



emix TANK

OPERATING AND INSTALLATION INSTRUCTIONS • ISTRUZIONI D'USO E D'INSTALLAZIONE
NOTICE D'UTILISATION ET D'INSTALLATION • BEDIENUNGS-UND INSTALLATIONSANLEITUNG
INSTRUCCIONES DE USO Y INSTALACION • MANUAL DE INSTRUÇÕES E INSTALAÇÃO
ΟΔΗΓΙΕΣ ΧΡΗΣΗΣ και ΕΓΚΑΤΑΣΤΑΣΗΣ

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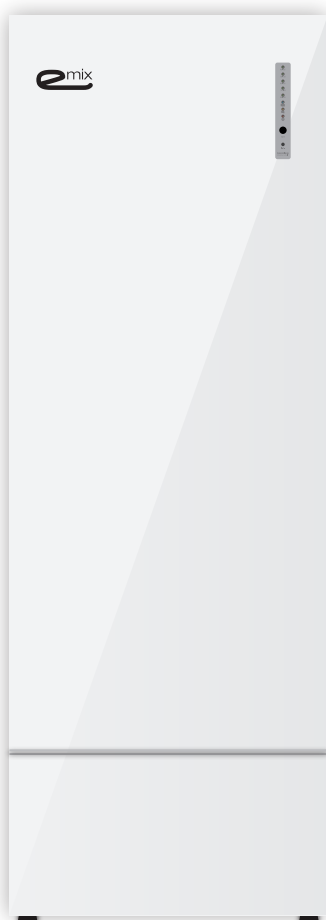
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Emix



Emix TANK 220



Emix TANK 300

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DECLARATION OF CONFORMITY

This product is marked **CE** as it satisfies Directives:

- Low voltage no. 2006/95/EC.
- Electromagnetic Compatibility no. 2004/108 EC, 92/31 EEC and 93/68 EEC.

This declaration will become void in case of misuse and/or from non observance though partial of Manufacturer's installation and/or operating instructions.



INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT IN ACCORDANCE WITH THE EUROPEAN DIRECTIVE 2012/19/EU

At the end of its working life this equipment must not be disposed of as an household waste.

It must be taken to special local community waste collection centres or to a dealer providing this service.

Disposing of an electrical and electronic equipment and its batteries separately avoids possible negative effects on the environment and human health deriving from an inappropriate disposal and enables its components to be recovered and recycled to obtain significant savings in energy and resources.

In order to underline the duty to dispose of this equipment and batteries separately, the product is marked with a crossed-out dustbin.

F-GAS Regulation (EC) No. 842/2006

Do not vent R410A into atmosphere: R410A is a fluorinated greenhouse gas, covered by Kyoto Protocol, with a Global Warming Potential (GWP) = 1975.

Generalities

Recommendations

- The personnel responsible for receiving the unit must conduct a visual inspection in order to identify all damage to which the unit may have been subjected during transport: refrigerating circuit, electrical cabinet, chassis and cabinet.
- During installation, troubleshooting and maintenance operations, never use the pipes as a step: under the stress, the pipes may break and the refrigerant may cause serious burns.

IMPORTANT!

Please read before installation

This system meets strict safety and operating standards.

For the installer or service person, it is important to install or service the system so that it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.
- The unit must be supplied with a dedicated electrical line.

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WARNING

This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.



CAUTION

This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

In case of improper installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

- During installation, connect before the refrigerant system and then the wiring one; proceed in the reverse order when removing the units.



WARNING

When wiring

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIANS SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked, to ensure the grounding.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring.
Improper connections and inadequate grounding can cause accidental injury and death.
- Ground the unit following local electrical codes.
- The Yellow/Green wire cannot be used for any connection different from the ground connection.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- Do not use multi-core cable when wiring the power supply and control lines. Use separate cables for each type of line.

When connecting refrigerant tubing

- Keep all tubing runs as short as possible, accordingly to the allowable distances from the outdoor unit (see manual).
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them; screw by hand and then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

When servicing

- Turn the power OFF at the main power board before opening the unit to check or repair electrical parts and wiring.
- Clean up the site after the work, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.
- Ventilate the room during the installation or testing the refrigeration system; make sure that, after the installation, no gas leaks are present, because this could produce toxic gas and dangerous if in contact with flames or heat-sources.

Installation location

- ⌋ We recommend this appliance to be installed properly by qualified installation technicians in accordance with the installation instructions provided with the unit.



WARNING

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- ⌋ Do not install this appliance where there are fumes or flammable gases, or in an extremely humid space such as a green house.
- ⌋ Do not install the unit where excessively high heat-generating appliances are placed.
- ⌋ Do not install the unit where the atmosphere is extremely damp or humid (e.g. greenhouse or laundry) it could be wetted by drops of water (i.e. in laundries).

Electrical requirements

- ⌋ Before installation, check that the voltage of the electric supply in your home or office is the same as the voltage shown on the nameplate.
- ⌋ All wiring must conform to the local electrical codes. Consult your dealer or a qualified electrician for details.
- ⌋ Each unit must be properly grounded with a ground (or earth) wire or through the supply wiring.
- ⌋ Wiring must be done by a qualified electrician.



CAUTION

- ⌋ If the unit hasn't been used for a long period, to warm up the system, the power mains must be turned on at least 1 hour before operation.

Safety instructions

- ⌋ Read this booklet carefully before using this appliance. If you still have any difficulties or problems, consult your dealer for help.
- ⌋ This appliance is designed to give you domestic hot water. Use this only for its intended purpose as described in this Instruction Manual.



WARNING

- ⌋ Never use or store gasoline or other flammable vapour or liquid near the unit. It is very dangerous.



CAUTION

- ⌋ Never touch the units with wet hands.
- ⌋ Do not let children play with the appliance.
- ⌋ This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the air conditioner by a person responsible for their safety.

Introduction

Emix tank is the innovative indoor unit in the iSeries system range, able to provide domestic hot water from a thermodynamic source all year round, i.e. independently of the system's operating mode.

Emix tank is a new component of the iSeries system which is added to the very broad range of indoor units.

The purpose of Emix tank is to produce domestic hot water through storage, using the energy produced directly from the heat pump (therefore renewable energy) and providing the service at the same time as heating and cooling the environments, thanks to the various air and/or hydronic indoor units of the iSeries range.

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Emix tank 220 & 300 lt

Emix tank 220 lt and 300 lt offering you a complete solution, including:

- the Emix concepts and components
- a tank of 220 or 300 liters made in Stainless Steel AISI444 (currently the best)
- the solar coil in Stainless Steel AISI316L to be connected to a third parts solar panel system
- three per 1 kW electric elements managed by the electronics of Emix tank or manually by the end users
- the mixing valve to manage properly the hot water temperature
- electric connections to manage the tank by iSeries and to power it by single phase or three phase power supply

Emix tank is both a proper heat pump tank and a full feature electrical water heater

Emix tank must be connected to an outdoor unit of the iSeries range equipped with special software and a specific connection dedicated to Emix tank. The compatible outdoor units are all the following outdoor units of the iSeries range with EMX port (*)

REF. MODELS	ARGO OUTDOOR UNITS	TECHNIBEL OUTDOOR UNITS
G30	AEI1G30EMX	GR9FI30R5IBA
G42	AEI1G42EMX	GR9FI42R5IBA
G50	AEI1G50EMX	GR9FI50R5IBA
G65	AEI1G65EMX	GR9FI65R5IBA
G80	AEI1G80EMX	GR9FI80R5IBA
G110	AEI1G110EMX	GR9FI110R5IBA

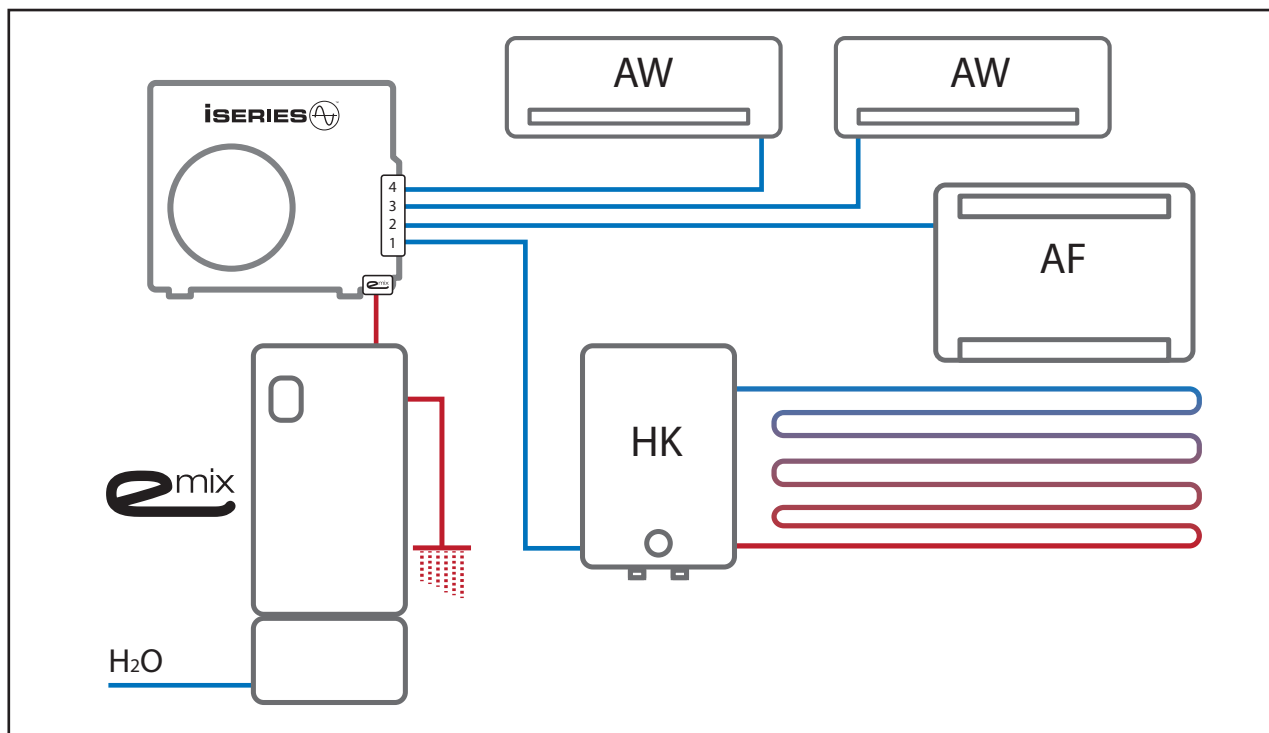
REF. MODELS will be use in the present manual to identify both Argo and Technibel outdoor units.

(*) All the previous models does not support Emix tank.

The following diagram illustrates the concept exposed on the previous page and shows a system configuration where three indoor direct expansion units, a hydrokit for a floor system and an Emix tank coexist, all connected to a G110.

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Emix tank always works in heating mode even if the other units are working in cooling mode; during this operation mode, Emix tank is able to recover the heat which would otherwise be lost in the outdoor air, significantly increasing the energy efficiency of the entire system.

There are several possible configurations with Emix tank and the one represented in the previous figure is just one of many.

Rating data

	Emix tank 220	Emix tank 300
Power supply	230 V /1/50 Hz - 380 V /3/50 Hz	
Minimum power input	4 W/0,05 A	
Max power input	70 W/0,53 A	
Water connection	3/4" G – 3/4" G	
Refrigerant connection (R410A)	3/8" – 3/8"	
Net weight	95 Kg	114 Kg
Dimensions (H/W/D)	1460x598x618 mm	1875x598x618 mm
Electric backup heaters	3 kW	

It is warmly suggested to install a softener or a polyphosphate filter to avoid limestone and consequently performance drop and a water filter 3/4 " to be installed upstream of tap connection; in addition to this, service valves, mixing valve and vent valve are suggested. Please check hydraulic layouts at the end of this manual.

How to install Emix tank

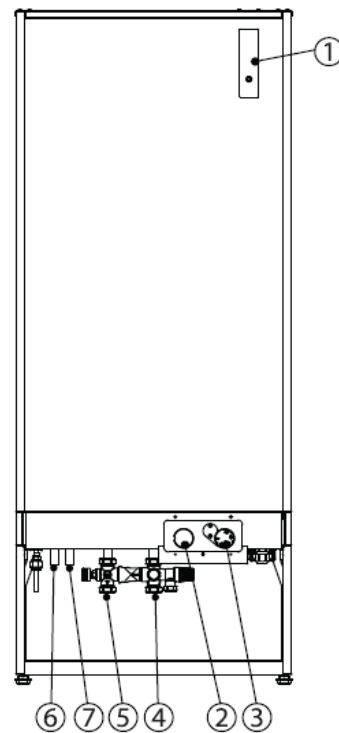
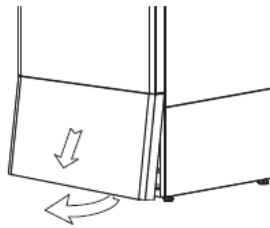
Emix works only with an iSeries outdoor unit system; it is commonly connected to the proper EMX port but could be connected also to a normal port like G30 that has an adapter from 3/8" to 1/4" for the liquid return flare. Anyway in emergency conditions, you can use Emix tank as electrical water heater without the iSeries heat pump.

As first step you have to remove the bottom cover simply by your hand; it is not fixed by screw and you have only to pickup it by the basement.

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MAIN PARTS

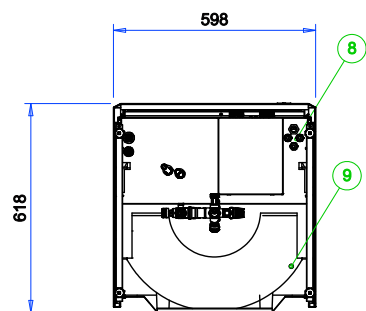
1. Control panel
2. Main switch
(selector switch)
3. Thermostat
(locked to 85 °C)
4. Cold water inlet
5. Hot water outlet
6. Solar coil inlet
7. Solar coil outlet



Detaching bottom sheet

Bottom front sheet is detached by pulling the sheet from bottom end. When the sheet is partially open, pull the sheet downwards.

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HEIGHT

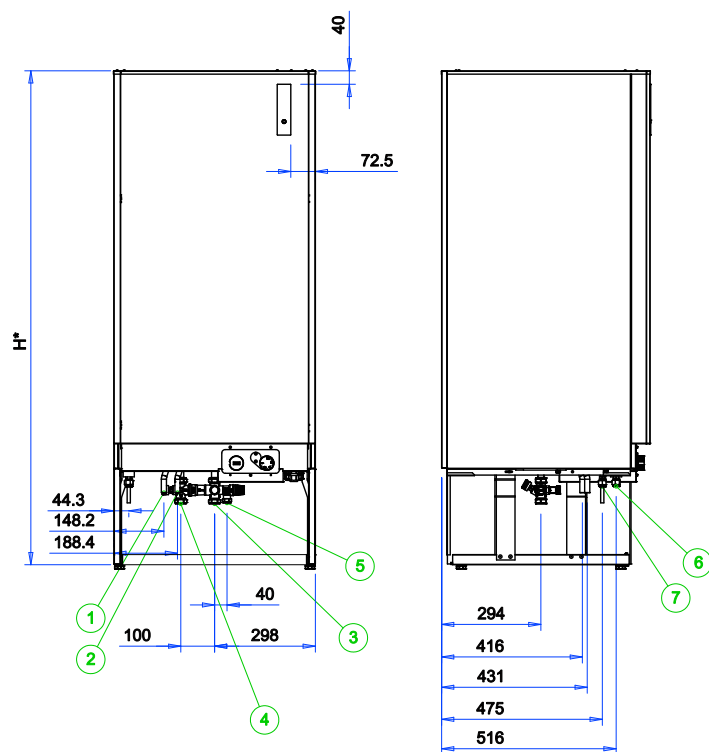
220 LITRE UNIT 1460 mm
300 LITRE UNIT 1875 mm

WEIGHT

220 LITRE UNIT 95 KG
300 LITRE UNIT 114 KG

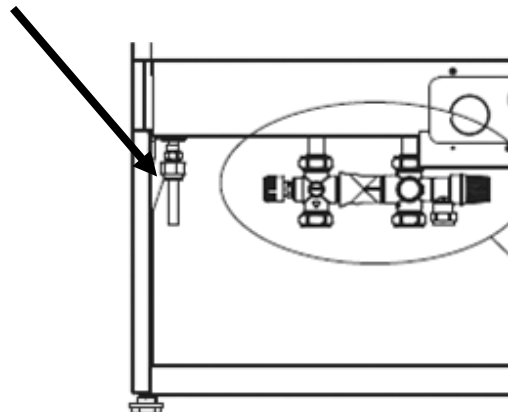
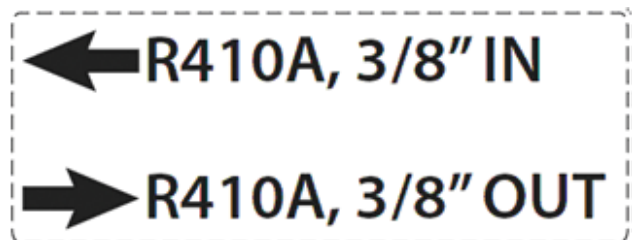
Additional information

- 1. SOLAR COIL INLET
- 2. SOLAR COIL OUTLET
- 3. COLD DOMESTIC WATER INLET
- 4. HOT WATER OUTLET
- 5. PRESSURE RELIEF VALVE OUTLET (10 bar)
- 6. REFRIGERANT IN
- 7. REFRIGERANT OUT
- 8. ELECTRIC INLETS
- 9. BOILER THERMOWELL FOR SOLAR SYSTEM



On the bottom part you will see also other two pipes; they are the refrigerant circuit between the outdoor unit and the tank.

There is a label near to the pipes; it is reported below:



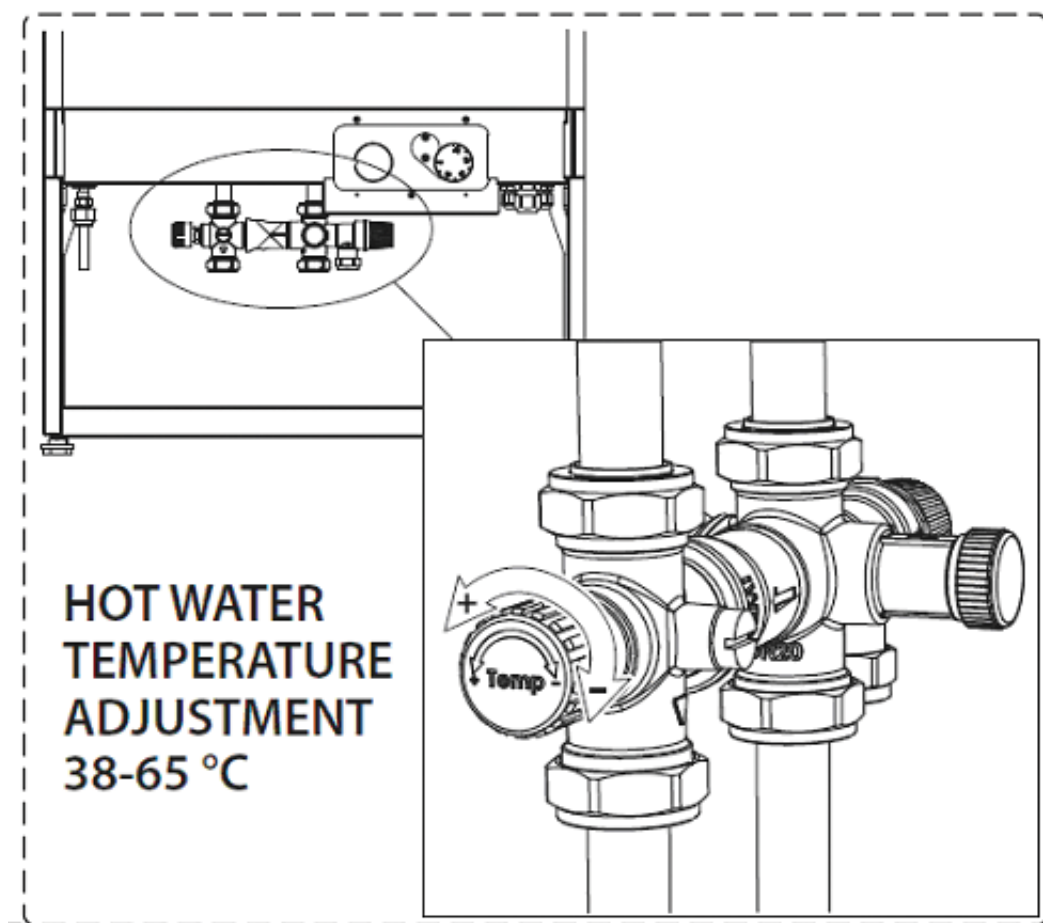
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R410A 3/8" IN is the pipe from the outdoor unit

R410A 3/8" OUT is the pipe to the outdoor unit

Pay the max attention to respect the sense of that connections, both if you are using Emix tank connected to the EMX port or the standard port of the outdoor unit

Here below the water connection and mixing valve; please provide an expansion tank (18 lt or more), water filter before the cold water connection in order to save the quality of components and connect the security valve to a discharge connection.



And now follow the next steps with max care:

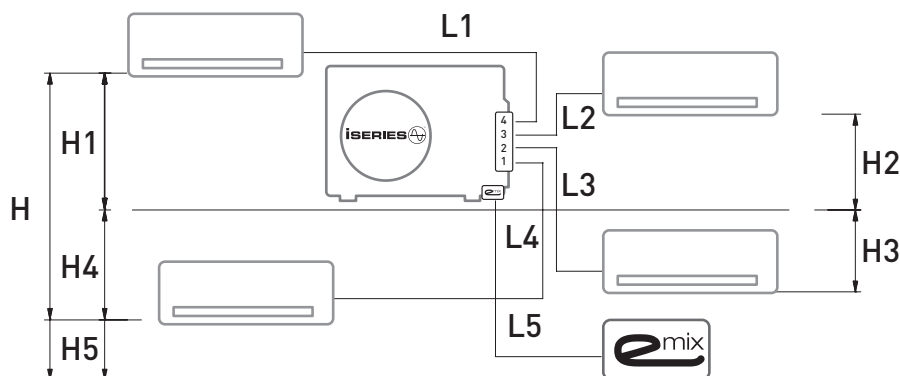
- Close the valves on the EMX port of outdoor unit (G42, G50, G65, G80, G110).
- Disconnect the bypass from the valves on the EMX port (take care of it because you will need it in case of dismount of Emix tank unit).
- Connect the copper pipes between outdoor unit and Emix tank for (G42, G50, G65, G80, G110). (warmly suggested a strong insulation in order to avoid loses of precious energy).
- Perform the vacuum procedure.
- Open the valves of EMX port.
- Connect the water to the tank (It is recommended to install an expansion tank of 18 lt, service valves on the connections of the water circuit in order to make installation and maintenance operations easier and a pipe on the high pressure safety output of the security valve).
- It is warmly suggested to install the filter upstream the water circuit and a softener or polyphosphate filter to avoid limestone.

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Connection Limits

Refrigerant Circuit

Emix tank is a component that may be connected to the other types of indoor units of the iSeries range at the same time and without specific limitations by using the special connection for Emix tank and duly considering the length of the Emix tank pipe to be added to the total length set by the outdoor unit (we advise a specific insulation of the Emix tank pipes to guarantee the minimum dispersion of energy).



		STANDARD LOAD		ADDITIONAL LOAD	
		L Tot (m)	L n (m)	L Tot (m)	L n (m)
G30	Mono	7,5	-	15	-
G42	Mono	7,5	-	20	-
	Dual	15	12	30	25
G50	Mono	7,5	-	20	-
	Dual	15	12	30	25
G65	Mono	20	-	35	-
	Dual	30	25	45	30
	Triad	30	20	45	25
G80	Mono	30	-	50	-
	Dual	40	30	65	30
	Triad	40	30	65	30
	Quadri	40	30	65	30
G110	Mono	30	-	50	-
	Dual	40	30	65	30
	Triad	40	30	65	30
	Quadri	40	30	65	30

Tot L = Total length of pipes, given by the sum of pipe lengths for each indoor unit (L1+L2+L3...)

L n = Maximum pipe length per single indoor unit (n = 1, 2, 3...)

MAXIMUM HEIGHT DIFFERENCE OUTDOOR UNIT/INDOOR UNIT: 10 m - H1, H2, H3, H4, H5

MAXIMUM HEIGHT DIFFERENCE BETWEEN INDOOR UNITS: 5 m - H

Choose the configuration by the number of indoor units (excluding Emix tank unit) and by the outdoor unit model.

- Check connection limits including Emix tank unit distance
- Additional refrigerant charge for Emix tank line (if needed) is : 15 g/m

Length and elevation limits for Emix tank unit are the same as those of standard indoor units.

Example n° 1

- Outdoor unit: G80
- Number of indoor units: 4 size A (quadri application)
- Total indoor unit tubing length: 30 meters
- Emix tank tubing length: 5 meters
- Total tubing length (including Emix tank): 35 meters

G80 limits in quadri application is 40 meters. The system is ok, without additional load.

Example n° 2

- Outdoor unit: G80
- Number of indoor units: 4 size A (quadri application)
- Total indoor unit tubing length: 50 meters
- Emix tank tubing length: 7 meters
- Total tubing length (including Emix tank): 57 meters

G80 limits in quadri application is 65 meters, with additional load. You have to add: 15 g/m x 17 m.

Electrical connections

Emix tank must always be connected to the electrical power supply in a separate manner compared to the connection of the outdoor unit of the iSeries system.

General

- The acceptable voltage variation is: $\pm 10\%$ during operation.
- The electrical connection conduits must be fixed.
- Class 1 unit.

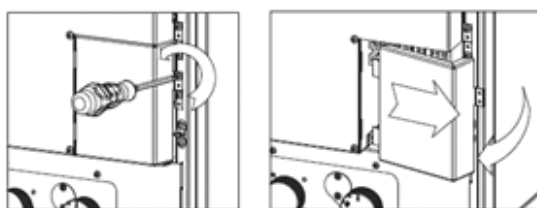
Power supply

- The power supply must come from an isolation and electric protection device (not supplied) in accordance with existing regulations.
- The installation must be protected by a double-pole circuit-breaker (not included).

Remove the front panel by the same approach of the base part.

There are no screw to be removed and no wire to be disconnected.

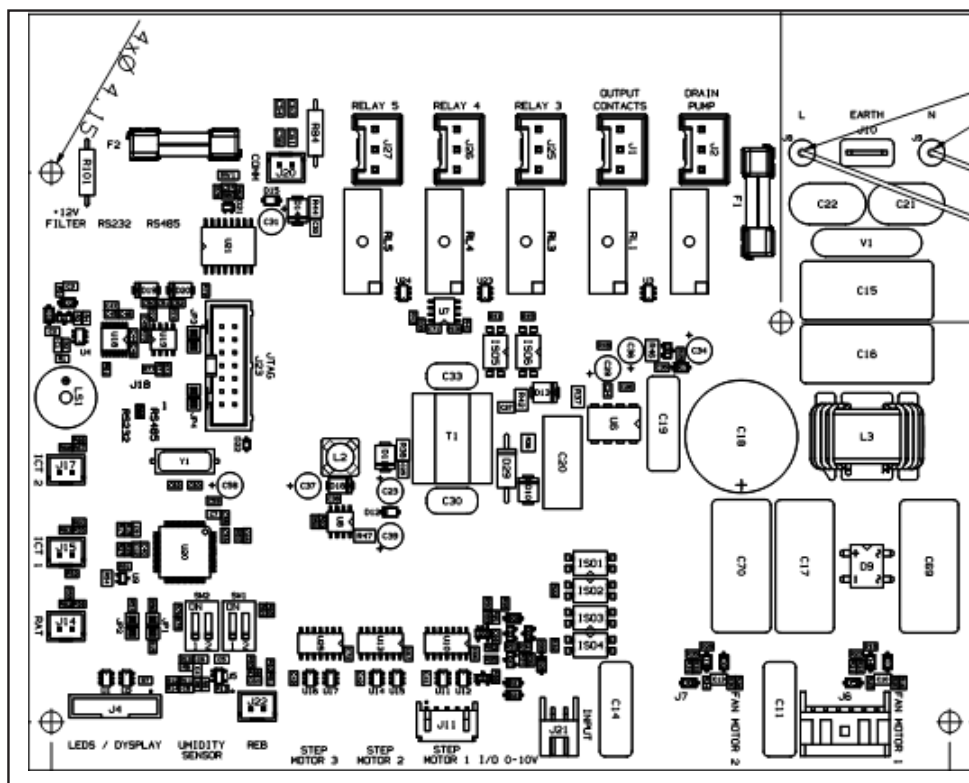
After you removed the front panel you will see the tank and in the bottom right part, you will see the cover of electrical connections.



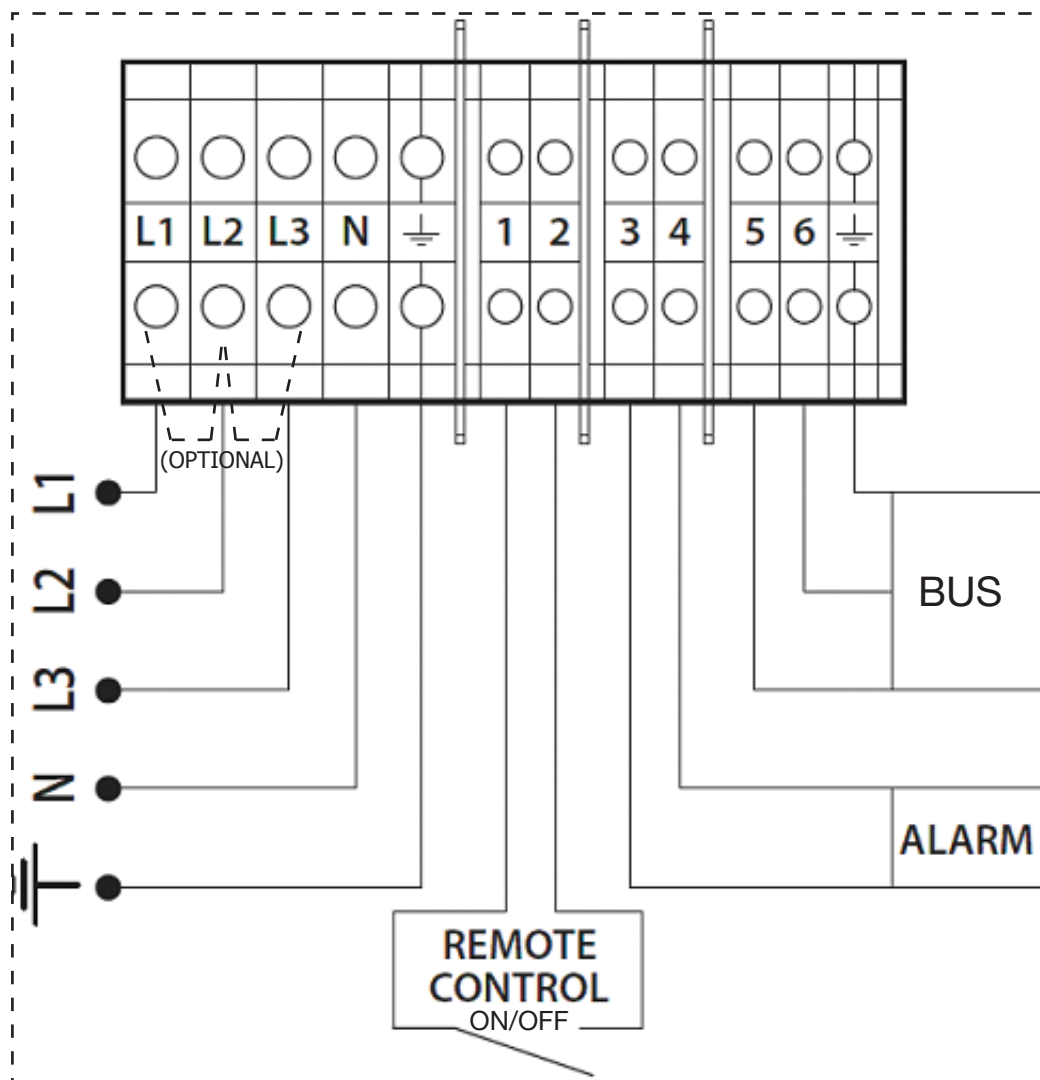
COUPLING SPACE COVER LID, OPENING:

OPEN THE SCREW HOLDING THE LID.
LIFT THE LID AND PULL IT TO THE RIGHT.

NOTE! APPLIANCE FRONT SHEET AND COVER LID OF
COUPLING SPACE MUST BE FASTENED SECURELY
ON THERE PLACE WHEN THE APPLIANCE IS
OPERATIONAL.



Now you can see the connection block as below:



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If you are connecting the Emix tank by single phase power supply, you will have to connect the phase line to L1. Close L1-L2 and L2-L3 with connection cables.

Connect the communication shielded pair cable (18 AWG) to the connection block C1 (5) and C2 (6) and the shield to the communication ground connection; take care about polarity between outdoor unit and Emix; in case of mistake you will see a communication error indication (all the LED flashing).

Alarm and remote control are two connection giving you the opportunity to control the Emix tank by remote wired connection, as sample from a Solar Panel Control Box or by Timer.

The electric schema is applied on the unit by a proper label.

Note 1: Emix tank electrical consumption is very low but in case electrical heater elements are activated, Emix tank has to support the flow of big amount of electrical energy; for that reason it is necessary to power Emix tank independently to the power supplied by the outdoor unit.

Electric back up setting

When electric back up heaters are connected you have always to set SW1 on PCB. This operation is mandatory.



Emix Tank Wirings

G30 outdoor unit: connect Emix bus to C1 C2 on outdoor unit (as a standard indoor unit)

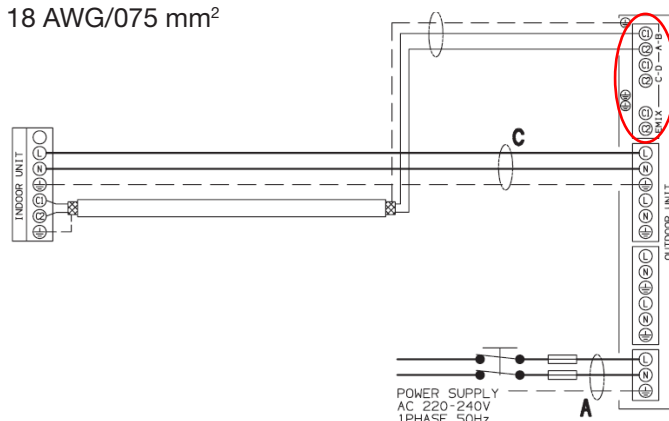
G42 - G50 - G65 outdoor units: connect Emix bus in parallel to C1 C2 on outdoor unit. There is no specific bus connection for Emix unit.

G80 - G110: connect Emix bus to specific C1 C2 on outdoor unit PCB.

Power input cable section: 4 mm²

Bus cable: shielded pair min. 18 AWG/0.75 mm²

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Legionella

Legionella is a bacteria present in any water system.

The proliferation of this bacteria depends on many factors and it finds the best conditions to survive between 20° C to 45° C. Country by country, there are some different local regulation about Legionella prevention but all of them require to heat water over than 50°C.

Anti legionella cycle is a special operation function performed by Emix. The goal of this function is to heat all water buffer volume. In this way, all bacteria that may have been inside the buffer would be killed.

Anti legionella cycle can not be deactivated in order to avoid health issues for end users. The cycle procedure can not be modified, neither.

Anti legionella cycle

The anti legionella cycle is closed by one of the following conditions:

- a) if the water temperature is 50° C for 2 hours continuously.
- b) if the water temperature is 55° C for 30 minutes continuously.
- c) if the water temperature is 60° C for 2 minutes continuously.

If within 72 hours (3 days) none of the above conditions have been satisfied, automatically the water set point is moved up to 60°C if lower to perform the cycle. The yellow LED is switched on.

If there are electrical elements connected, they can be used during anti legionella cycle.

During the cycle, if none of the above conditions is verified and, by water temperature trend analysis, the software understands that there is not enough energy using only the heat pump, the first electrical element will be switched on automatically. All the other electrical elements will be switched on every 120' checking temperature trend analysis up to reach one of the three conditions and to close the cycle. If cycle is closed, all electric elements are switched off.

If after 4 hours none of the above conditions occurred, the cycle will be considered NOT closed, it will continue and the yellow LED will flash with low frequency to alert the end user. For this reason, we warmly recommend to connect electric back up during Emix installation (or to enable them in Emix tank).

NOTE: the legionella cycle is fundamental for the health and if the iSeries system is running, normally it is done just by the thermodynamic energy; however we cannot exclude that in some cases the energy of electrical heater elements located inside the tank are needed and this is the reason because we warmly suggest to connect at least one element. However our company is not responsible if during the installation any electric heater element is connected to the Emix unit.

Electric back up management – Booster mode

By pressing operation button until the blue led is blinking, end users can activate the booster mode. In this case the software will manage the electric heaters under certain conditions.

If after 120' from the start up of the system (time counter does not start when the automatic mode is set but when the heat pump is switched on), water set point is not reached, the first electrical element will be activated automatically. The other steps, one by one, will be turned on every 120' following water temperature trend, up to reach set point. To exit the booster mode, it's necessary to repeat the starting procedure.

Electric back up management – Super Booster mode

By pressing operation button until yellow led is turned on (3 beeps will be listened when the button will be released), end user can activate the super booster mode. In this case all electric elements connected are switched on in one shot, together with the heat pump. When water set point is reached, all heaters are switched off.

To exit super booster mode, it's necessary to repeat the starting procedure.

This option is very useful when it's necessary to heat the water as soon as possible.

Electric back up management – Automatic modes

Emix tank software can automatically manage electric back up heaters under certain conditions. This mean that these operation modes are not to be set and that can not be deactivated.

They are:

- Antifreeze mode
- Cold draft prevention
- Electric water heater mode

Electric back up management – Antifreeze mode

If water temperature inside the buffer tank is lower than 10° C, all electric elements connected are switched on. When the water temperature reaches 11° C all the elements are turned off.

Electric back up management – Cold draft prevention

If water temperature is lower than 40° C and one or more indoor units is in cold draft condition, one by one electrical element are switched on per time (every 10') and switched off all together when water temperature reaches 50° C and no cold draft condition on any indoor unit is detected.

Electric back up management – Electric water heater

If the outdoor unit is stopped for maintenance of end user's decision (no communication), Emix tank unit could be used as controller of the electrical heater elements located inside the tank, exactly like any electric water heater. In this case, if the water temperature is lower than the desired temperature for more than 30', all the connected electrical heaters will switch on up to the reaching of the setpoint. End users can switch off Emix tank if they do not want to have this option.

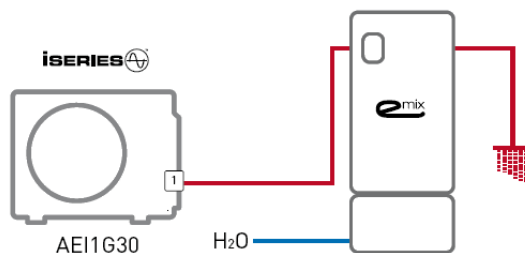
Emix tank connection-Only DHW application

Emix unit can be used with Iseries outdoor units in a specific configuration in order to create an heat pump system only for DHW production.

Only DHW application: G30 + Emix tank

Connect Emix tank unit to refrigerant port on the outdoor unit (there is no Emix port) using 1/4 -> 3/8 adapter provided with outdoor unit. The system will operate always in heating mode. Remove JP1 from PCB of Emix tank unit.

Max water temperature: 60° C. It's not possible to go over 60° C without external energy sources (electric heaters or similar). However, no errors will be displayed if water temperature set will be over 60° C.

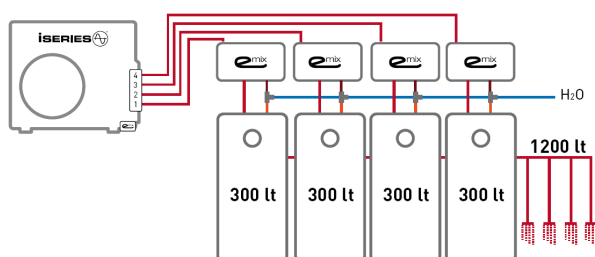


Only DHW application

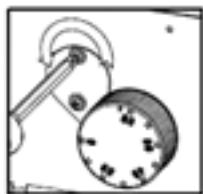
Connect Emix tank units to standard refrigerant ports on outdoor unit. 1/4->3/8 and 1/2->3/8 adapters are to be field supplied.

Do not disconnect Emix port bypass; Remove JP1 from every Emix PCBs. The system will operate always in heating mode; Emix tank units have to be addressed according to refrigerant connection (like multisplit application).

Max water temperature: 60° C. It's not possible to go over 60° C without external energy sources (electric heaters or similar). However, no errors will be displayed if water temperature set will be over 60° C.



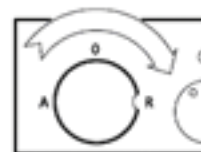
in case of need, the electrical elements could be managed by the end user exactly as any electrical water heater; in this case follow the below procedure:



Open the screws of temperature limiter's lid



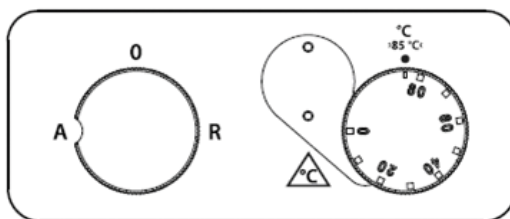
Set the thermostat to 65°C



Turn the main switch to R-position

How to use Emix Tank in electric boiler mode

First of all you have to switch on the unit by the main switch



A = automatic mode of operation to be used normally when the Emix tank is connected to the iSeries

0 = off mode

R = electric water heater manually controlled by thermostat (to be used if the iSeries is in maintenance)

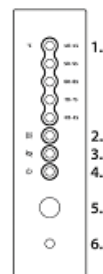
Control Panel

Here the front user panel

OPERATION CONTROL PANEL

Unit is turned on/off by pressing the control button for 5 seconds.

1. Temp. level indicators 40-85 °C		
	when blinking:	0-42.5 47.6-52.5 57.6-62.5 67.6-72.5 77.6-82.5
	when lit:	42.6-47.5 52.6-57.5 62.6-67.5 72.6-77.5 82.6-87.5
	2. Electric heating	
-	-	when blinking: activated
-	-	when lit: electric heating is operating
	3. Bacteria desinfection (autom. activation)	
-	-	when lit: water is heated to 60 °C
	4. Standby	
-	-	when lit: device is not operational
	5. Control button	
-	-	when pressed for 5 sec: device is turned on/off
	6. IR-receiver	



When the Emix is electrically connected the red led is ON (stand by).

- To switch on the unit you have to press the push button for 4"; when the red led will turn off and the first green led from the left (40-45°) will be lighted you have to release the push button; releasing it Emix unit is ON. Any use of the push button is activated when you release the push black button and not when you press it.
- Then, when Emix is active, it will indicate the water temperature inside the tank.
- If you want to setup the water temperature, you have to speedy press and release the push button enough time to see ON the green LED equivalent to the water temperature you want to set; then please wait five seconds and the Emix will go back in the working mode status indicating the current water temperature inside the tank.
- Emix is designed to be always ON; in case you want to switch it OFF you have to press for 4" the push button exactly as you want to switch on, then when the green LED will be switched off and the red LED will be switched ON you have to release immediately the push button, otherwise the unit will go into the electrical heater configuration (the blue led will pass from off to on).

How to disconnect and/or remove Emix tank unit

In case of Emix tank is connected to a normal indoor unit port, as common use of Emix with G30, the unit must be disconnected exactly as any other air indoor unit, like hi-wall, flow ceiling, etc.

In case of Emix tank is connected to the EMX port and by any reason it has to be disconnected and replaced, the installer has to do this procedure using a refrigerant recovery unit:

- close the valves of EMX port;
- connect the refrigerant recovery unit (R410A);
- recover the refrigerant inside the copper pipes and Emix tank unit;
- disconnect Emix and reconnect another Emix tank unit;
- make the vacuum;
- restore the refrigerant from recovery unit to the pipe and Emix tank unit;
- disconnect the recovery unit and re-open the valves of EMX port.

In case Emix tank must be removed definitively:

- close the valves of EMX port;
- connect the refrigerant recovery unit (R410A);
- recover the refrigerant inside the copper pipes and Emix tank unit;
- disconnect Emix tank and reconnect the bypass disconnected during the first installation;
- disconnect the recovery unit;
- make the vacuum on the bypass;
- open the valves of EMX port;
- switch on one of the indoor unit in cooling mode;
- connect the recovery unit to one of the liquid valve of indoor units;
- recover the refrigerant inside the outdoor unit;
- disconnect the recovery unit and be sure that the EMX port valves are open.

How to connect Emix tank tank to a solar thermal system

Emix tank tank could be connected to any type of thermal solar system, both natural and forced circulation.

In case of forced circulation solar system, by the water point of view, Emix tank tank must be connected to the solar tank exactly like any other tank in parallel to the cold and hot tap water (mixing valve); by the electric point of view Emix tank tank could be submitted to the solar control box if it has a dry contact to enable/disable Emix tank tank energy support to the water. In case the solar control box does not have any backup contact, Emix tank tank will run in parallel mode with the solar system and obviously will stop immediately the operation if the water is already hot by the sun.

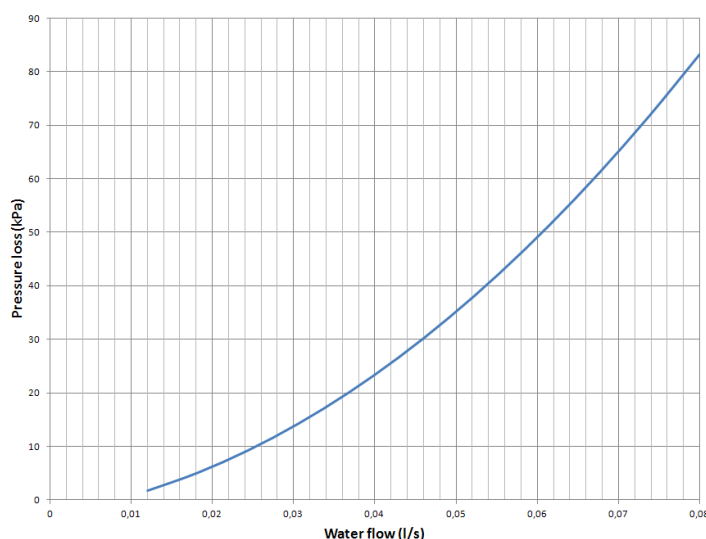
Solar coil length: 6,3 m

Material: Stainless steel AISI316L

Diameter: DN10

Position: Inside tank

Pressure loss of solar coil

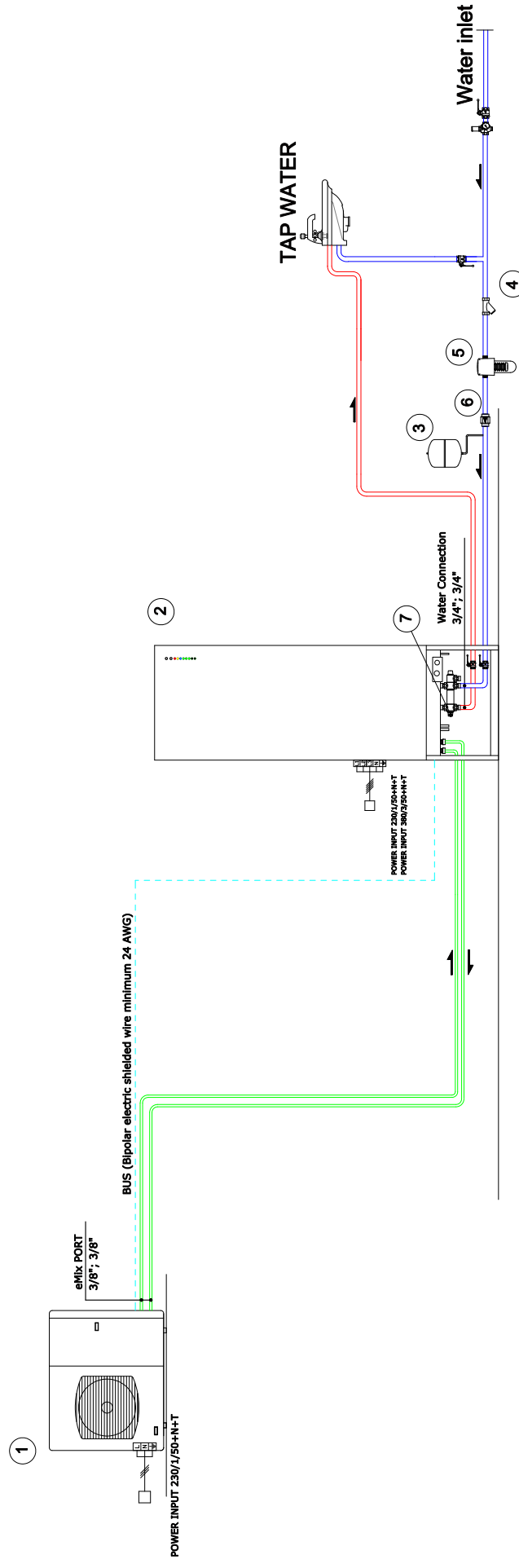


Domestic hot water sanitary circuit

Emix tank tank is a device using directly tap water; it is fully compliant with the European current regulation 98/83/EC about legionella cycle and raw material in contact with tap water and it is equipped with a double wall plate heat exchanger that give you the max. safety between refrigerant and tap water.

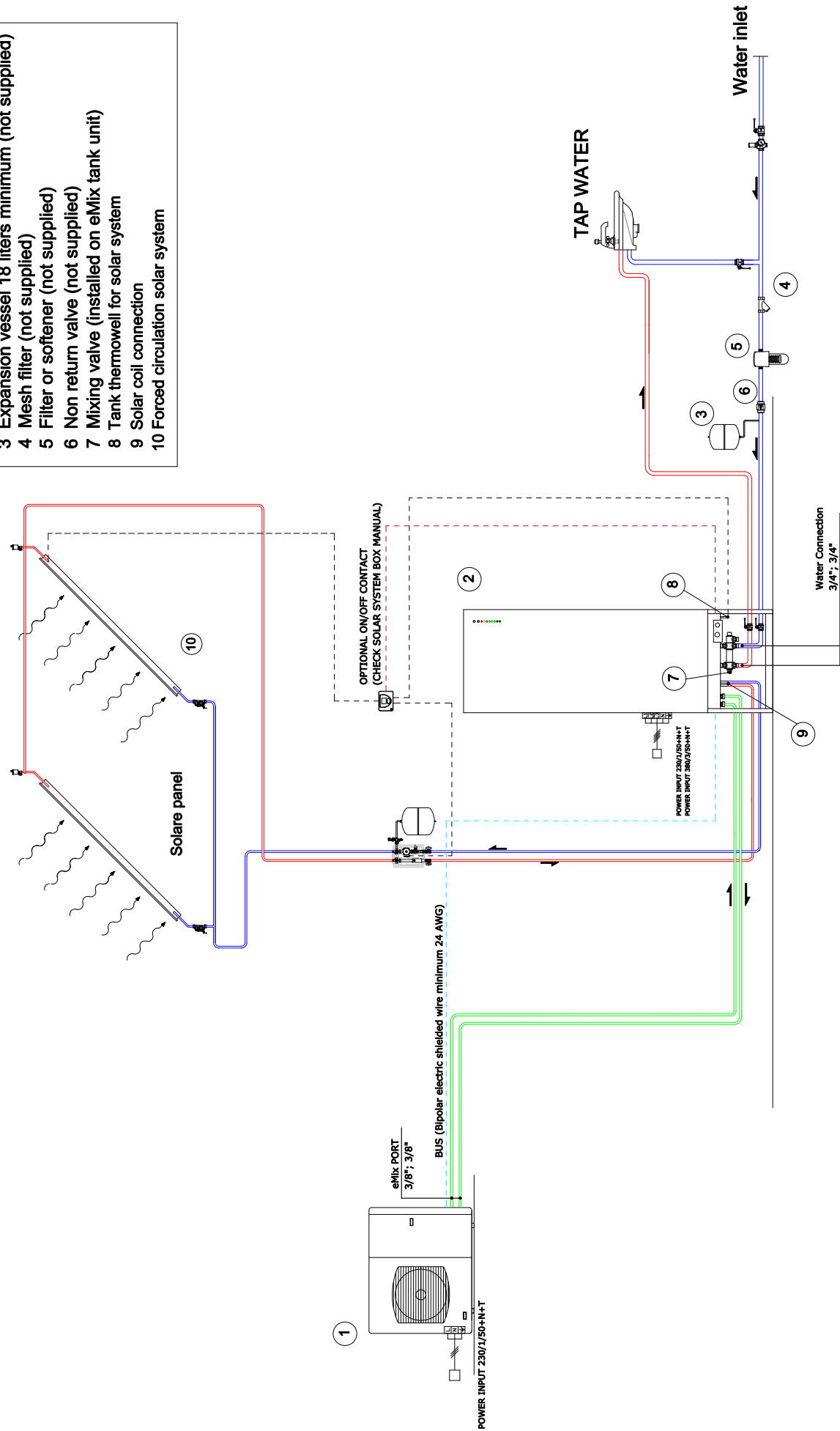
HYDRAULIC INDICATIVE LAYOUT - EMIX TANK 220/300 CONNECTION

- 1 iSeries EMX outdoor unit
- 2 eMix tank 220/300
- 3 Expansion vessel 18 liters minimum (not supplied)
- 4 Mesh filter (not supplied)
- 5 Filter or softener (not supplied)
- 6 Non return valve (not supplied)
- 7 Mixing valve (installed on eMix tank unit)



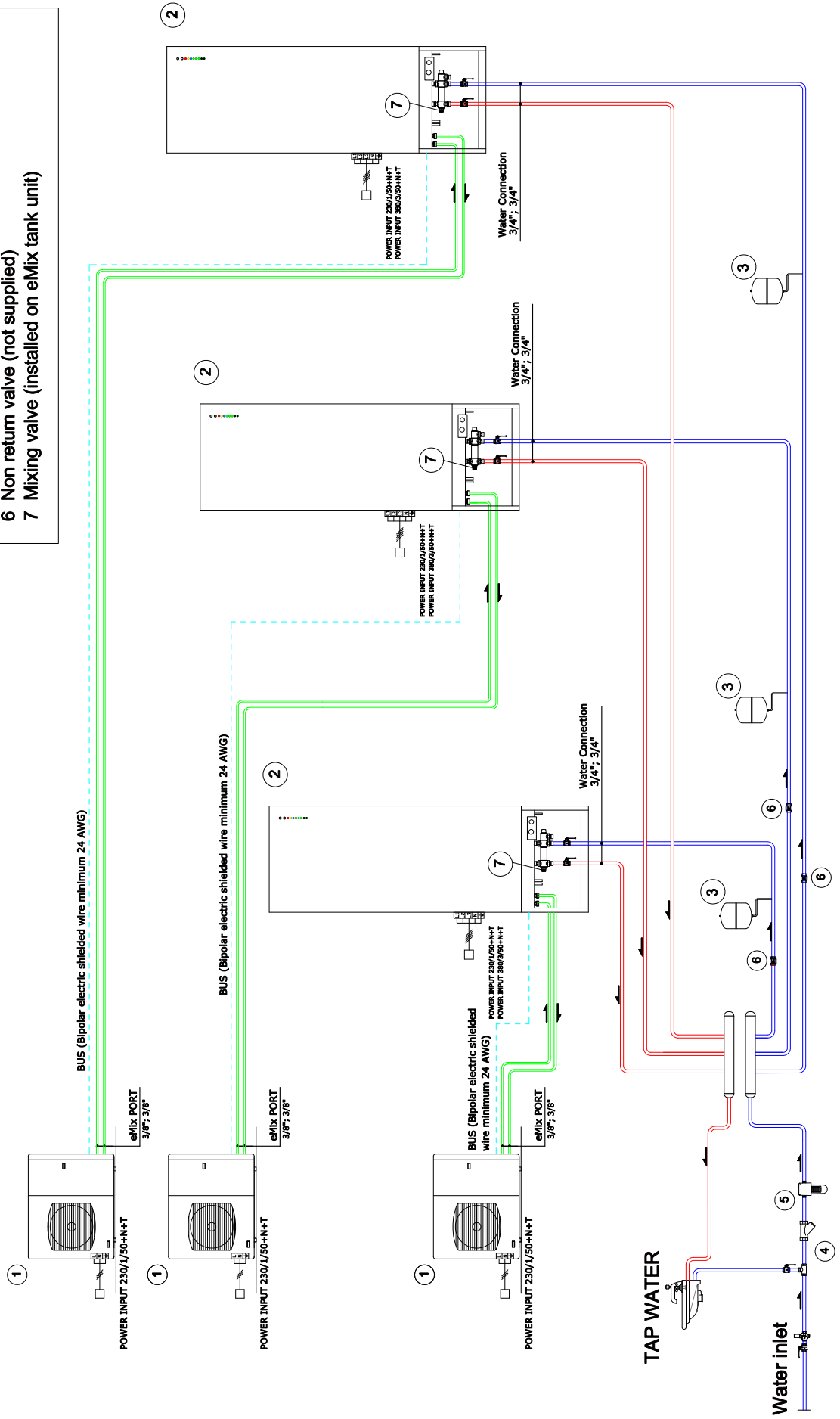
HYDRAULIC INDICATIVE LAYOUT - EMIX TANK 220/300 INTEGRATION WITH FORCED CIRCULATION SOLAR SYSTEM

- 1 iSeries EMX outdoor unit
- 2 eMix tank 220/300
- 3 Expansion vessel 18 liters minimum (not supplied)
- 4 Mesh filter (not supplied)
- 5 Filter or softener (not supplied)
- 6 Non return valve (not supplied)
- 7 Mixing valve (installed on eMix tank unit)
- 8 Tank thermowell for solar system
- 9 Solar coil connection
- 10 Forced circulation solar system



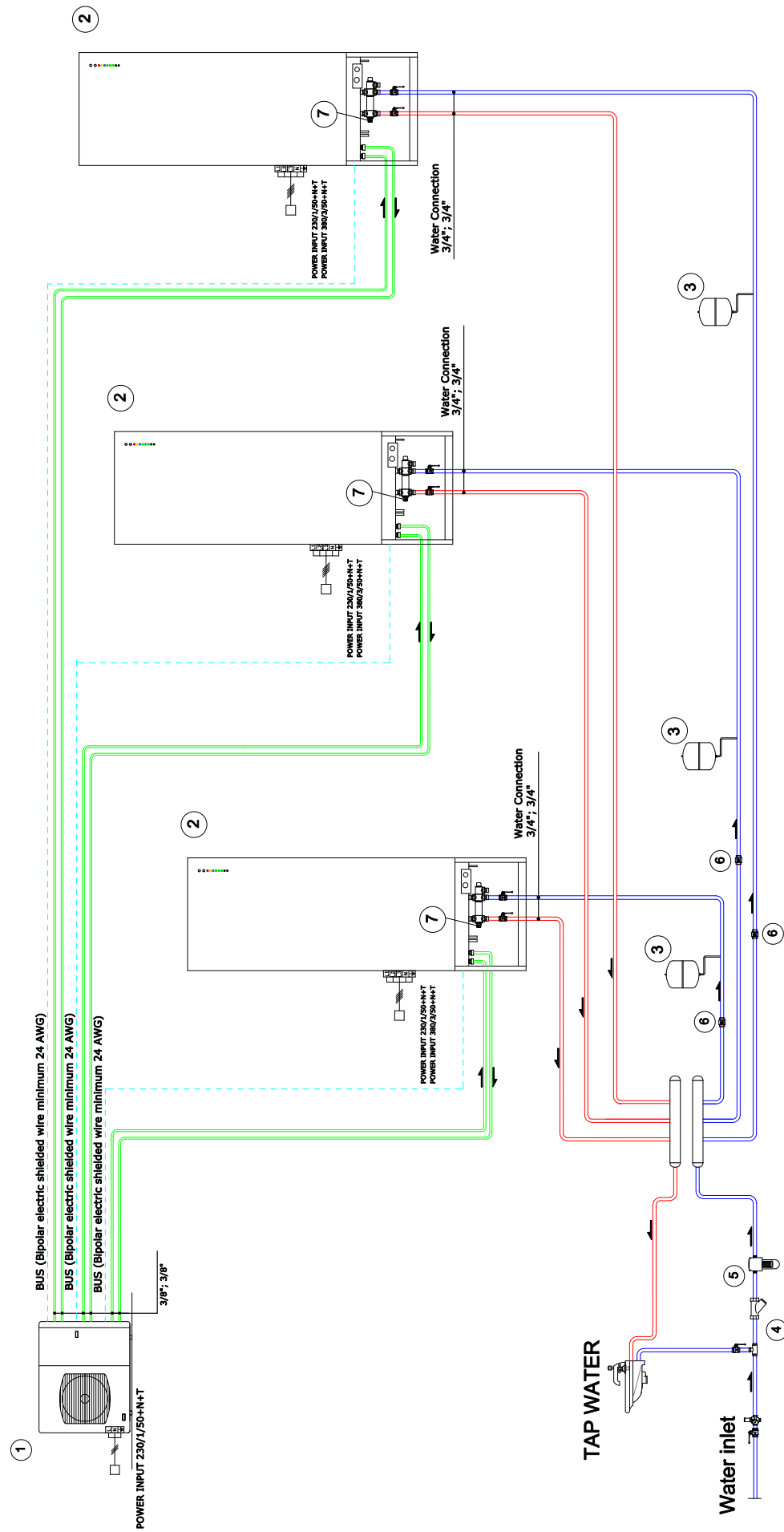
HYDRAULIC INDICATIVE LAYOUT - EMIX TANK 220/300 MULTIPLE CONNECTION

- 1 iSeries EMX outdoor unit
- 2 eMix tank 220/300
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- 4 Mesh filter (not supplied)
- 5 Filter or softener (not supplied)
- 6 Non return valve (not supplied)
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