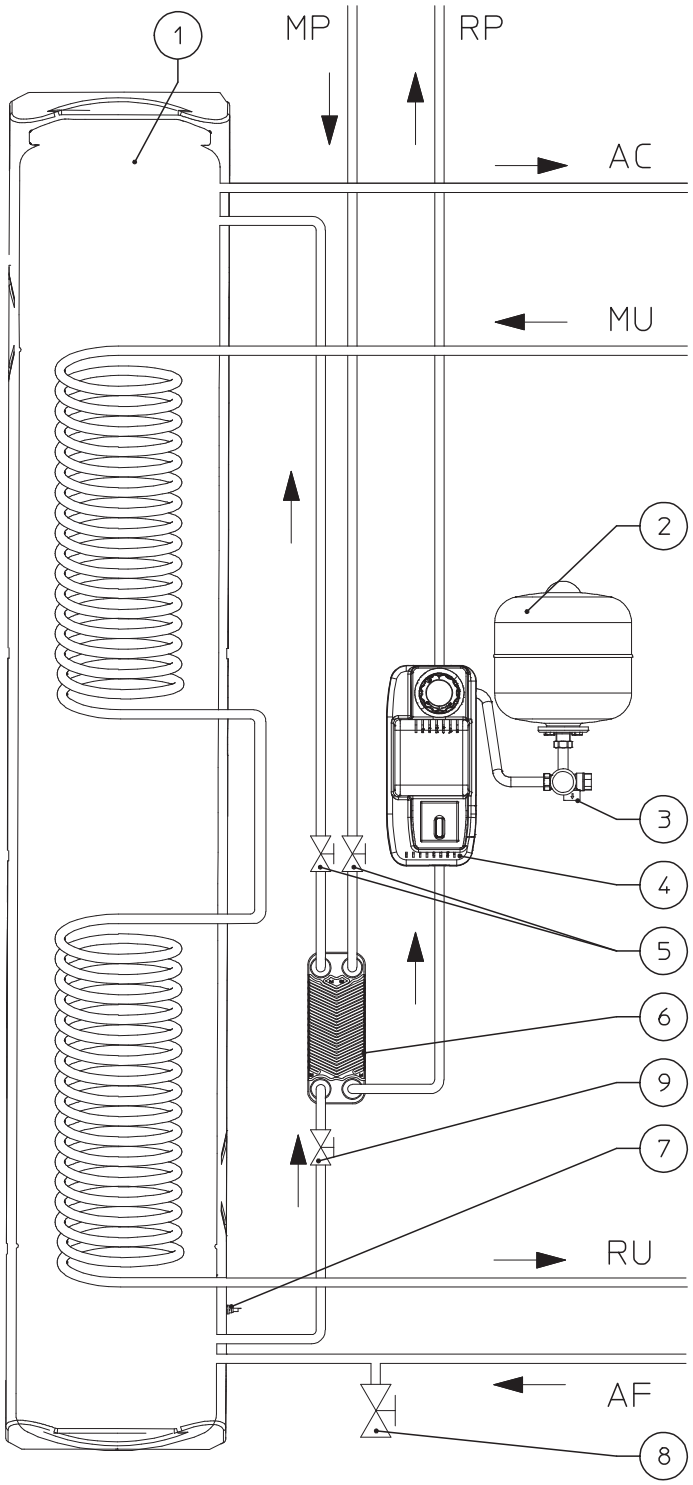
Key:

1 - 3-way Mixing valve
2 - Safety thermostat
3 - Mixed zone pump / circulator
4 - System flow probe mixed zone

MZ2 - Mixed zone system flow
RZ2 - Mixed zone system return
MZ1 - Direct zone system flow
RZ1 - Direct zone system return

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

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Key:

1 - Storage Tank Unit
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 / tap
9 - Cock / Tap 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

1.23 MIXING VALVE.

The hydronic unit is equipped with a mixing valve that regulates the Storage Tank Unit outlet temperature.
Changing the mixing valve adjustment, changes the operation mode of the system.
- allows adjusting the outlet temperature of the domestic hot water.

  By adjusting the mixing valve to a lower temperature than the one set on the Indoor Unit Magis Combo Plus V2, the same may ignite even if the temperature of the Storage Tank Unit water is sufficiently hot (recommended setting), thus increasing energy consumption.

  To avoid unnecessary Indoor Unit Magis Combo Plus V2 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

If the mixing valve is adjusted to a lower temperature than the Storage Tank Unit, it is possible that the hot water temperature required for withdrawal is not obtained.

1.24 COMMISSIONING (IGNITION).

In order to issue the Declaration of Conformity required by National Standards, 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 Indoor and Outdoor Units and the central heating circuit have been complied with, as described in the relative instructions booklet.

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.

N.B.: *the Immergas Authorised After-sales Centre can carry out the initial system check (point 2.1) required to activate the warranty of Immergas solely upon completion of commissioning by an installer. The warranty and test certificate is issued to the user.*

1.25 MAGIS COMBO PLUS V2 COMMISSIONING.

See Indoor Unit Magis Combo Plus V2 user and maintenance manual.

1.26 GAS SYSTEM START-UP.

To start up the system, refer to the National Standard in force. This divides the systems and therefore the start-up operations into three categories: new systems, modified systems, re-activated systems.
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 National Standard in force.

1.27 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:
- ensure that the declaration of conformity of installation of the solar system is supplied with the appliance;
- make sure the safety devices are included and are operating properly, particularly:
  - safety valve (6 bar)
  - expansion vessel
  - thermostatic mixing valve (present in the kit)
- 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 the kit connection to a 230V-50Hz power mains, correct L-N polarity and the 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 Indoor Unit Magis Combo Plus instructions booklet.

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 cause it to dilate, an expansion vessel has been set up on the hydronic kit with a suitable 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.

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

Once hydraulically installed, proceed with system filling via the filling cock / tap. Filling is performed at low speed to ensure release of air bubbles in the water via the Indoor Unit Magis Combo Plus V2 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.

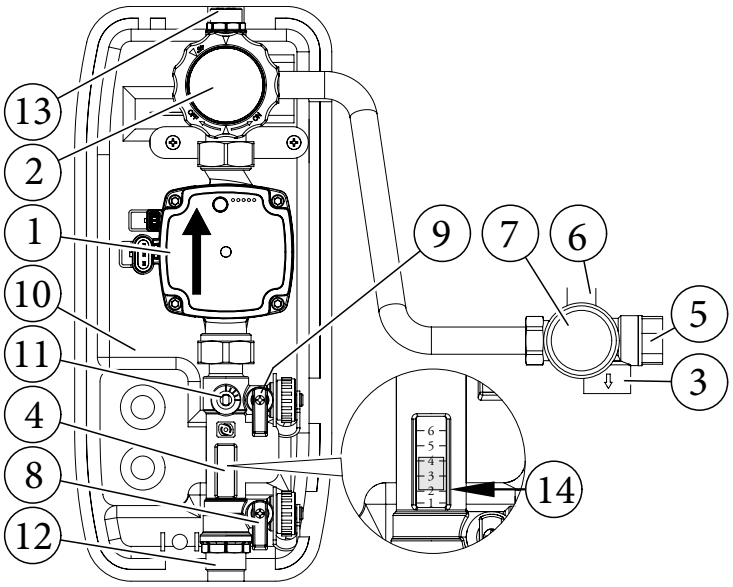
<u>*Make sure that the vent hoods are loosened.*</u> Open the radiator vent valves.
Close radiator vent valves when only water escapes from them.
The filling cock must be closed when the Indoor Unit Magis Combo Plus V2 pressure gauge indicates approximately 1.2 bar.

N.B.: during these operations, enable the automatic vent functions on the Indoor Unit Magis Combo Plus V2 (active on first ignition). Start the pumps of the hydronic unit by activating the kit via the relative remote panel.

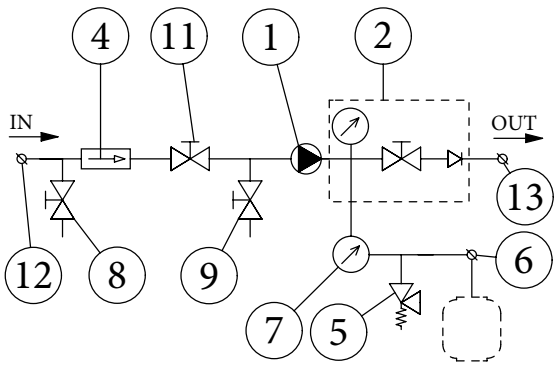
1.29 FILLING THE SOLAR CIRCUIT SYSTEM (OPTIONAL).

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. 38*):



Key:
- *1 - Solar 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 / tap*
- *9 - Filling cock / tap*
- *10 - Insulating casing*
- *11 - Flow rate regulator*
- *12 - Inlet*
- *13 - Outlet*
- *14 - Reference for flow rate reading*



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

2 connect the automatic pump return pipe to the draining cock / tap 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 / tap 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 insulation and with the manifolds at high temperatures.

Make sure that all air bubbles have been completely eliminated.

1.30 SIZING THE SYSTEMS.

The flow temperatures to the various system zones may be reduced compared to the indoor unit Magis Combo Plus V2 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 mixed zones, check that the design parameters allow you to achieve a maximum surface temperature of the radiant floor in compliance with national standards in force.

1.31 KITS AVAILABLE ON REQUEST.

- System shut-off valves kit (on request). The system 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 kit 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 pack. It is also possible to select the connection choosing between the kit with bottom, rear or side connection.
- 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.
- Second mixed zone addition kit for Solar Container Combo with Magis Combo Plus V2. An independent mixed zone is added using this kit (second zone) for coupling the Magis Combo Plus V2 inside the Solar Container Combo.

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

1.32 ZONE CIRCULATION PUMP.

The appliance is supplied with two circulators both equipped with speed regulator. These settings are suitable for most plant solutions. The pump is ideal for the requirements of each central heating system in a domestic and residential environment. In fact, the pump is equipped with electronic control that allows to set advanced functions.

Adjustment

Press the button on the front to adjust the pump. (*Ref. 1 Fig. 39*). By rotation, it is possible to select the following pump control mode:

- Fixed speed I, II, III.
- Proportional head I, II, III.
- Constant head I, II, III.

Fixed speed (*Ref. 2 Fig. 39*)

Adjusts the pump speed in fixed mode.

It is possible to set 3 different speeds:

- I: Minimum Speed.
- II: Intermediate Speed.
- III: Maximum Speed.

Factory set speed = Fixed speed III

Proportional head (ΔP-V) (*Ref. 4 Fig. 39*)

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, thereby being 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.

Constant head (ΔP-C) (*Ref. 3 Fig. 39*)

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.

Other functions:

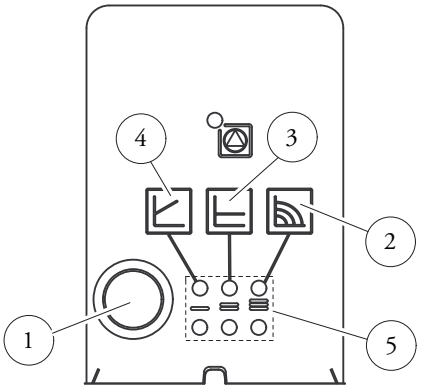
- The **vent function** of the pump is activated by pressing and holding (3 seconds) the control key (*Ref. 1 Fig. 39*) and automatically venting the pump.
  This function does not act on the central heating / C.H. system.
  The pump venting function starts and lasts 10 minutes.
  The two sets of upper and lower LEDs (*Ref. 5 Fig. 39*) flash alternately every 1 second.
  To interrupt, press the control key (*Ref. 1 Fig. 39*) for 3 seconds.
- The **manual restart** is activated by pressing and holding (5 seconds) the control key (*Ref. 1 Fig. 39*) and releases the pump when needed (e.g. after prolonged inactivity periods during the summer period).
- The **keyboard block** is activated by pressing and holding (8 seconds) the control key (*Ref. 1 Fig. 39*) and block the pump settings. The keyboard block protects against unintentional or unauthorised pump changes.
  Activate the keyboard block by pressing the control key (*Ref. 1 Fig. 39*) for 8 seconds, until the selected setting LEDs flash (*Ref. 5 Fig. 39*) briefly and then release.
  The LEDs (*Ref. 5 Fig. 39*) flash continuously 1 second apart.
  If the keyboard block is active, the pump settings can no longer be modified.
  The deactivation of the keyboard block takes place in a similar manner to the activation.

Manual restart

When a blockage is detected, the pump tries to automatically restart.

If the pump does not automatically restart:

- Activate the manual restart by pressing the control key (*Ref. 1 Fig. 39*) for 5 seconds, then release.
- The restart function starts and last max. 10 minutes.
- The LEDs (*Ref. 5 Fig. 39*) flash one after the other clockwise.
- To interrupt, press the control key (*Ref. 1 Fig. 39*) for 5 seconds.



Legenda:

1 - Operating mode selector
2 - Fixed speed operation
3 - Constant head operation
4 - Proportional head operation
5 - Operating mode indicator LEDs

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Troubleshooting.

Faults	Causes	Solutions
Pump not working with power supply on.	Faulty electrical fuse	Check the fuses
	The pump is without voltage	Eliminate the power supply cut-off
The pump generates noise	Cavitation due to insufficient flow pressure	Increase the system pressure within the allowed field
		Check the head setting and eventually set a lower head
The building does not heat up.	Heat output of the radiant panels too low	Increase the delivery value
		Set the adjustment mode to ΔP-c instead of ΔP-v

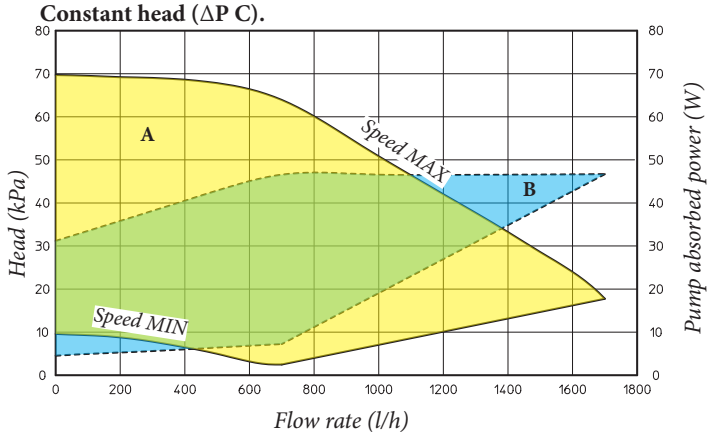
Diagnostics in real time

- The anomaly LED indicates a fault.
- The pump stops (depending on the fault), and performs cyclical attempts to restart.

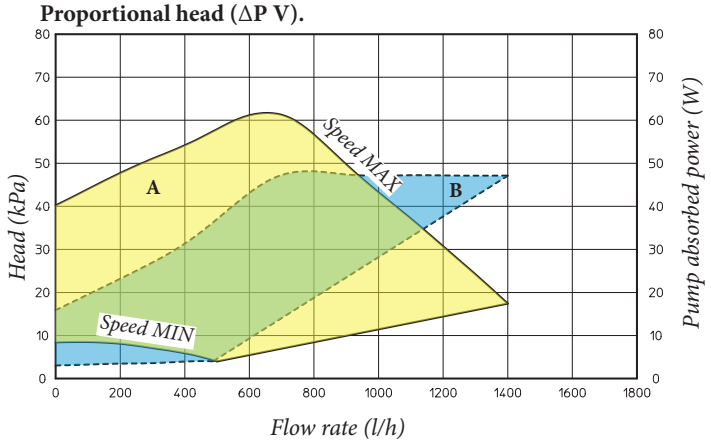
LED	Faults	Causes	Solutions
It lights up red	Block	Rotor seized	Activate the manual restart or contact the Authorised Technical Service Centre
	Contact/winding	Faulty winding	
It flashes with red light	Under/Overvoltage	Feed side power supply voltage too low/high	Check the mains voltage and operating conditions, ask the Authorised Technical Assistance Centre
	Excessive module temperature	Inside of the too hot module	
	Short-circuit	Motor current too high	
It flashes with red/ green light	Turbine operation	The hydraulic system of the pumps is fed but the pump has no mains voltage	Check the mains voltage, the water pressure/flow rate as well as the environmental conditions
	Dry operation	Air in the pump	
	Overload	The motor runs with difficulty. The pump complies with the specifications (e.g. high module temperature). The number of revolutions is lower than normal operation	

Head available at the system high temperature zone, low temperature zone with mixer open (optional kit).

Constant head (ΔP C).



Proportional head (ΔP V).

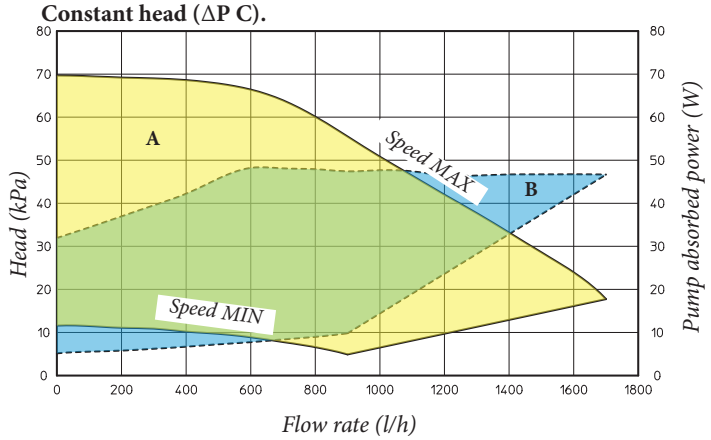


Key:
A = Available head
B = Absorbed power by the circulator (dotted area)

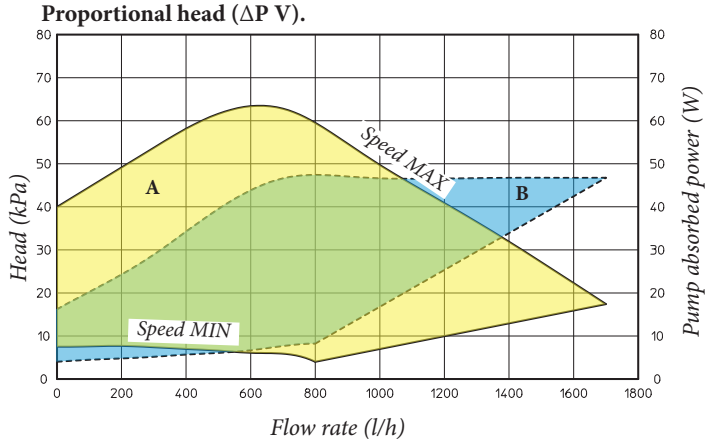
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Head available to the system low temperature zone with mixing valve closed (optional kit).

Constant head (ΔP C).



Proportional head (ΔP V).



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

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1.33 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 (Fig. 42).
When the pump starts, the LED (2) lights up green for about 2 seconds, followed by short flashing at great intensity to then switch off during normal operation. The LED (3) only lights up in PWM setting, not used in the application. The three yellow LEDs (4) indicate the three constant curve speeds.

Selection of operating mode.
The operating mode is always visible and indicated by the 3 yellow LEDs (4).

Info: All the LEDs are off when the pump is not powered.

Press the button (1) to change operating mode.
Every time the button is pressed, all the possible functions are scrolled cyclically according to the following table:

Circulating pump LED	Description
G G Y Y Y	Constant curve speed 1
G G Y Y Y	Constant curve speed 2
G G Y Y Y	Constant curve speed 3
G G Y Y Y	PWM - Do not use
G G Y Y Y	PWM - Do not use

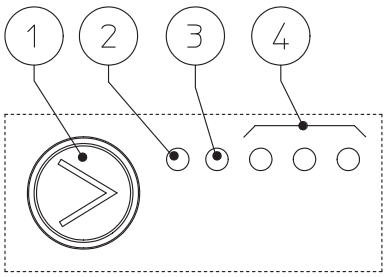
- Constant curve: the pump works maintaining system head constant. The pump working point will move up or down according to the system's demand.
- PWM Profile: **Do not use this operating mode.**

  Attention: if this profile is selected, the pump will stop.

For this kit the pump is set at "Constant curve speed 3" by default.

Real time diagnostics: in the event of malfunction the LEDs provide information on the pump operation status, see table (*Fig. 43*):

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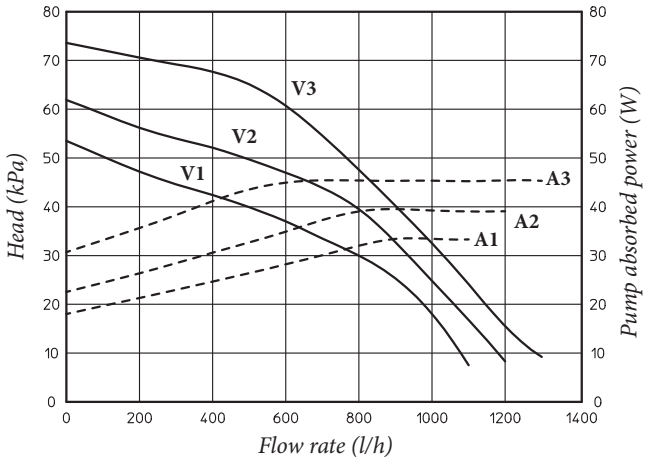


Key:
1 - Function selection button
2 - Green (G) / red (R) LED
3 - Green (G) LED
4 - 3 yellow (Y) LEDs

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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 mechanically	The pump cannot restart automatically due to an anomaly	Wait for the pump 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 pump.
R Y Y Y Y On Off Off On Off	Abnormal situation (the pump continues operating). low power supply voltage	Voltage off range < 160 Vac	Check power supply
R Y Y Y Y On Off On Off Off	Electrical fault (Pump blocked)	The pump is locked due to power supply too low or serious malfunction	Check the power supply if the anomaly persists replace the pump

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 hydronic kit, 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 Indoor Unit Magis Combo Plus V2 casing. Never use abrasive or powder detergents.

2.2 GENERAL WARNINGS.

The device can be used by children at least 8 years old as well as by persons with reduced physical, sensory or mental capabilities, or lack of experience or required knowledge, provided that they are under surveillance, or after they have been instructed relating to the safe use and have understood the potential dangers. Children must not play with the appliance. Cleaning and maintenance destined to be performed by the user must not be carried out by unsupervised children.

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 product, contact professional staff for the procedures and ensure that the electrical, water and gas supply lines are shut off and disconnected.

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 pressure gauge 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 tightness of water circuits;
- check the correction of 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 Indoor Unit Magis Combo Plus V2 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.

3.1 PROGRAMMING.

See indications on the Indoor Unit Magis Combo Plus V2 instructions booklet.

3.2 WIRING DIAGRAM.

See indications on the Indoor Unit Magis Combo Plus V2 instructions booklet.

3.3 YEARLY MAINTENANCE:

- Check the integrity of the Storage Tank Unit 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 storage tank unit at least once a year.
- Service the Indoor Unit Magis Combo Plus V2 and Outdoor Unit according to the guidelines in the relative instructions booklet.

Vent

Any air present in the system must be bled:

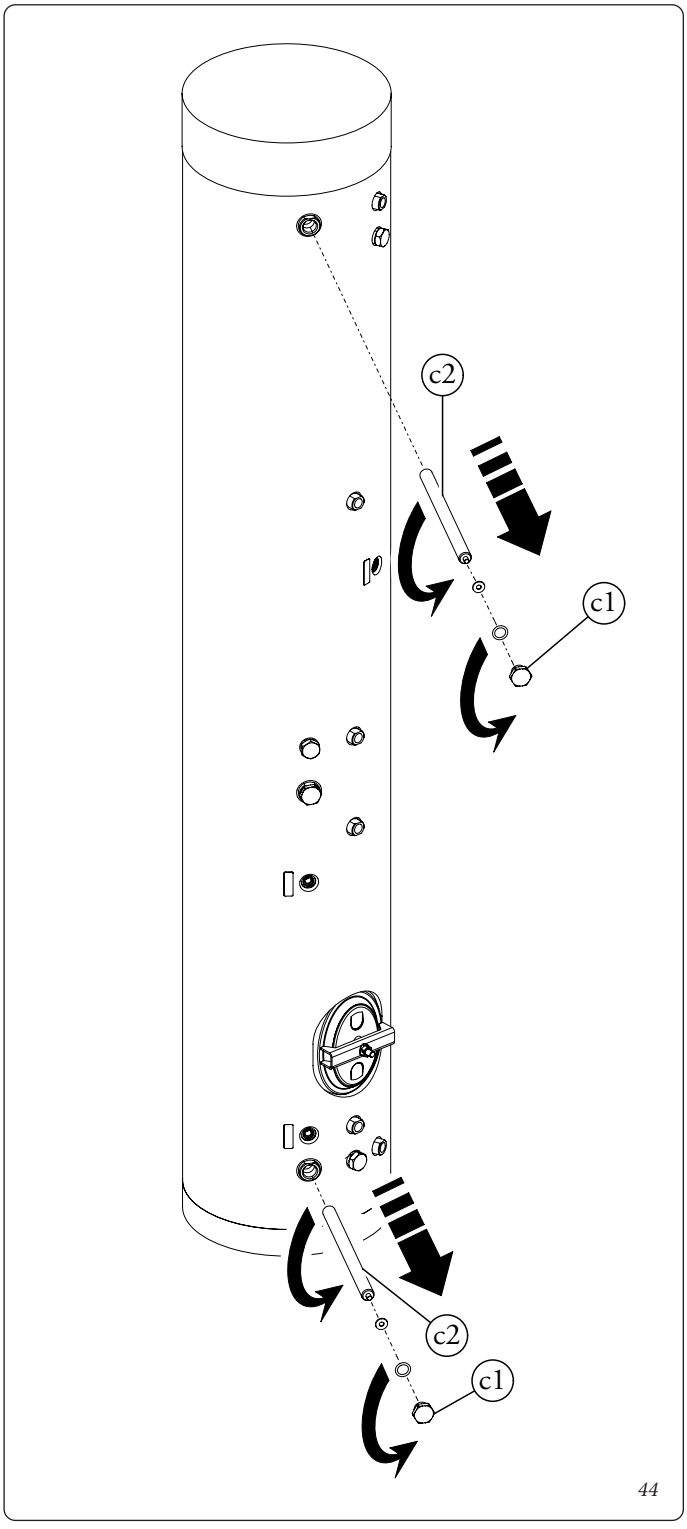
- upon start-up (after filling)
- if necessary, e.g. in the event of breakdown.

Replacing the anode

If it is necessary to replace the magnesium anode (c2) present in the boiler, replace it with another having the same characteristics.

3.4 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.
In the case of Magis Combo Plus V2, Pump-down must be carried out before disconnecting the Indoor Unit.



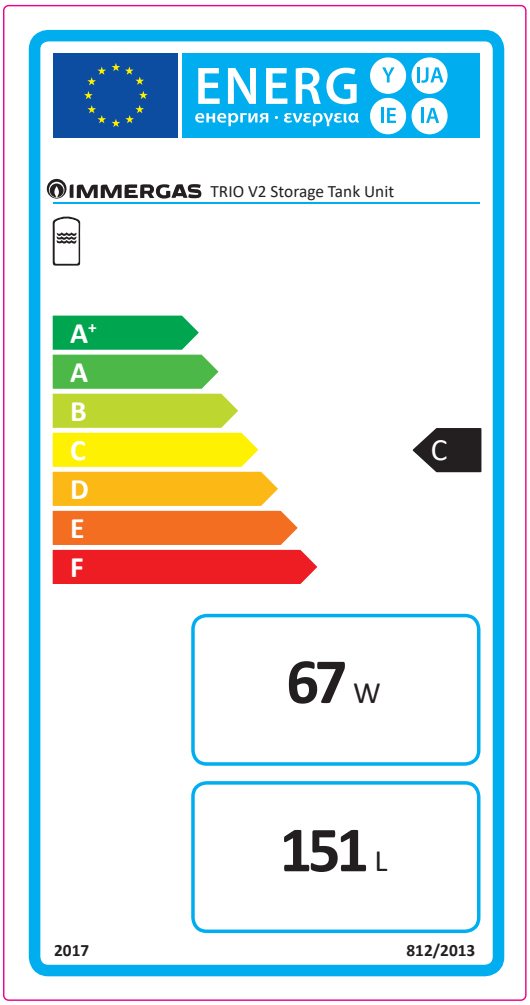
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4 TECHNICAL DATA.

4.1 TECHNICAL DATA TABLE.

		Hydronic kit for Magis Combo Plus V2	Hydronic kit for Magis Combo Plus V2 with second mixed zone
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	10-65	10-65
Adjustable central heating temperature	°C	25-80	25-80
Adjustable cooling temperature	°C	7-25	7-25
DHW expansion vessel	l	7.0	7.0
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
Storage Tank Unit 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	1.4	1.75
Installed electric power	W	175	220
Power absorbed by the direct zone pump	W	47	47
Power absorbed by the mixed zone pump	W	-	47
Solar pump 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

4.2 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.

Nel corso della vita utile dei prodotti, le prestazioni sono influenzate da fattori esterni, come ad es. la durezza dell'acqua sanitaria, gli agenti atmosferici, le incrostazioni nell'impianto e così via. I dati dichiarati si riferiscono ai prodotti nuovi e correttamente installati ed utilizzati, nel rispetto delle norme vigenti.
N.B.: si raccomanda di fare eseguire una corretta manutenzione periodica.

During the useful life of the products, performance is affected by external factors, e.g. the hardness of the DHW, atmospheric agents, deposits in the system and so on. The data declared refer to new products that are correctly installed and used with respect to the Standards in force.
N.B.: correct periodic maintenance is highly recommended.

Il libretto istruzioni è realizzato in carta ecologica
This instruction booklet is madeof ecological paper.

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immergas.com

Per richiedere ulteriori approfondimenti specifici, i Professionisti del settore possono anche avvalersi dell'indirizzo e-mail:
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