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H0000850

Solar storage-to-boiler thermostatic connection kit

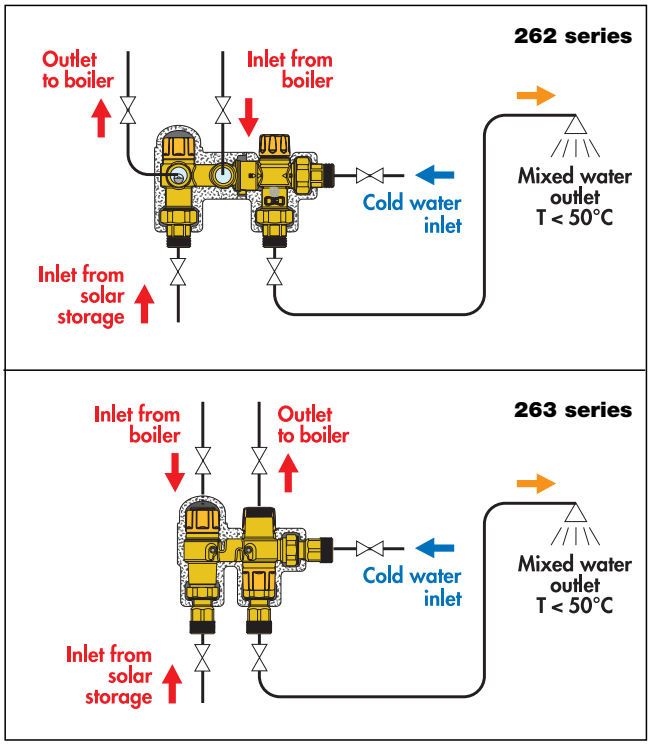
262 series SOLARINCAL-T
263 series SOLARINCAL-T Plus

INSTRUCTIONS FOR INSTALLATION, COMMISSIONING AND MAINTENANCE

Installation

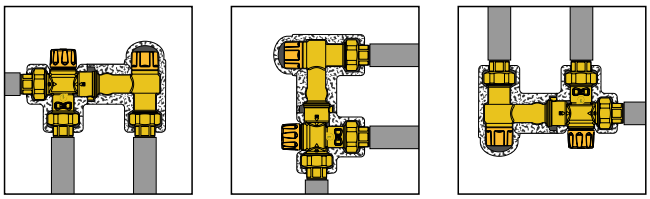
Before installing a kit with mixing valve, make sure the system's operating parameters fall within the mixing valve's working parameters, for example in terms of supply temperature and pressure etc..
The kit with mixing valve must be installed by a qualified technician in accordance with established legislation and the instructions given in this manual.
The system in which the kit with mixing valve is going to be installed must be flushed and cleaned to remove any dirt that may have accumulated during installation. Failure to remove impurities may affect valve performance and void the manufacturer's warranty.
In case of highly aggressive water, it must be treated before entering the kit with mixing valve.
It is essential that access to the valve is not obstructed, in order to allow maintenance to the valve or fittings if required. The pipes must not be used to support the weight of the valve
During the installation, observe all current legislation regarding the maximum distance between the valve outlet and each user taps.
The kit with mixing valve can be installed in any position, whether vertical or horizontal.
The hot and cold water inlets to the valve must be connected as shown on the valve body itself.
The thermostatic mixing valves must be installed complete with shut-off valves, strainers and check valves at the hot and cold water inlets.
The shut off valves are required to enable the valve to be isolated for maintenance.
The strainers are essential to prevent impurities from entering the mixing valve.
The check valves are necessary to prevent undesired circulation and backflow.
The kit with mixing valve is supplied complete with strainers and check valves at the hot and cold water inlets.
If the kit with mixing valve is not installed according to these instructions, it may operate incorrectly and endanger the user.

Installation diagram

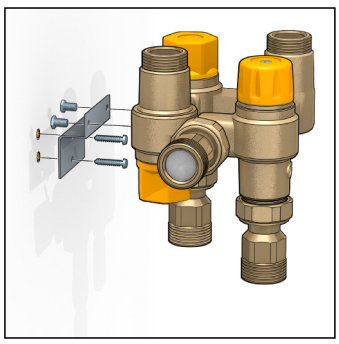


Installation positions

The kits can be installed in any position, vertically or horizontally. An installation close to the boiler is recommended.



Bracketing

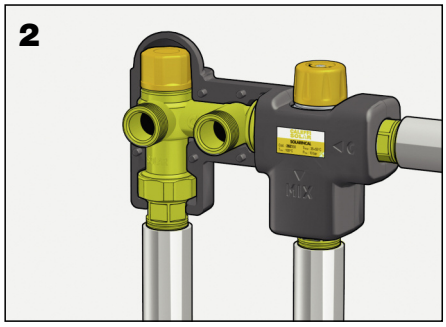


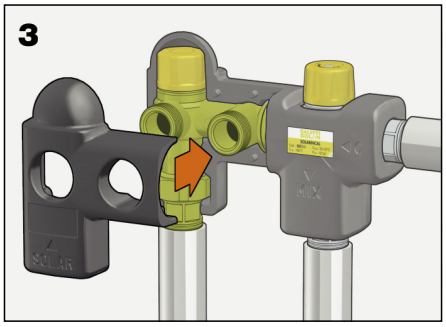
Anti-scald safety function

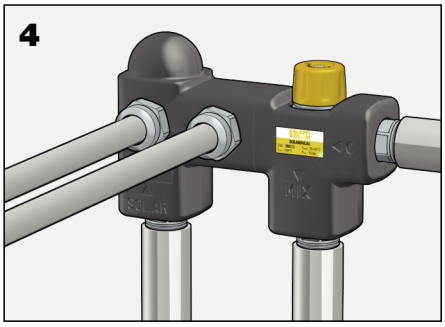
In case of hot or cold water supply failure at the inlet, the obturator shuts off the water flow, thus closing the mixed water oulet. This performance is guaranteed only when there is a minimum temperature difference between the inlet hot water and the mixed water outlet of 10°C.

Assembly

1. Remove the protective cover.
2. Connect the system connection pipes to the kit with mixing valve;
3. Fit the protection cover onto the kit with mixing valve;
4. Connect the pipes to the boiler.







Temperature setpoint adjustment

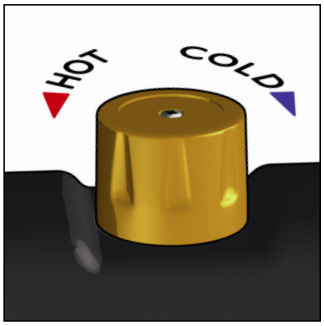
The diverter valve is factory set to operate at a temperature of 45°C, diverting water to the boiler if the temperature is lower than this setpoint value. The set temperature value is fixed using a locking ring.

The 263 series thermostatic control device is factory set and fixed to keep constantly at 30°C the temperature of the water at the boiler inlet.

Factory configurations

Diverter valve:	45°C
Thermostatic control device:	30°C

Commissioning



After installation, the mixing valve must be tested and commissioned by an authorised technician in accordance with the procedure given below and as specified by current applicable legislation.
The following instructions must be read and understood before commissioning the mixing valve of Caleffi 262 and 263 series kits.
If there are any aspects of the installation or the system which do not correspond to the specified requirements, the valve must not be commissioned until the installation/system is made to conform to the said requirements.

1) Make sure that the system is clean and free from dirt before commissioning the thermostatic mixing valve.

2) It is recommended to set the mixed water temperature with a calibrated digital thermometer. The valve must be commissioned by measuring the mixed water temperature at the user tap outlet.

3) Depending on the intended use and associated risk, the oulet temperature must be adjusted so as to avoid any danger for the user and comply with applicable legislation.

4) The temperature at the valve outlet must be adjusted by taking into account any potential fluctuations caused by simultaneous water drawing off. These conditions must be stabilised before the valve is commissioned.

5) The temperature may be adjusted using the control knob on the mixing valve.
   a) Adjust the temperature of the mixed water to the desired value.
   b) Measure and record the temperature at the cold and hot water inlets.
   c) Measure and record the temperature of the water at the tap outlet at the lowest and highest flow rate.
   d) Perform a test of the anti-scald thermal shut-off function.
      Close the shut-off valve at the cold water inlet and check the mixed water outlet. The flow rate at the outlet should quickly drop to zero.
   e) Measure and record the maximum mixed water temperature. The temperature may not exceed the values permitted in any applicable legislation or code of practice.
   f) Restore the cold water inlet supply and measure the water temperature at the outlet after it has stabilized. The final temperature measured in this test may not exceed the permitted values ±2°C.

It is recommended to register all the above information in the commissioning report and updated in the maintenance report whenever the valve is worked on.

Maintenance

While in service, tests should be carried out to monitor regularly the performance of the mixing valve, since any loss of performance may indicate the need for maintenance of the valve and/or the system. During these tests, if the temperature of the mixed water is found to have changed significantly compared with previous tests, we recommend referring to the sections on installation and commissioning and carrying out maintenance.

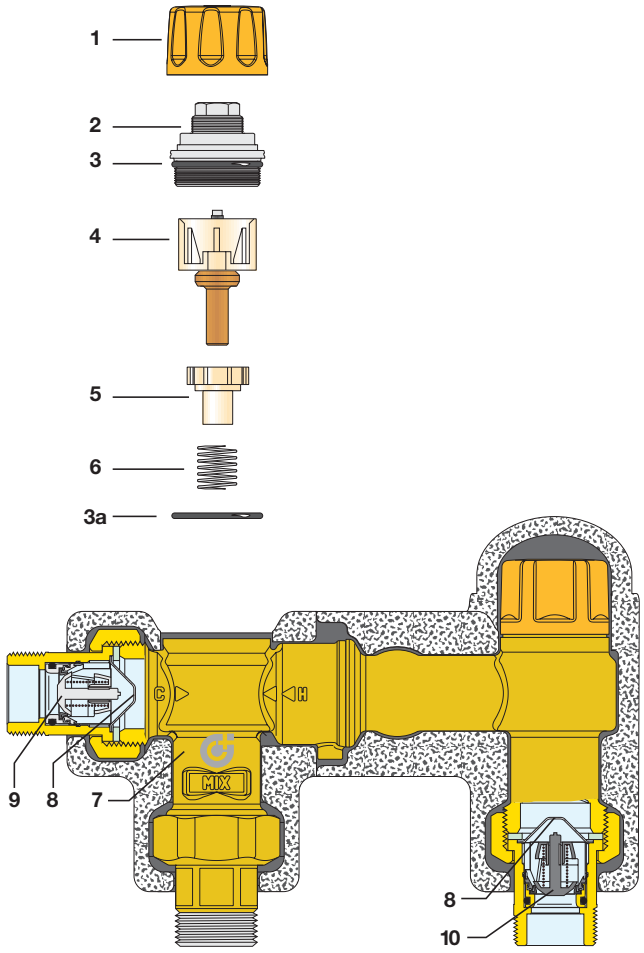
Run the following checks at least every 12 months or more frequently if required, to maintain the optimum performance of the valve.
With reference to the exploded view:

1) In the mixing valve of the 262-263 series kits, the strainers at the hot and cold water inlets can be removed for cleaning by unscrewing the union nut.
2) The check valves can be inspected as explained in point 1 to make sure that they are perfectly operational and watertight.

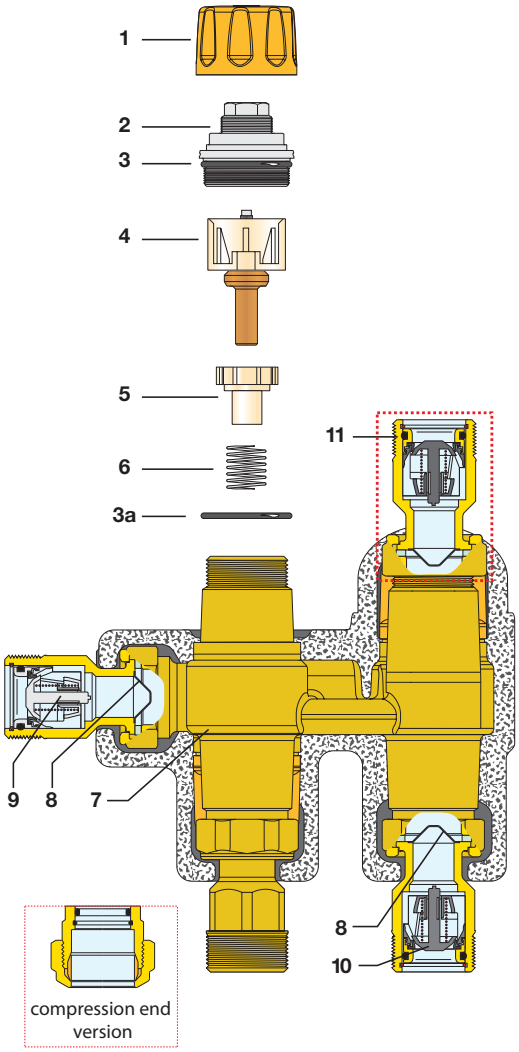
Caution: The check valve at the solar inlet (black colour) is specific for high temperature applications, therefore for no reason it can be swapped with the check valve at the cold water inlet.

3) Internal components can be cleaned from limescale deposit by immersing them in descaling fluid. Check the O-rings and lubricate them with a suitable lubricant.
4) Once component maintenance is complete, repeat the commissioning procedure.

262 series



263 series



1	Knob	***4***	Thermostat with obturator	***8***	Strainer
2	Headwork	***5***	Flow conveyor	***9***	Check valve at cold water inlet
3	O-Ring seal	***6***	Spring	***10***	Check valve at solar inlet
3a	O-Ring seal	***7***	Valve body	***11***	Check valve at the inlet from boiler to be applied during installation

Troubleshooting

In normal operating conditions, the unit provides high performance. However, in special circumstances when our maintenance schedule is not observed, the following problems may arise:

Problem	Cause	Solution
Hot water supplied to cold water taps	a) Check valves at the inlets not operating correctly and watertightness not guaranteed	• Replace damaged check valves
Mixed water temperature fluctuations	a) Incorrect inlet water temperatures b) Inlet water supply failure c) Uncorrect commissioning	• Restore inlet conditions within kit specification range
Incorrect flow rate at the valve outlet	a) Insufficient water supply b) Inlet water temperature/pressure fluctuations c) Adverse conditions due to other water draw off points in the system	• Stabilise supply conditions at the inlet
No flow at the valve outlet	a) In-line strainers obstructed b) Insufficient supply pressure c) Dirt obstructing water flow through the valve	• Clean strainers • Restore supply conditions • Remove dirt/scale from the valve
Anti-scald function not available when the valve is tested	a) Installation not compliant with recommendations b) Minimum temperature difference not reached e) Inner mechanism obstructed by dirt	• Follow installation instructions • Increase hot water temperature • Remove dirt/scale from the valve

Safety

· The group with thermostatic mixing valve must be installed by a qualified technician in accordance with national regulations and/or local requirements.

· If the group with mixing valve is not installed, commissioned and maintained correctly in accordance with the instructions in this manual, it may not work properly and may put the user in danger.

· Make sure that all connection fittings are watertight.

· When realising water connections, make sure that the pipework connected to the group with mixing valve is not subjected to excessive mechanical stress. Over time this may result in breakages, with consequent water leaks which could harm people and/or damage property.

· Water temperatures higher than 50°C may cause severe burns. When installing, commissioning and maintaining the group with thermostatic mixing valve, take the necessary precautions so that these temperatures will not be hazardous for people.

· In the case of particularly aggressive water, water treatment must be provided upstream of the inlet to the group with thermostatic mixing valve, according to current specifications. If they are not provided the valve may be damaged and may not work properly.

· The coupling of the kit with mixing valve and the boiler must be made taking in consideration the operational characteristics of both units. An uncorrect choice could compromise the operation of the boiler and/or system.

Leave this manual as a reference guide for the user