USER'S MANUAL

IMMERGAS

COD. 3.031483

ADDITIONAL KIT 2nd MIXED ZONE FOR TRIO PACK

Instruction and warning book **IE**

GENERAL WARNINGS.

All Immergas products are protected with suitable transport packaging.

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

This instruction manual provides technical information for installing the Immergas kit. As for the other issues related to kit installation (e.g. safety at the workplace, environmental protection, accident prevention), it is necessary to comply with the provisions specified in the regulations in force and with the principles of good practice.

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. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, meaning staff with specific technical skills in the plant sector, as envisioned by the law.

GENERALITIES.

An independent mixed zone is added using this kit (second zone) for coupling the Trio Pack. Before performing any intervention, disconnect the power supply to the installed indoor unit by acting on the switch placed upstream from the appliance.

INSTALLATION ON TRIO PACK (FIG. 1-2).

To install proceed as follows:

- open the door of the Solar or Domus Container and lock it to prevent it from getting in the way during the subsequent installation stages;
- empty the system by acting on the drain fitting (1) placed under the accumulation (2). Before draining, ensure that the system filling cock is closed;
- remove the two caps (Part. 3 and 4 Fig. 3) on the accumulation (2).

Connect the components of the second zone as described below (Fig. 3):

- assemble the G 3/4 complete fitting (26) on the lower sheet, securing it with the lock nut (5) and the washer (22);
- assemble the circulator (24) on the fitting, checking the presence of the gasket (27) and apply the insulation (13);
- fit the system return pipe (12) on the lower sheet, securing it with the lock nut (5) and washer (22); connect it in the upper part to the accumulation (2) interposing the seal gasket (6);
- assemble the mixing valve (16) on the connection pipe (12) interposing the seal gasket (11);

Attention: respect the orientation of the mixing valve, as represented in detail in Fig. 3.

- Connect the second zone delivery pipe (25) to the mixing valve interposing the sealing gasket (11) and to the accumulation (2) interposing the sealing gasket (6);
- pre-mount the safety thermostat (9) with the 2 screws (10) and the flow probe (18) on the second zone flow pipe (20);
- -- apply the insulation (21) on the connection pipe (20);
- assemble the complete pipe (20) between the circulator fitting (24) checking the presence of the gasket (27) and the mixing valve (16) interposing the seal gasket (11)
- apply the relative insulation (17) to the mixing valve, locking it with the 2 clamps in the kit.
- apply the IP cover (14) to the three-way motor (15) and assemble on the mixing valve, then connect it electrically;
- assemble the thermometer (7) on the relative bracket by connecting the capillary to the system flow pipe (20) and fixing it with the clip (19);
- apply the left shell (8) and the right shell (23) on the circulator, locking them with the 2 clamps in the kit;

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.

Note: to preserve the correct functioning of the manifold within the hydraulic circuit, it is necessary to install an Y filter, that can be inspected and that is contained in the kit, on the zone return.

STARTING THE SYSTEM.

Once the electrical connection stages are completed, restore the correct water pressure in the Central heating system using the relevant filling valve. Power up the Indoor Unit and check that every room thermostat (or remote control) activates the relative circulator. Bleed the system and the appliance correctly as described in the instruction booklet of the installed indoor unit.

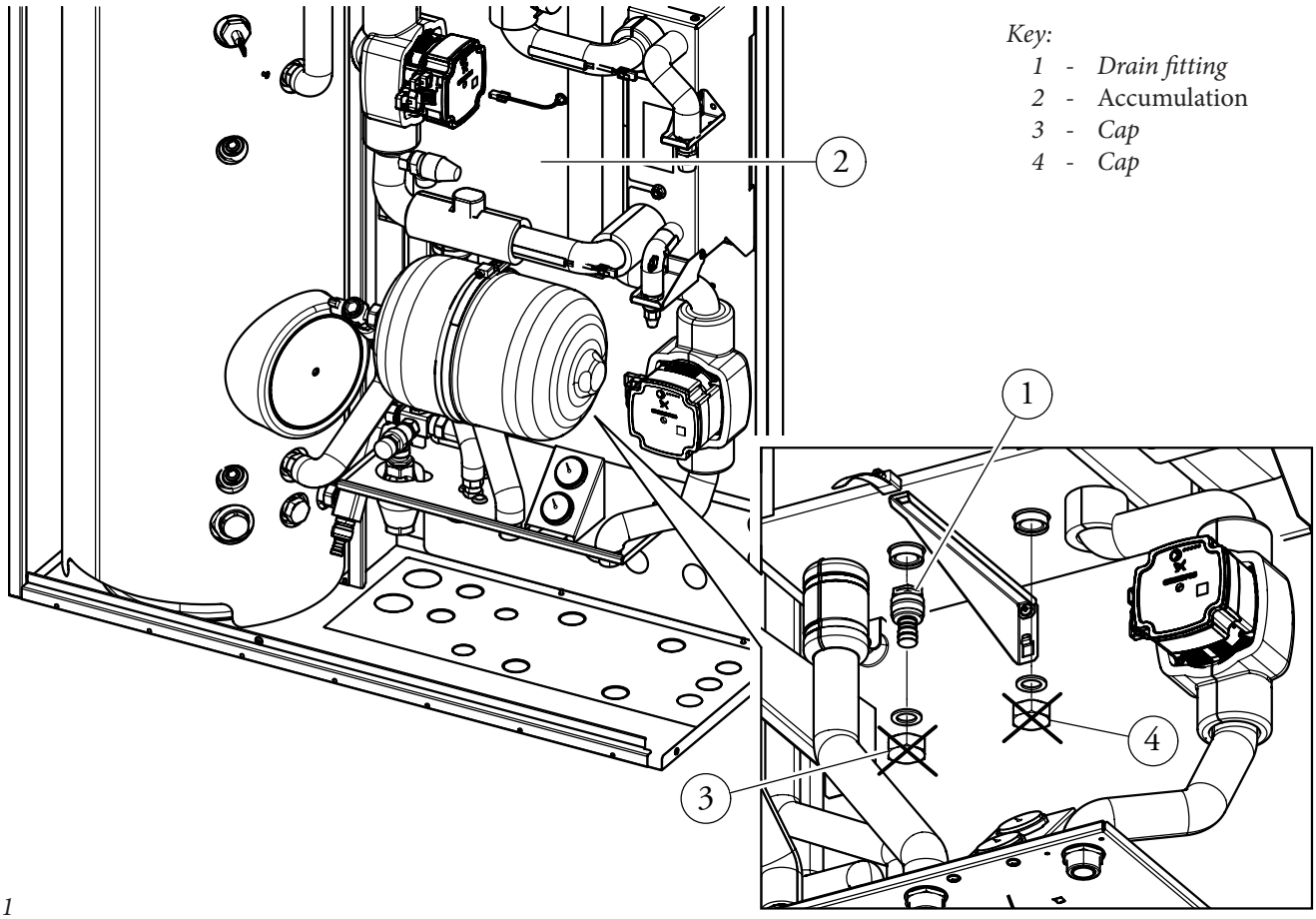
Mixing valves initialisation.

Every time that the Indoor Unit is powered, initialisation of the mixing valves is carried out, closing them for three minutes. This way synchronisation is performed between the P.C.B. and the mixing valve. The transfer of heat energy to the mixed zone can only take place at the end of this initialisation phase.

Checks.

It is recommended to check the maximum flow rate circulating in the system in the flow rate/head graphics in order to evaluate the correct dimensioning of the design parameters. In addition, the latter must also allow a maximum surface temperature of the radiating floor that is in compliance with that established by Standard UNI EN 1264.

TRIO PACK IN SOLAR OR DOMUS CONTAINER

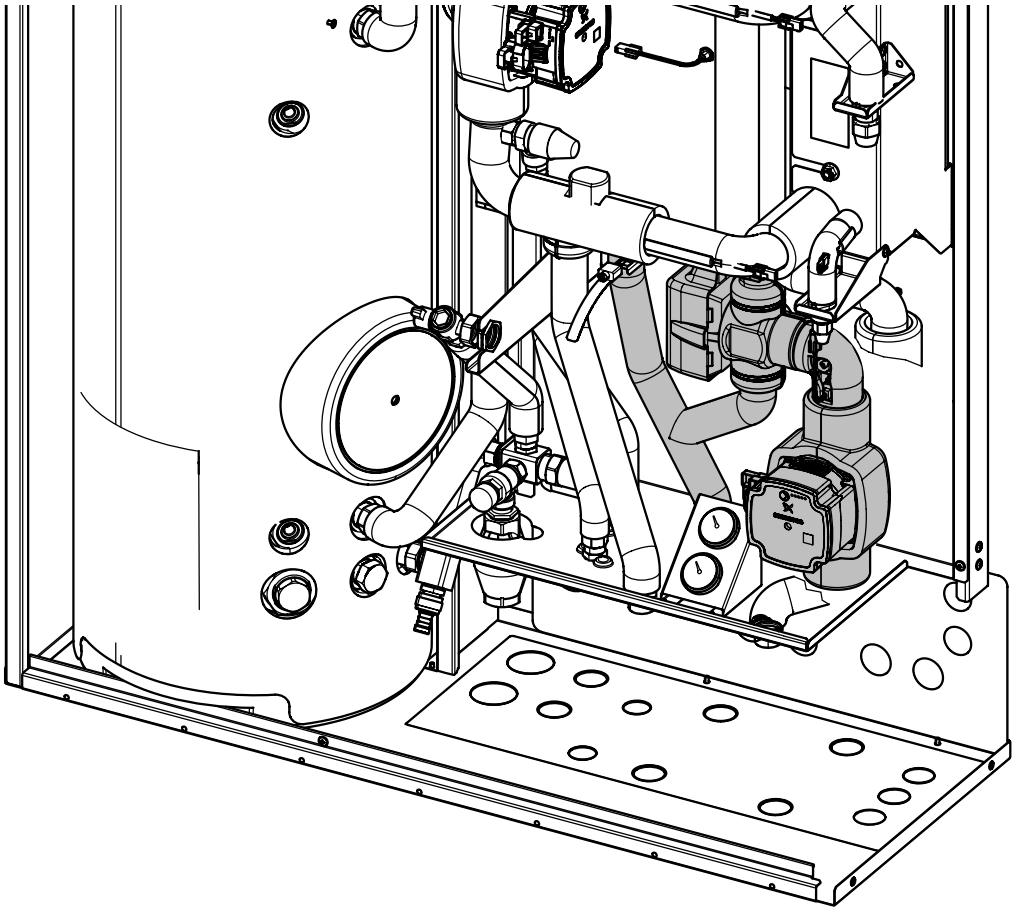


Key:

1 - Drain fitting
2 - Accumulation
3 - Cap
4 - Cap

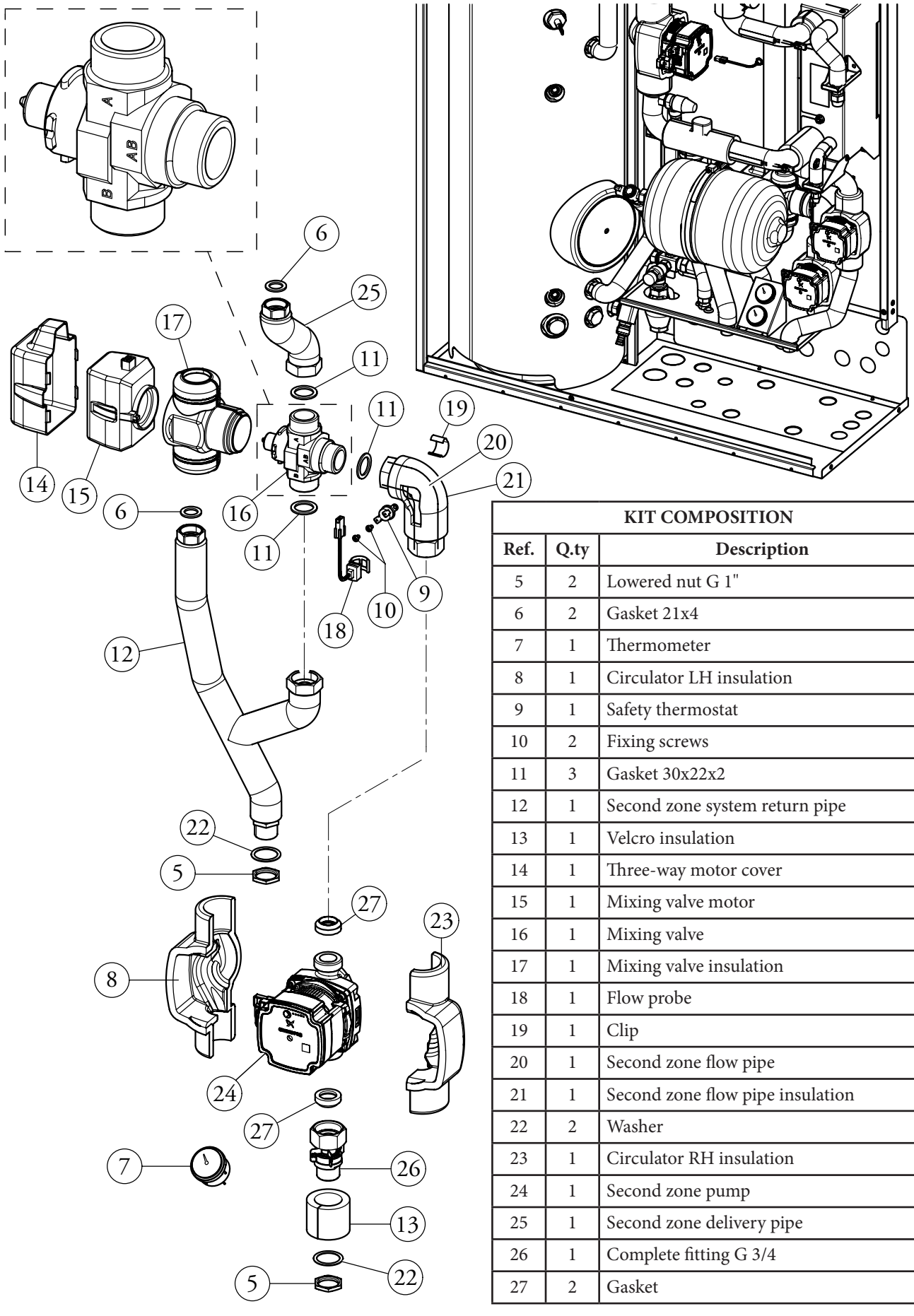
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TRIO PACK WITH 2nd MIXED ZONE KIT IN SOLAR OR DOMUS CONTAINER



2

SECOND MIXED ZONE KIT.

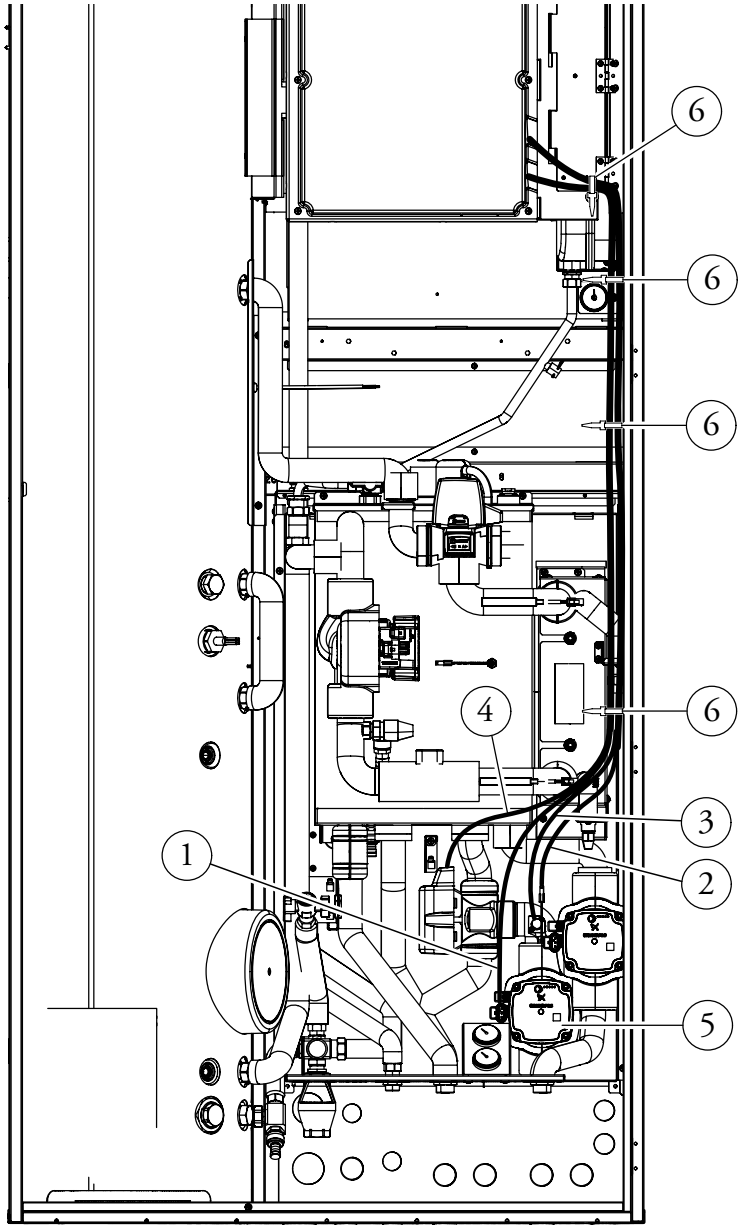


KIT COMPOSITION		
Ref.	**Q.ty**	**Description**
5	2	Lowered nut G 1"
6	2	Gasket 21x4
7	1	Thermometer
8	1	Circulator LH insulation
9	1	Safety thermostat
10	2	Fixing screws
11	3	Gasket 30x22x2
12	1	Second zone system return pipe
13	1	Velcro insulation
14	1	Three-way motor cover
15	1	Mixing valve motor
16	1	Mixing valve
17	1	Mixing valve insulation
18	1	Flow probe
19	1	Clip
20	1	Second zone flow pipe
21	1	Second zone flow pipe insulation
22	2	Washer
23	1	Circulator RH insulation
24	1	Second zone pump
25	1	Second zone delivery pipe
26	1	Complete fitting G 3/4
27	2	Gasket

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WIRING DIAGRAM FOR INDOOR UNIT WITH OPTIONAL SECOND ZONE KIT IN SOLAR OR DOMUS CONTAINER.

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Key:

1 - Second mixed zone circulator connection
2 - Flow probe connection
3 - Safety thermostat connection
4 - 3-way valve connection
5 - Second mixed zone circulator
6 - Cable holders

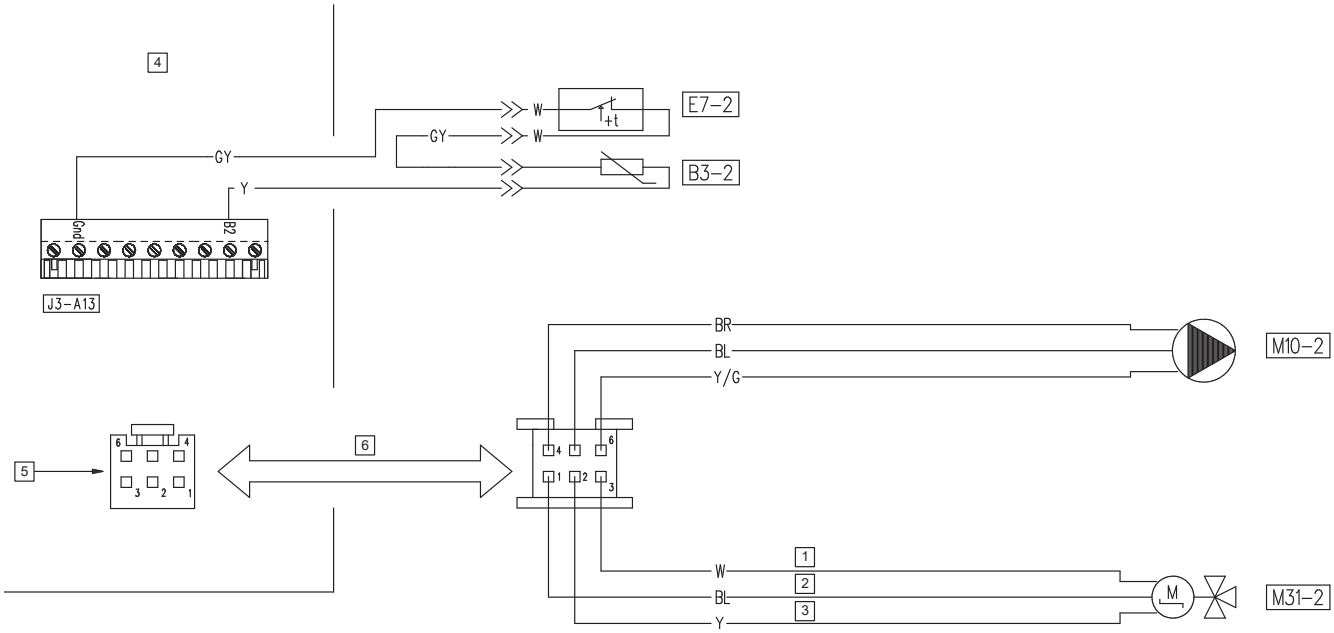
Once the kit is assembled, proceed with the wiring according to the wiring diagram in the instruction booklet.

- Connect the cables in the electrical panel of the Indoor Unit as shown in Fig. 5..
- Lower the wiring coming out of the electrical panel until it can be secured through the clamps (6).
- Connect the connector of the delivery probe (2) and of the safety thermostat (3).
- Connect the circulator (5) to the connector (1).
- Connect the 3-way mixing valve connector (4).

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

WIRING DIAGRAM.

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Key:

B3-2 - Zone 2 mixed flow probe
E7-2 - Low Temperature safety thermostat
M10-2 - Zone 2 pump
M31-2 - Zone 2 mixing valve

1 - Close
2 - Common
3 - Open
4 - Main panel
5 - Connector kit zone 2
6 - Connection

Colour code key:

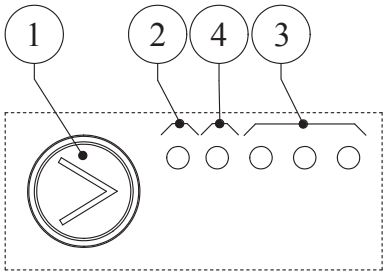
BK - Black
BL - Blue
BR - Brown
G/Y - Green/Yellow
GY - Grey
OR - Orange
W - White
Y - Yellow

CIRCULATION PUMP.
The boiler is supplied with circulator 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.

By-pass Regulation.
The boiler leaves the factory with all bypasses open.
If necessary, the by-pass can be regulated to system requirements from minimum (by-pass closed) to maximum (by-pass open). Adjust using a flat head screwdriver, turn clockwise and open the by-pass, anticlockwise it is closed.

Selection of operating mode.
When running, the pump indicates the set configuration by means of the codified lighting of the LEDs. The setting is changed by a short pressing of the button.



Key:
1 - Function selection button
2 - 1 Green (G) / red (R) LED
3 - 3 yellow LEDs (Y)
4 - 1 Green (G) / red (R) LED - not used on this model

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ATTENTION:
the circulator has various built-in operation modes, however the constant curve operation mode must be selected 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	Do not use
G G Y Y Y	Do not use
G G Y Y Y	Do not use

Constant curve: the circulator operates maintaining constant speed.

The pump is set at "Constant curve speed 3" by default.

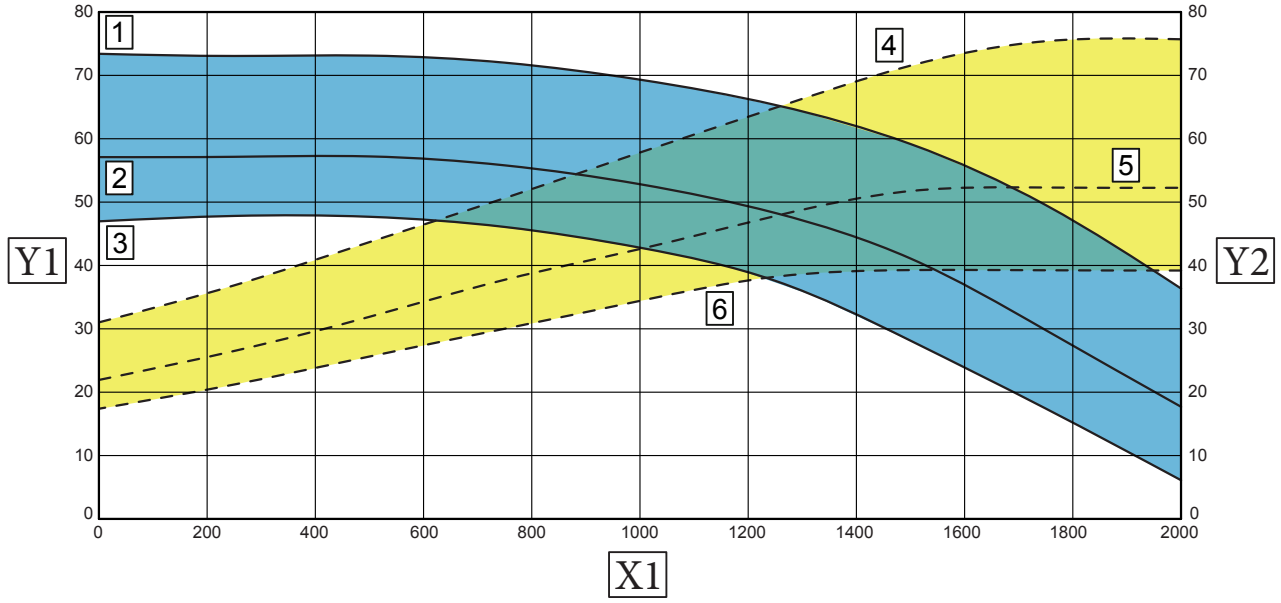
Real time diagnostics: in the event of malfunction the LEDs provide information on the circulator operation status, see table (Fig. 7):

Circulating pump LED (first red LED)	Description	Diagnostics	Remedy
R Y Y Y Y	Pump blocked mechanically	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	Abnormal situation (the circulator pump stops). low power supply voltage	Voltage off range < 160 Vac	Check power supply.
R Y Y Y Y	Electrical fault (Circulator 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.

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Total head available to the system of zone 1 direct fixed speed.

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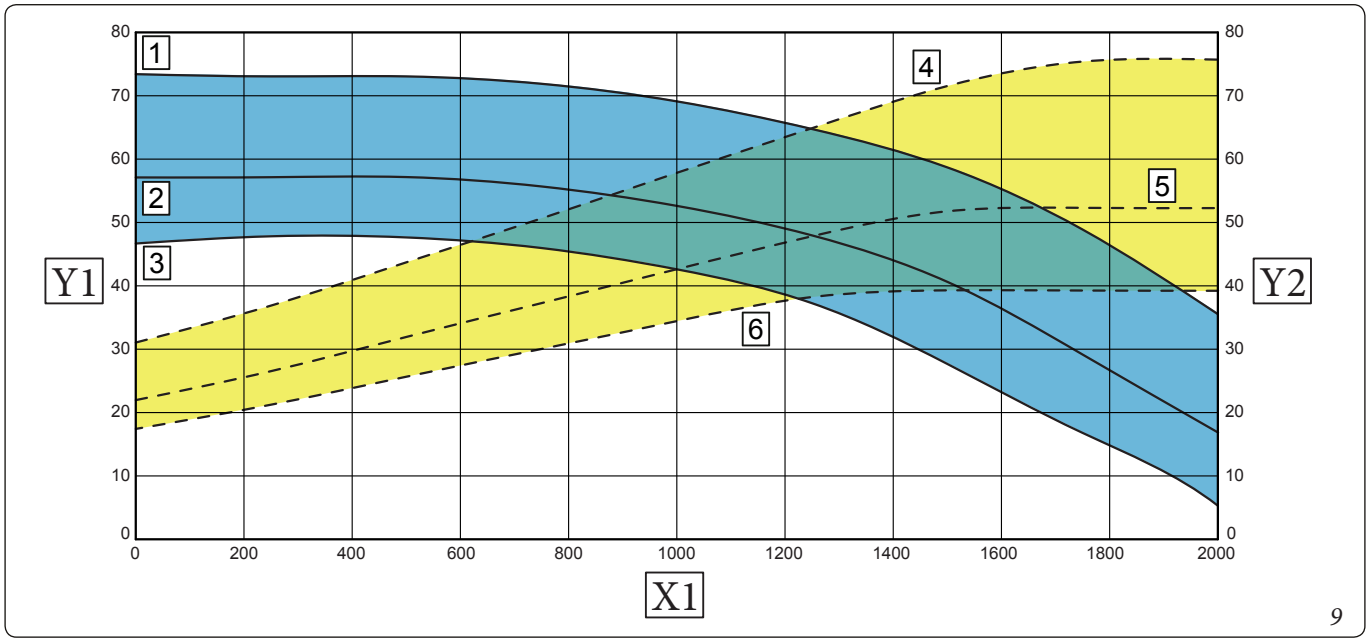
Key (Fig. 8):

1 = Head available at Speed 3
2 = Head available at Speed 2
3 = Head available at Speed 1
4 = Power absorbed by the circulator pump at Speed 3
5 = Power absorbed by the circulator pump at Speed 2
6 = Power absorbed by the circulator pump at Speed 1

Area between curve 1 and 3 = Head available
Area between curve 4 and 6 = Power absorbed by the circulator pump (dotted area)

X1 = Flow rate (l/h)
Y1 = Head (kPa)
Y2 = Circulator pump absorbed power (W)

Total head available to the system of zone 2 mixed fixed speed - mixing valve open.



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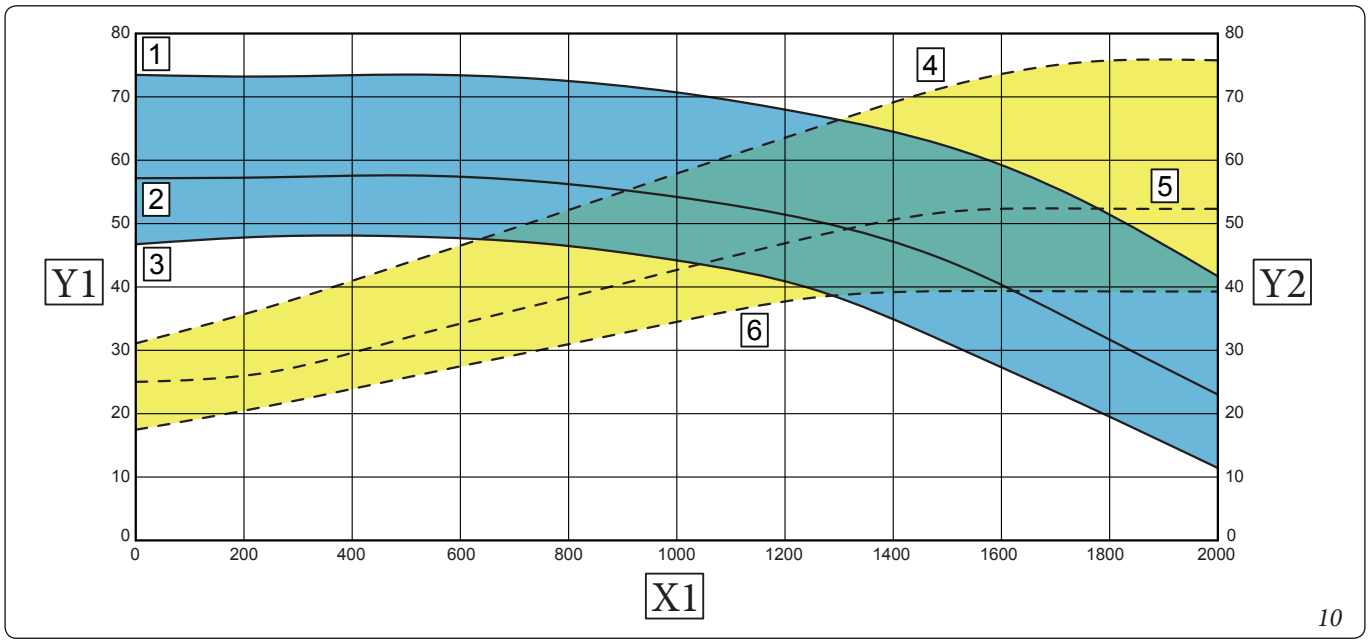
Key (Fig. 9):

1 = Head available at Speed 3
2 = Head available at Speed 2
3 = Head available at Speed 1
4 = Power absorbed by the circulator pump at Speed 3
5 = Power absorbed by the circulator pump at Speed 2
6 = Power absorbed by the circulator pump at Speed 1

Area between curve 1 and 3 = Head available
Area between curve 4 and 6 = Power absorbed by the circulator pump (dotted area)

X1 = Flow rate (l/h)
Y1 = Head (kPa)
Y2 = Circulator pump absorbed power (W)

Total head available to the system of zone 2 mixed fixed speed - mixing valve closed.



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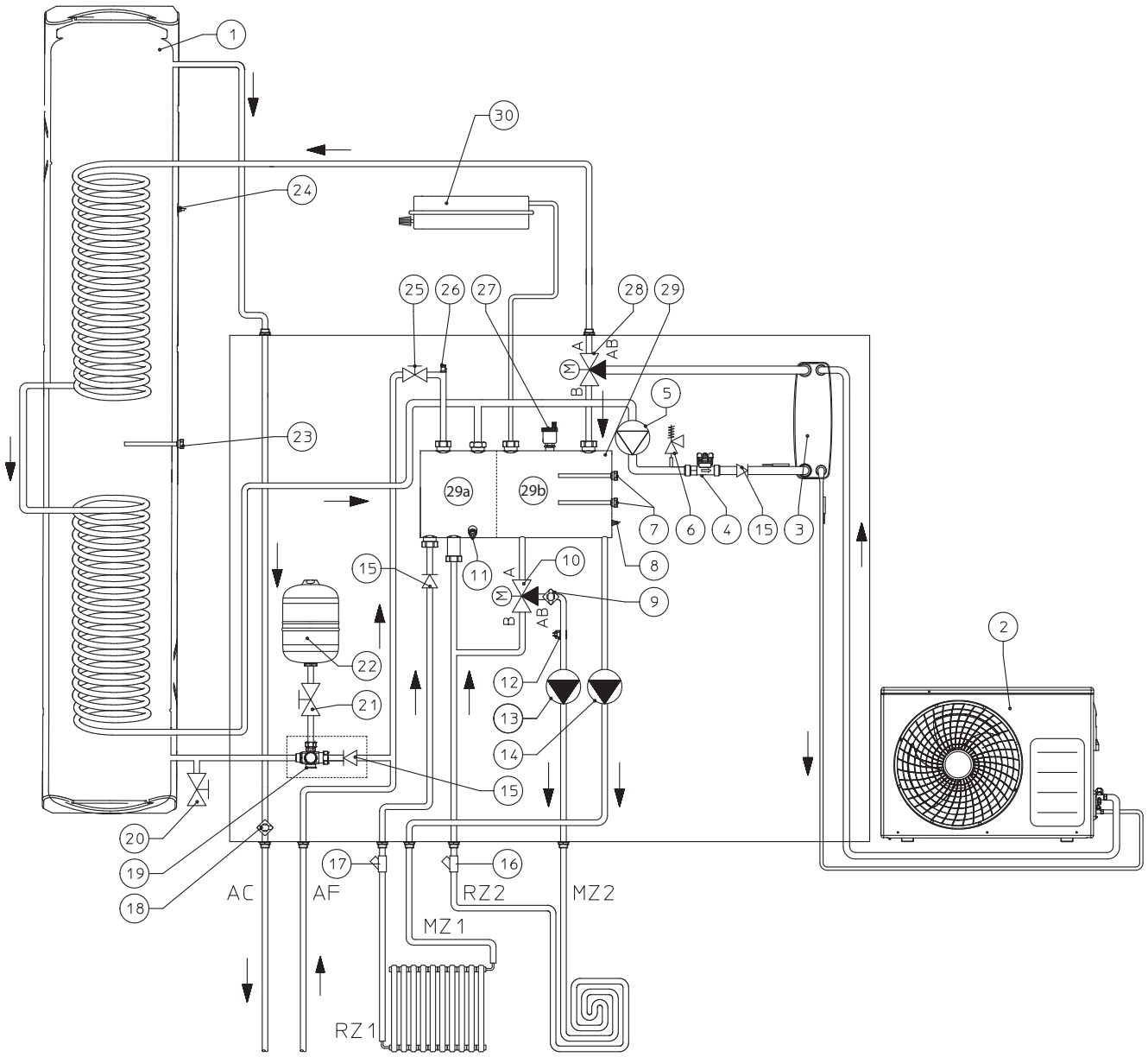
Key (Fig. 10):

1 = Head available at Speed 3
2 = Head available at Speed 2
3 = Head available at Speed 1
4 = Power absorbed by the circulator pump at Speed 3
5 = Power absorbed by the circulator pump at Speed 2
6 = Power absorbed by the circulator pump at Speed 1

Area between curve 1 and 3 = Head available
Area between curve 4 and 6 = Power absorbed by the circulator pump (dotted area)

X1 = Flow rate (l/h)
Y1 = Head (kPa)
Y2 = Circulator pump absorbed power (W)

HYDRAULIC DIAGRAM FOR THE CONNECTION OF THE TRIO PACK ELECTRIC WITH MIXED SECOND ZONE KIT IN SOLAR OR DOMUS CONTAINER.



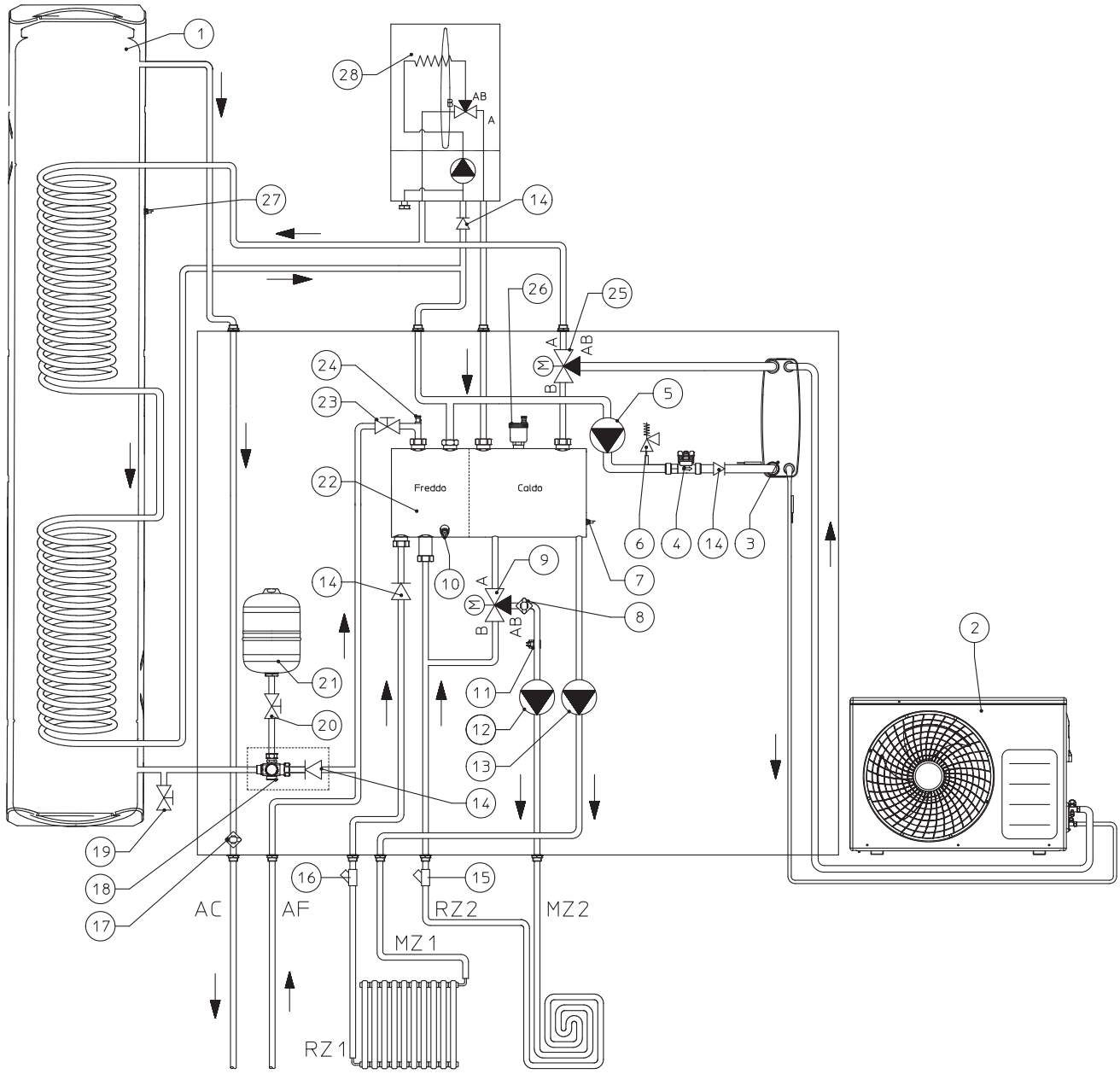
Key:

1 - Tank unit
2 - Outdoor Condensing Unit
3 - Plate heat exchanger
4 - System flow meter
5 - System circulator
6 - 3 bar safety valve
7 - System resistance (optional)
8 - System flow probe
9 - Safety thermostat
10 - 3-way Mixing valve (optional)
11 - Manifold draining valves
12 - Mixed zone flow probe (optional)
13 - Mixed zone pump / circulator (optional)
14 - Direct zone circulator
15 - One-way valve
16 - Inspectionable filter (optional)
17 - Inspectionable filter
18 - Antifreeze thermostat
19 - 8 bar safety valve
20 - Tank unit draining valve
21 - DHW vessel shut-off valve
22 - DHW 8 l expansion vessel
23 - DHW electric heating element
24 - Boiler probe
25 - Filling valve
26 - Manual vent valve
27 - Automatic vent valve
28 - 3-way valve (Motorized)
29 - Hydraulic manifold
29a - Manifold delivery sector
29b - Manifold return sector
30 - System 8 l expansion vessel

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Direct zone system delivery
RZ1 - Direct zone system return
MZ2 - Mixed zone system delivery
RZ2 - Mixed zone system return

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HYDRAULIC DIAGRAM FOR THE CONNECTION OF THE TRIO PACK HYBRID WITH MIXED SECOND ZONE KIT IN SOLAR OR DOMUS CONTAINER.



Key:

1 - Tank unit
2 - Outdoor Condensing Unit
3 - Plate heat exchanger
4 - System flow meter
5 - System circulator
6 - 3 bar safety valve
7 - System flow probe
8 - Safety thermostat
9 - 3-way Mixing valve (optional)
10 - Manifold draining valves
11 - Mixed zone flow probe (optional)
12 - Mixed zone pump / circulator (optional)
13 - Direct zone circulator
14 - One-way valve
15 - Inspectionable filter (optional)
16 - Inspectionable filter
17 - Antifreeze thermostat
18 - 8 bar safety valve
19 - Tank unit draining valve
20 - DHW vessel shut-off valve
21 - DHW 8 l expansion vessel
22 - Hydraulic manifold
22a - Manifold delivery sector
22b - Manifold return sector
23 - Filling valve
24 - Manual vent valve
25 - 3-way valve (Motorized)
26 - Automatic vent valve
27 - Boiler probe
28 - Boiler

AC - Domestic hot water outlet
AF - Domestic cold water inlet
MZ1 - Direct zone system delivery
RZ1 - Direct zone system return
MZ2 - Mixed zone system delivery
RZ2 - Mixed zone system return

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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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Per richiedere ulteriori approfondimenti specifici, i Professionisti del settore possono anche avvalersi dell'indirizzo e-mail: **consulenza@immergas.com**
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