

## General Norms

- The safety system should be added directly to the domestic water installation.
- A pressure-limiting device must be fitted in the DHW installation. The rated pressure of the safety valve must be < 0.8 MPa (8 bar, 6 bar for inertia tanks).
- If mains pressure is greater than 0.5 MPa (5 bar, 4 bar for inertia tanks), the installation of a pressure reducer is recommended to avoid exceeding the assigned pressure by more than 0.1 MPa (1bar).
- In tanks with primary circuit (tank in tank system or coil), this will must be equipped with a safety valve.
- It is normal for water to be discharged during heating (expansion). The volume discharged may be up to 3% of the capacity of the storage tank.
- Depending on the quality of the water, the pressure-regulating device should be regularly operated in order to remove lime deposits and to ensure that it is not blocked.
- Water may drip out of the discharge pipe of the pressure-regulating device. This pipe should be exposed to the open atmosphere in frost-free environment and in a constant downward sloping direction.
- Fit dielectric bushings at the DHW inlet and outlet pipes at the tank connections.
- Purge air from circuits once they have filled with water. The domestic can be purged by opening a hot outlet at the highest point.
- To avoid ram blows in the installation caused normally by "all-none" hydraulic opening elements (electrically-operated-valve in steam warming systems, pressure kits, etc..) To avoid ram blows in the installation caused normally by "all-none" hydraulic opening elements (electrically-operated-valve in steam warming systems, pressure kits, etc..)
- See additional information in the installation manual of each model.

**NOTE: Expansion Vessel or Vessels must be fitted in the primary (heating) circuit. This Vessel or Vessels must be sized correctly to accommodate the total water expansion capacity of the primary water in the tank and all relevant circuits.**

## Kits for unvented installation

TANK MODEL	KIT	UNVENTED KIT COMPOSITION	
GX300/400P-I, GX300/400PAC-I, GX130/200D-I, GX-130/210-D-I1, GX-210-D-I2	KIT 1	3.0/6.0 BAR INLET GROUP 22MM X 28MM TUNDISH. 12 LTR POTABLE VESSEL C/W BRACKET	CONNECTION HOSE FOR ABOVE. 28MM ZONE VALVE 28MM ZONE VALVE
GX600/800P-I, GX600PAC-I, GX-300-D-I, GX-260/300-D-I1, GX-260/300-D-I2, GX200R-I/M1-I/M2-I	KIT 2	3.0/6.0 BAR INLET GROUP 22MM X 28MM TUNDISH. 18 LTR POTABLE VESSEL C/W BRACKET	CONNECTION HOSE FOR ABOVE. 28MM ZONE VALVE 28MM ZONE VALVE
GX1000P-I, GX-400-D-I, GX-400-D-I1, GX300R-I/M1-I/M2-I	KIT 3	3.0/6.0 BAR INLET GROUP 22MM X 28MM TUNDISH. 24 LTR POTABLE VESSEL C/W BRACKET	CONNECTION HOSE FOR ABOVE. 28MM ZONE VALVE 28MM ZONE VALVE
GX600D-I / GX600D-I1, GX500R-I/M1-I/M2-I	KIT 4	3.0/6.0 BAR INLET GROUP 22MM X 28MM TUNDISH 50 LTR POTABLE VESSEL C/W BRACKET	28MM ZONE VALVE 28MM ZONE VALVE
GX-800-R-I/M1-I/M2-I	KIT 5	1" 3.5X6.0 BAR INLET GROUP 80L VESSEL	ZONE VALVE
GX-1000-R-I/M1-I/M2-I	KIT 6	1" 3.5X6.0 BAR INLET GROUP 100L VESSEL	ZONE VALVE

## P&T relief valve

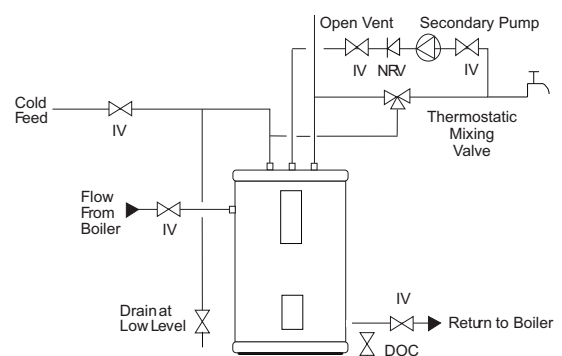
Nominal set pressure: 7 bar		
Nominal size P&T relief valve	3/4"	1-1/4"
Discharge flow rate, l/h	650	1950
Discharge power rate, KW*	37.77	113.2

\*Discharge power rate is calculated with a secondary temperature increase of 50 °C. Please, fix the P&T relief valve to your installation conditions

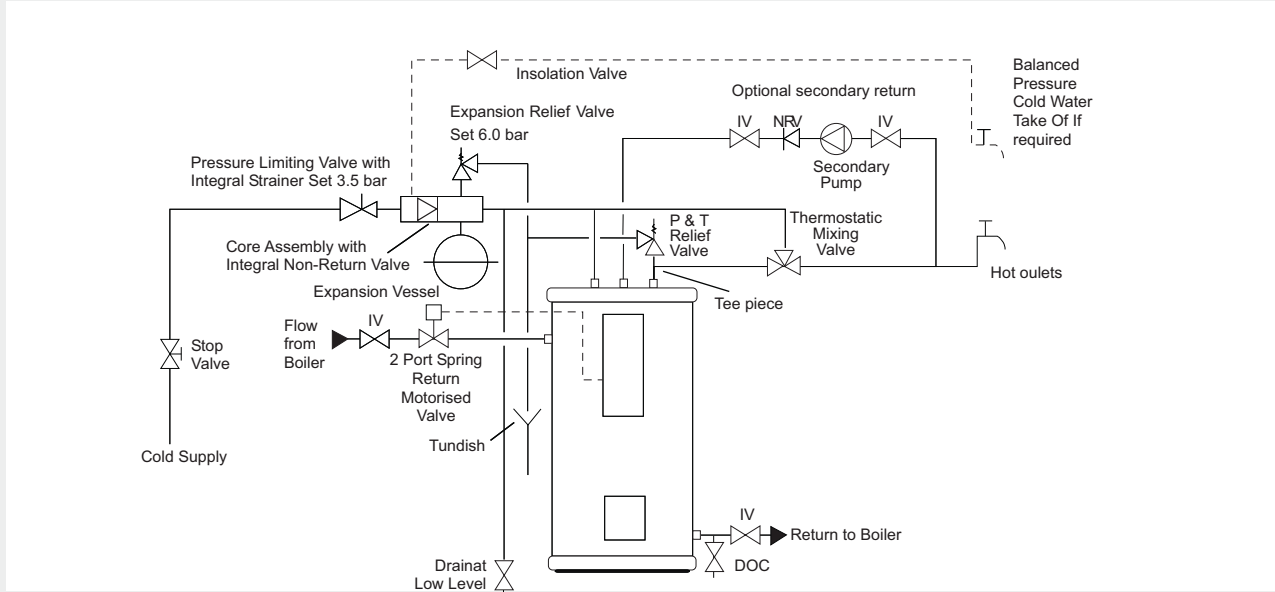
## Installation examples

**The hydraulic squemes shown in this technical catalogue are only instalation examples and are not mandatory. The installation and all the elements included must be planned by the installator under his responsibility.**

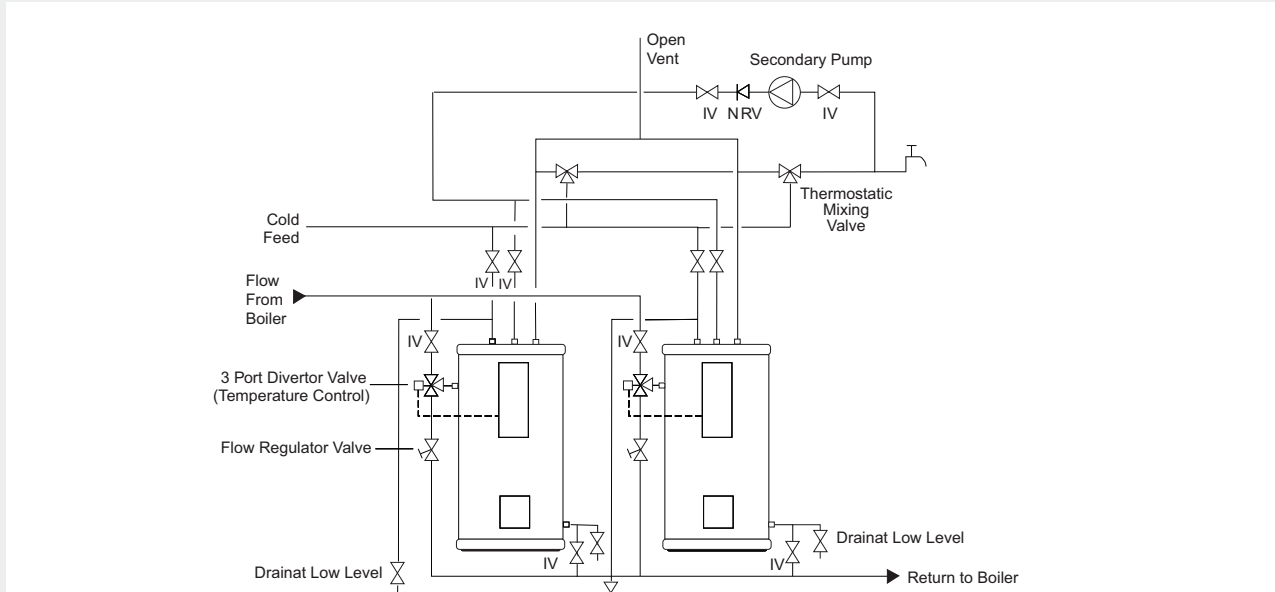
**GX-DI / GX-DI1 / GX-DI2: Typical single calorifier open vented application**



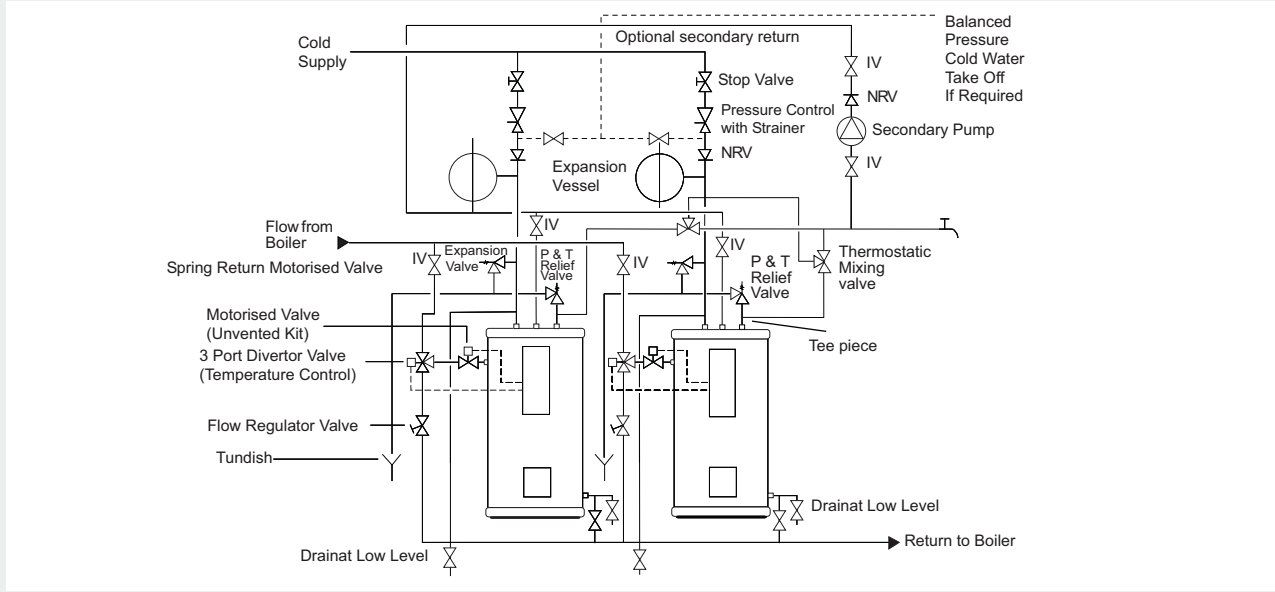
**GX-DI / GX-DI1 / GX-DI2: Typical single calorifier unvented application**



**GX-DI / GX-DI1 / GX-DI2: Typical multiple calorifier open vented application**

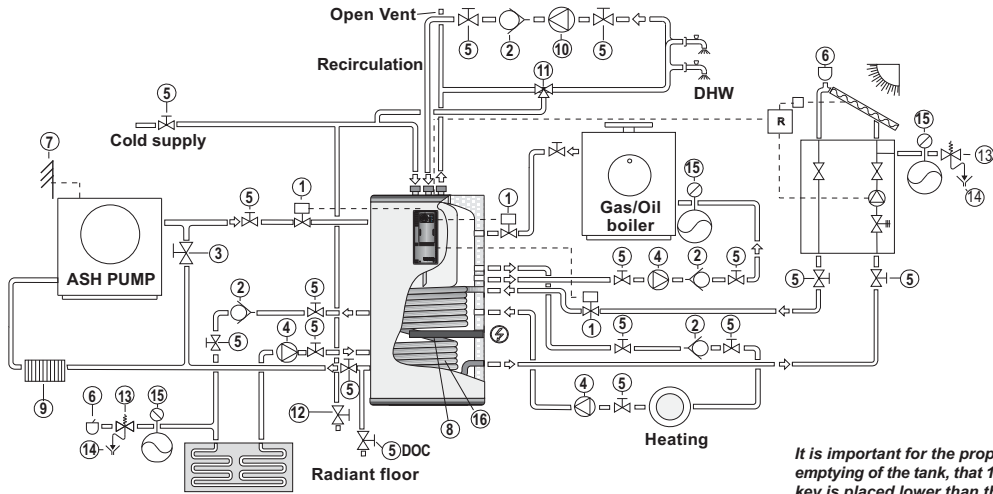


**GX-DI / GX-DI1 / GX-DI2: typical multiple calorifiers unvented-direct-on-mains/boosted supply application**



**Typical single tank open vented application. Multifunctional GX-600/800/1000-P-I tanks with heating coil. Example of Solar, ASH and boiler connection**

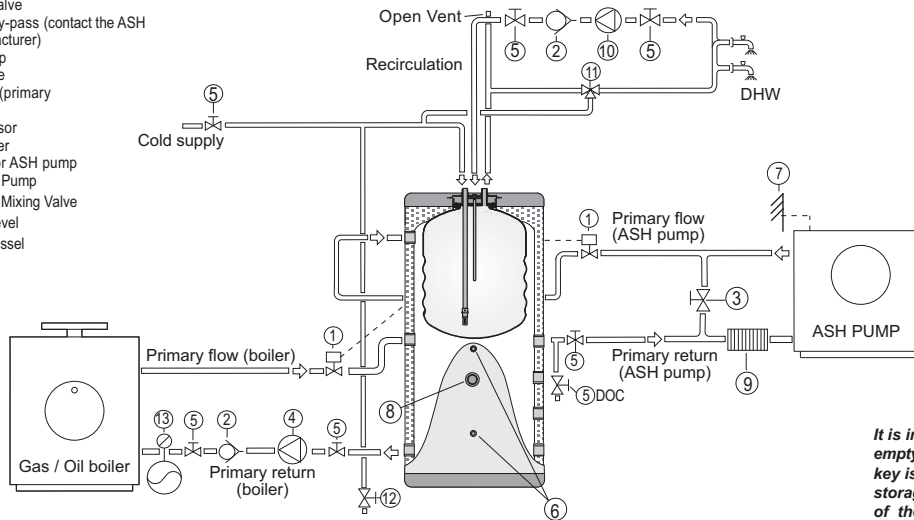
- 1 - 2 Port Spring Return Motorised Valve
- 2 - Non return valve
- 3 - Adjustable By-pass (contact the ASH pump manufacturer)
- 4 - Primary pump
- 5 - Shut-off valve
- 6 - Purger / drain valve
- 7 - External sensor
- 8 - Electric heater
- 9 - Sieve filter for ASH Pump
- 10 - Recirculation Pump
- 11 - Thermostatic Mixing Valve
- 12 - Drainat low level
- 13 - Safety valve
- 14 - Emptying / Drain
- 15 - Expansion Vessel
- 16 - Heating coil



*It is important for the proper emptying of the tank, that 12 cut key is placed lower than the storage tank, helping the outlet of the same one*

**Typical single tank open vented application. Multifunctional tanks without heating coil GX-300/400/600-PAC-I. Example of Gas / Oil boiler and ASH pump connection**

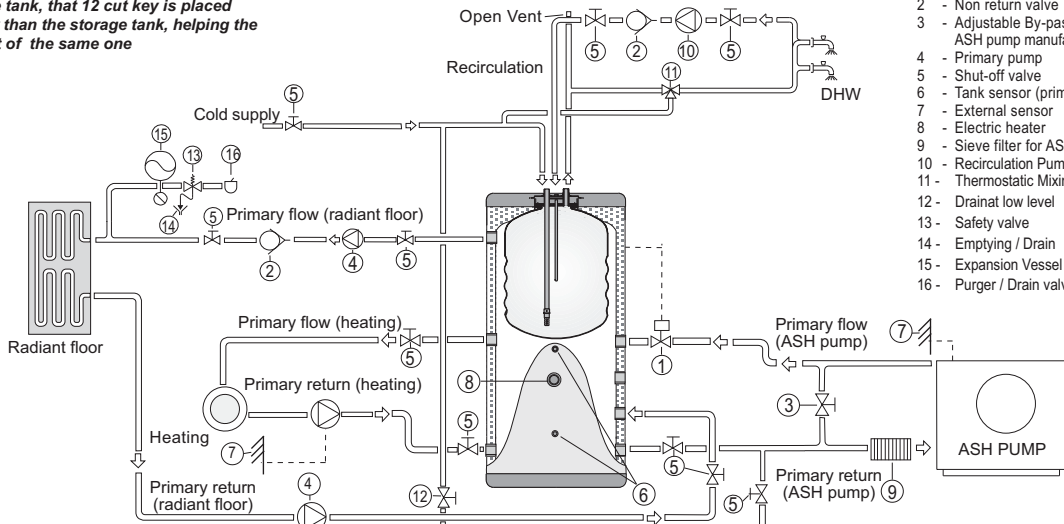
- 1 - 2 Port Spring Return Motorised Valve
- 2 - Non return valve
- 3 - Adjustable By-pass (contact the ASH pump manufacturer)
- 4 - Primary pump
- 5 - Shut-off valve
- 6 - Tank sensor (primary circuit)
- 7 - External sensor
- 8 - Electric heater
- 9 - Sieve filter for ASH pump
- 10 - Recirculation Pump
- 11 - Thermostatic Mixing Valve
- 12 - Drainat low level
- 13 - Expansion vessel



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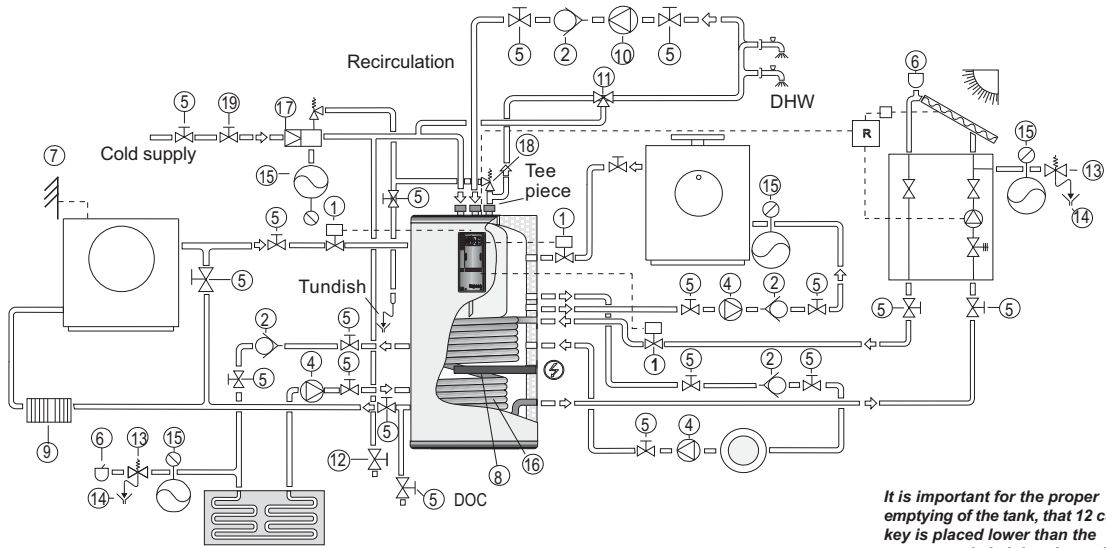
**Typical single tank open vented application. Multifunctional tanks without heating coil GX-300/400/600-PAC-I. Example of ASH pump connection**

*It is important for the proper emptying of the tank, that 12 cut key is placed lower than the storage tank, helping the outlet of the same one*



- 1 - 2 Port Spring Return Motorised Valve
- 2 - Non return valve
- 3 - Adjustable By-pass (contact the ASH pump manufacturer)
- 4 - Primary pump
- 5 - Shut-off valve
- 6 - Tank sensor (primary circuit)
- 7 - External sensor
- 8 - Electric heater
- 9 - Sieve filter for ASH pump
- 10 - Recirculation Pump
- 11 - Thermostatic Mixing Valve
- 12 - Drainat low level
- 13 - Safety valve
- 14 - Emptying / Drain
- 15 - Expansion Vessel
- 16 - Purger / Drain valve

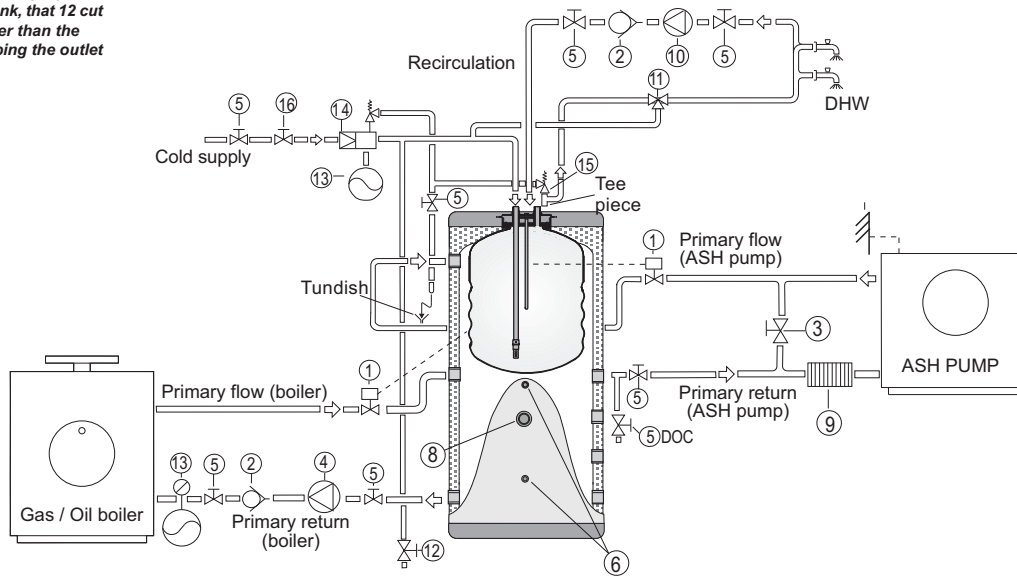
**Typical single tank unvented-direct-on-mains/boosted supply application. Multifunctional tanks GX-600/800/1000-P-I with heating coil. Example of Solar, Gas boiler and Oil boiler connection**



- |   |                                |   |
|---|--------------------------------|---|
| 1- 2 Port Spring Return Motorised Valve                   | 7 - External sensor            | 14 - Emptying / Drain   |
| 2- Non return valve                                       | 8 - Electric heater            | 15 - Expansion Vessel   |
| 3- Adjustable By-pass (contact the ASH pump manufacturer) | 9 - Sieve filter for ASH Pump  | 16 - Heating coil   |
| 4- Primary pump   | 10 - Recirculation Pump        | 17 - Core Assembly with integral Non-return valve               |
| 5- Shut-off valve   | 11 - Thermostatic Mixing Valve | 18 - P&T relief valve   |
| 6- Purger / drain valve                                   | 12 - Drainat low level         | 19 - Pressure limiting Valve with Integral Strainer Set 3.5 bar |
|   | 13 - Safety valve              |   |

**Typical single tank unvented-direct-on-mains/boosted supply application. Multifunctional tanks without heating coil GX-300/400/600-PAC-I. Example of Gas / Oil boiler and ASH pump connection**

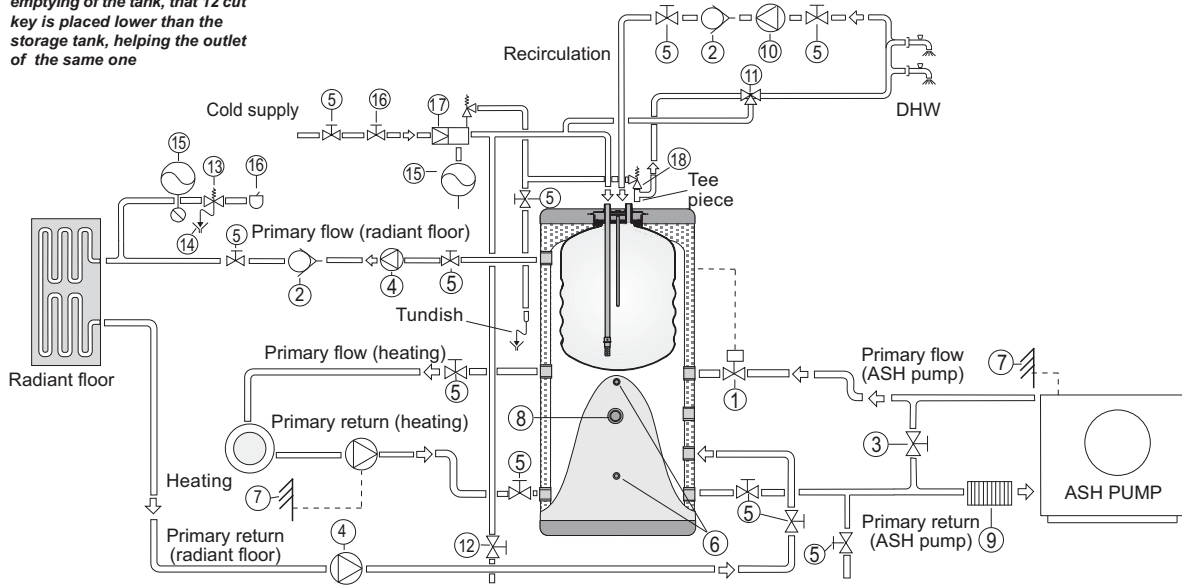
*It is important for the proper emptying of the tank, that 12 cut key is placed lower than the storage tank, helping the outlet of the same one*



- |   |                                |   |
|---|--------------------------------|---|
| 1- 2 Port Spring Return Motorised Valve                   | 7 - External sensor            | 14 - Core Assembly with integral Non-return valve               |
| 2- Non return valve                                       | 8 - Electric heater            | 15 - P&T relief valve   |
| 3- Adjustable By-pass (contact the ASH pump manufacturer) | 9 - Sieve filter for ASH Pump  | 16 - Pressure limiting Valve with Integral Strainer Set 3.5 bar |
| 4- Primary pump   | 10 - Recirculation Pump        |   |
| 5- Shut-off valve   | 11 - Thermostatic Mixing Valve |   |
| 6- Tank sensor (primary)                                  | 12 - Drainat low level         |   |
|   | 13 - Expansion Vessel          |   |

## Typical single tank unvented-direct-on-mains/boosted supply application. Multifunctional tanks without heating coil GX-300/400/600-PAC-I. Example of ASH pump connection

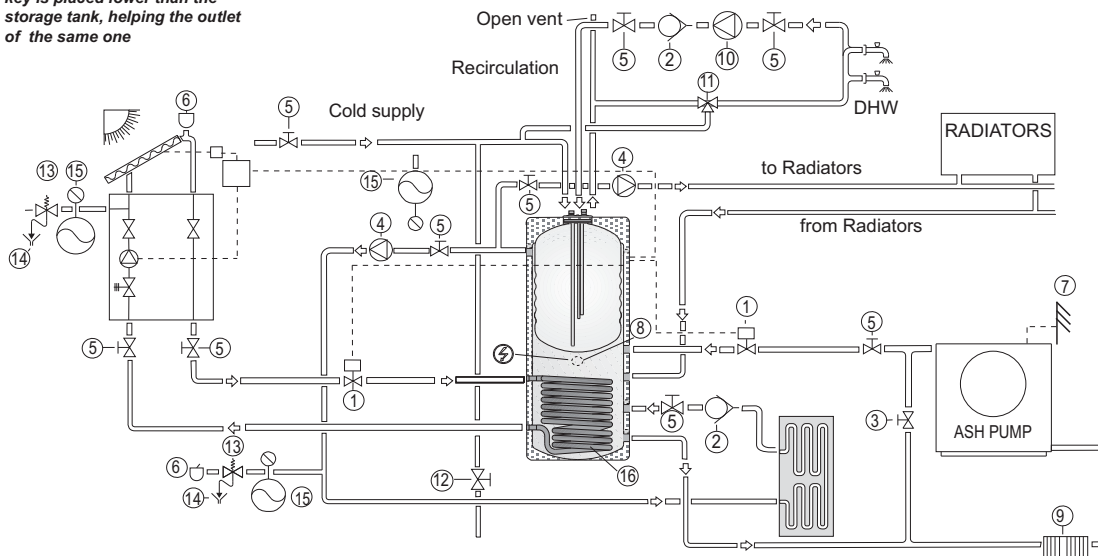
It is important for the proper emptying of the tank, that 12 cut key is placed lower than the storage tank, helping the outlet of the same one



- |  |                               |  |
|--|-------------------------------|--|
| 1- 2 Port Spring Return Motorised Valve                    | 8 - Electric heater           | 15 -Expansion Vessel   |
| 2 - Non return valve                                       | 9 - Sieve filter for ASH Pump | 16 -Pressure limiting Valve with Integral Strainer Set 3.5 bar |
| 3 - Adjustable By-pass (contact the ASH pump manufacturer) | 10 -Recirculation Pump        | 17 -Core Amsembly with integral Non-return valve               |
| 4 - Primary pump   | 11 -Thermostatic Mixing Valve | 18 -P&T relief valve   |
| 5 - Shut-off valve   | 12 -Drainat low level         | 19 -Purger / Drain valve                                       |
| 6 - Tank sensor (primary)                                  | 13 -Safety valve              |  |
| 7 - External sensor  | 14 -Emptying / Drain          |  |

## Example of typical single tank open vented application. Multifunctional tanks GX-300/400-P-I litres with heating coil. Example of Solar and ASH pump connection

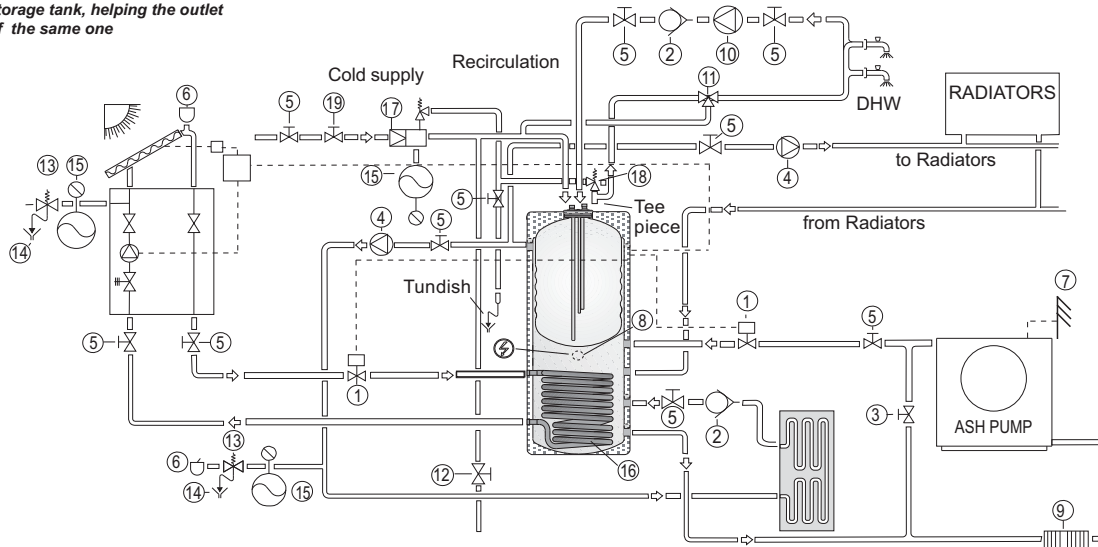
It is important for the proper emptying of the tank, that 12 cut key is placed lower than the storage tank, helping the outlet of the same one



- |  |                                |                       |
|--|--------------------------------|-----------------------|
| 1- 2 Port Spring Return Motorised Valve                    | 7 - External sensor            | 13 - Safety valve     |
| 2 - Non return valve                                       | 8 - Electric heater            | 14 - Emptying / Drain |
| 3 - Adjustable By-pass (contact the ASH pump manufacturer) | 9 - Sieve filter for ASH Pump  | 15 - Expansion Vessel |
| 4 - Primary pump   | 10 - Recirculation Pump        | 16 - Heating coil     |
| 5 - Shut-off valve   | 11 - Thermostatic Mixing Valve |                       |
| 6 - Purger / drain valve                                   | 12 - Drainat low level         |                       |

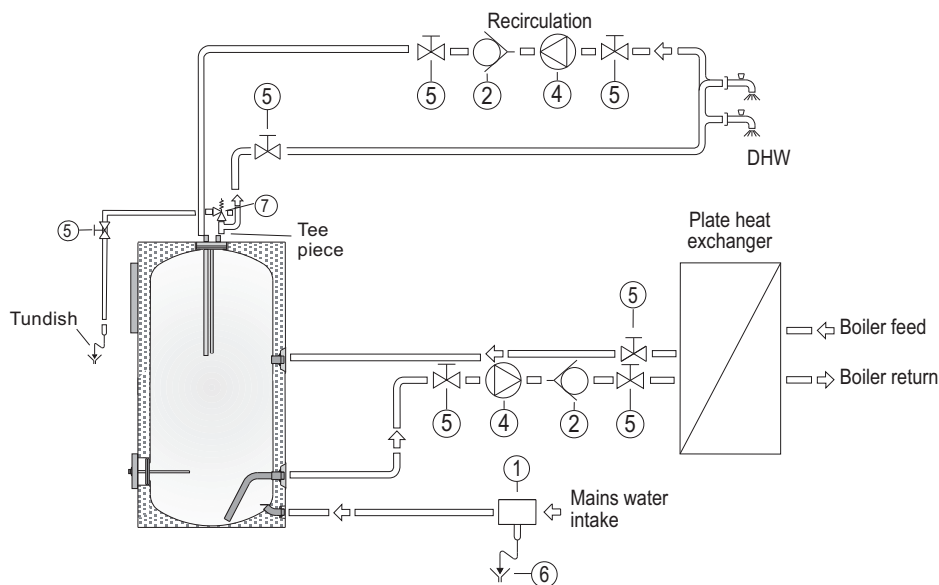
**Example of typical single tank unvented-direct-on-mains/boosted supply application. Multifunctional tanks GX-300/400-P-I litres with heating coil. Example of Solar and ASH Pump connection**

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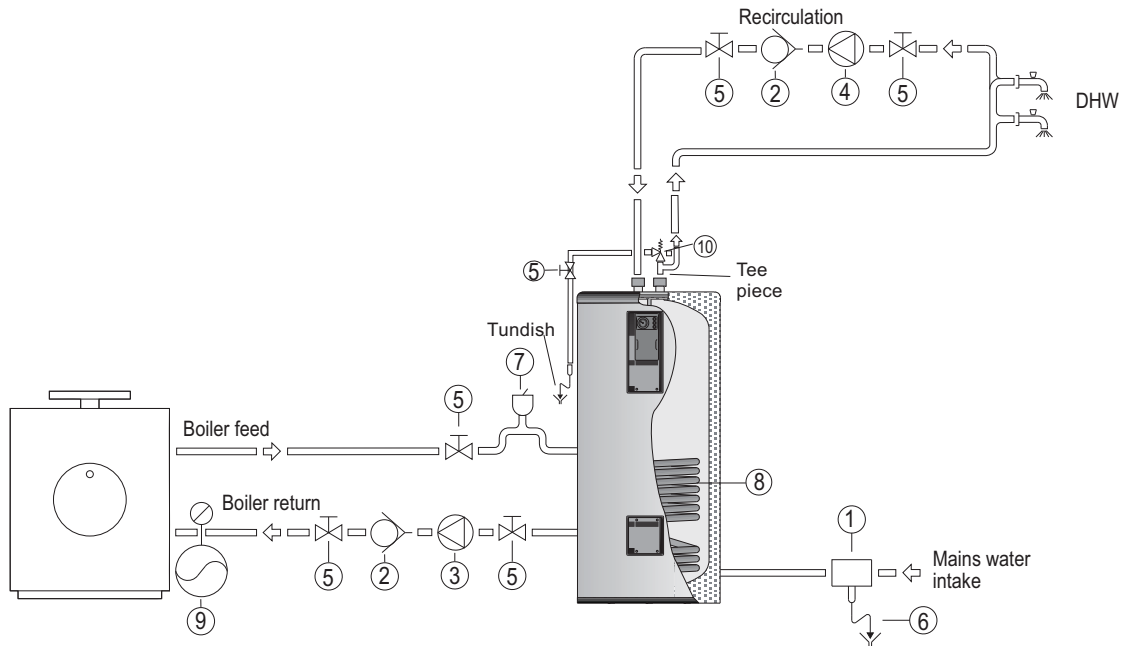
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|--|--------------------------------|--|
| 1 - 2 Port Spring Return Motorised Valve                   | 8 - Electric heater            | 15 - Expansion Vessel  |
| 2 - Non return valve                                       | 9 - Sieve filter for ASH Pump  | 16 - Heating coil  |
| 3 - Adjustable By-pass (contact the ASH pump manufacturer) | 10 - Recirculation Pump        | 17 - Core Assembly with integral Non-return valve              |
| 4 - Primary pump   | 11 - Thermostatic Mixing Valve | 18 - P&T relief valve  |
| 5 - Shut-off valve   | 12 - Drainat low level         | 19 - Pressure limiting Valvewith Integral Strainer Set 3.5 bar |
| 6 - Purger / drain valve                                   | 13 - Safety valve              |  |
| 7 - External sensor  | 14 - Emptying / Drain          |  |

**GX-R/RB: Vertical buffer tank without coils**



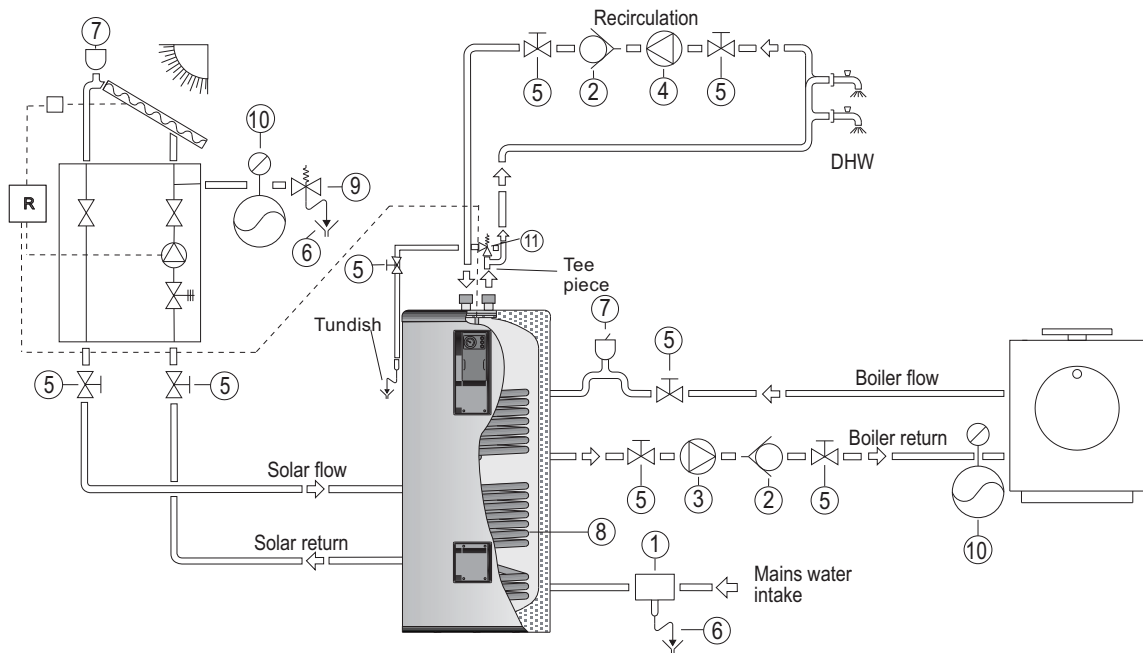
- |                   |                        |                      |
|-------------------|------------------------|----------------------|
| 1 - Safety Group  | 4 - Recirculation pump | 7 - P&T relief valve |
| 2 - One-way valve | 5 - Shutoff cock       |                      |
| 3 - Circulator    | 6 - Drain              |                      |

## GX-M1/M1B: Vertical tank with one coil



- |                        |                  |                       |
|------------------------|------------------|-----------------------|
| 1 - Safety Group       | 5 - Shutoff cock | 9 - Expansion Vessel  |
| 2 - One-way valve      | 6 - Drain        | 10 - P&T relief valve |
| 3 - Circulator         | 7 - Safety Valve |                       |
| 4 - Recirculation pump | 8 - Coil         |                       |

## GX-M2/M2B: Vertical tank with two coils



- |                        |                  |                       |
|------------------------|------------------|-----------------------|
| 1 - Safety Group       | 5 - Shutoff cock | 9 - Safety Valve      |
| 2 - One-way valve      | 6 - Drain        | 10 - Expansion Vessel |
| 3 - Circulator         | 7 - Drain Valve  | 11 - P&T relief valve |
| 4 - Recirculation pump | 8 - Coil         |                       |