Solar-Boiler connection kit

Art. 1641s

100% MADE IN ITALY

Function

The Pintossi+C solar-boiler connection kit is particularly suitable for integrated systems consisting of a solar storage together with a boiler with storage.
The kit consists of two separate components: a solar thermostatic diverter valve and a solar thermostatic mixing valve.
The function of the diverter valve is to **optimize and manage the fluid contained in the solar storage.**
The thermostatic mixing valve allows to **maintain constant**, at a set value, **the mixed water temperature**, regardless of any variation of temperature and pressure of hot and cold water supply.
When the temperature of the fluid coming from the solar storage is lower than the fixed value (T<45°C) set on the solar diverter, the fluid is diverted to the boiler in order to increase the temperature of the same.
On the contrary, when the temperature of the fluid coming from the solar storage is greater than the fixed value (T>45°C) set on the solar diverter, the fluid is diverted directly to the thermostatic mixing valve.
The diverter and mixing valve are equipped with a special wax-sensitive element that detects the fluid temperature. This sensor is directly immersed in the fluid, thus allowing an extremely precise measurement of temperature and therefore ensuring a very fast and precise response to changes in temperature and inlet water pressure.
An **anti-burn function** is provided by the valve, stopping the hot mixed water delivery in case of unexpected interruption of the inlet cold water supply, avoiding potentials burns.
The kit, thanks to the special fittings and the presence of swivel nuts, allows an easy and compact installation, both in new and existing systems.

Product range

Art. 1641s	1/2"	Solar-boiler connection kit with pipe unions
Art. 1641s	3/4"	Solar-boiler connection kit with pipe unions

Techincal specifications

Fluids:	Water
Max working temp:	90°C
Max working pressure:	10 bar
Deviation temp.:	45°C
Deviation temp. range:	+/-2°C
Mixjng temp. range:	27-55°C
Anti-legionella mixed temp. activation:	>50°C (set max opening)
Setting accuracy:	+/- 3°C
KV:	1,1 m³/h

Materials

Body:	Brass CW617N
Obturator:	Brass CW614N
Mixing cartridge:	Polymer
Gaskets:	EPDM
Spring:	Stainless steel AISI302
Sensor:	Wax

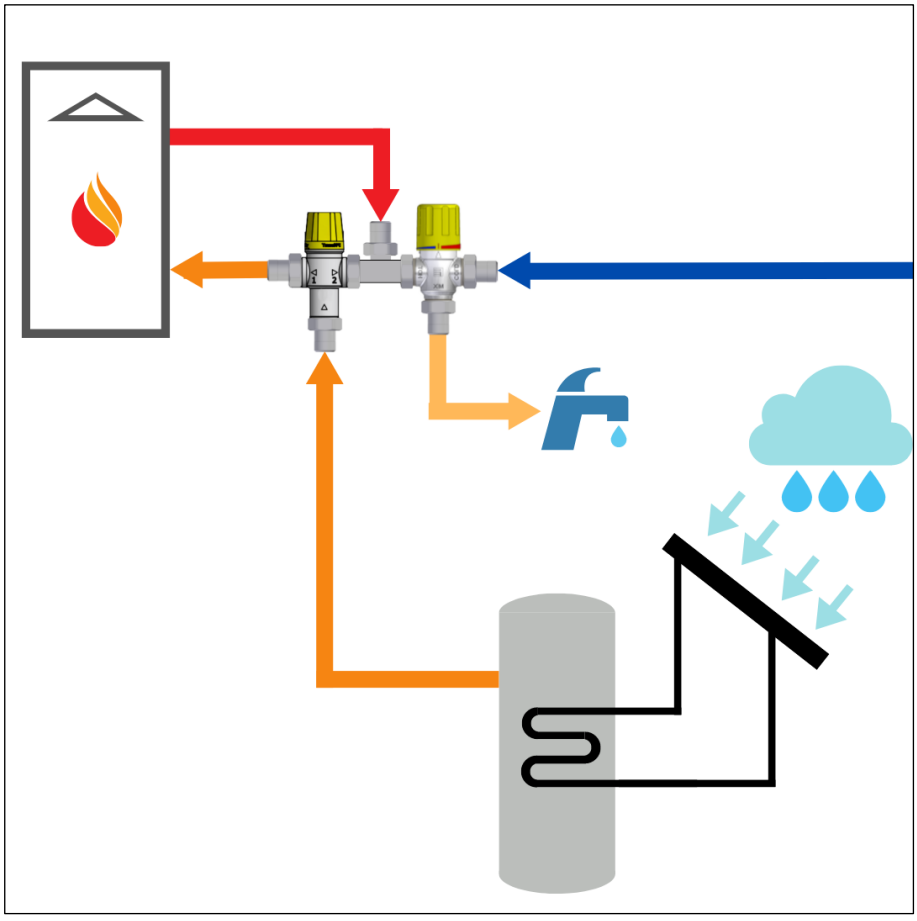
Working principle

The functioning of the valve can pass through 2 different situations:

1. Inlet temperature **<45°C** – **outlet 2**
2. Inlet temperature **>45°C** – **outlet 1**

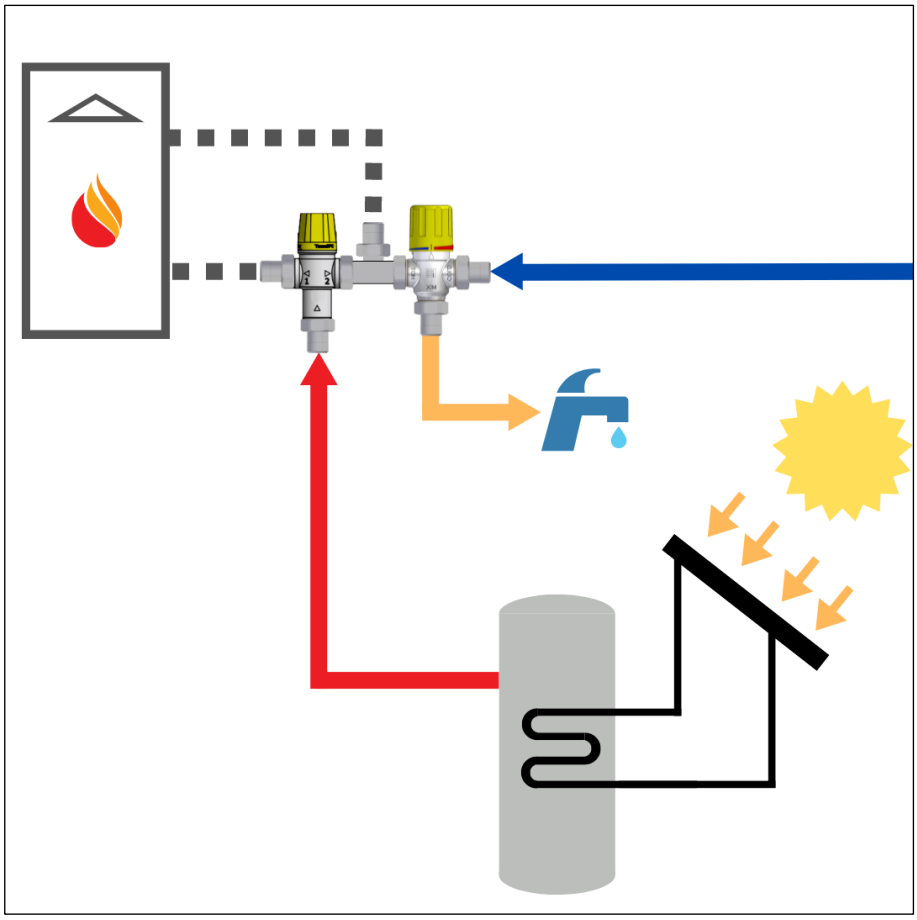
1. Ta < 45°C

The water from the solar storage is diverted to the outlet 2 in the direction of the boiler or of the integrative storage. Once heated, the water is directed to the solar mixing valve to be mixed with cold water at the set temperature.

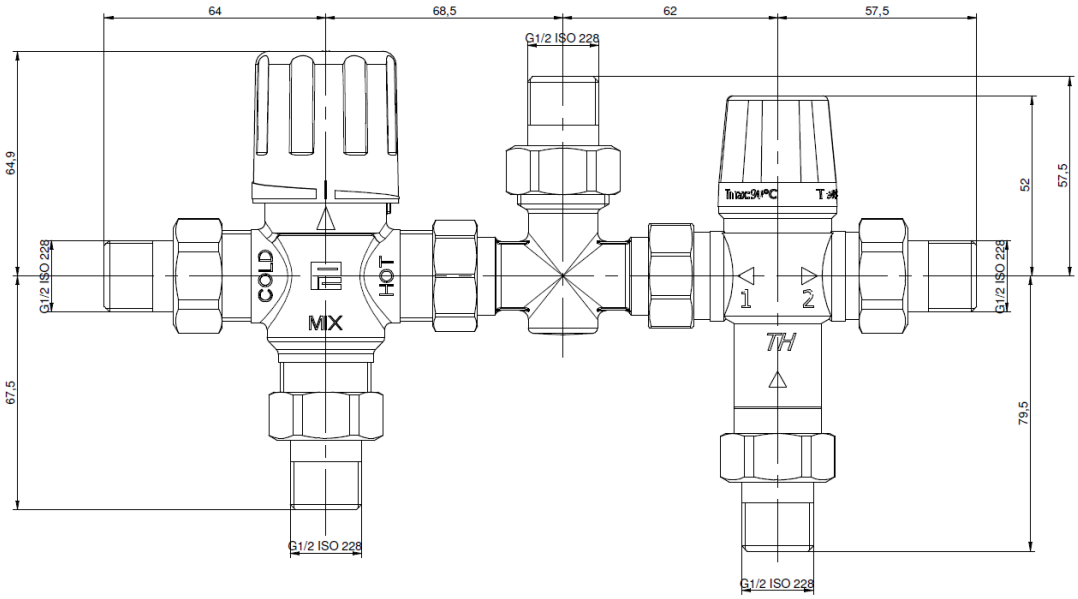


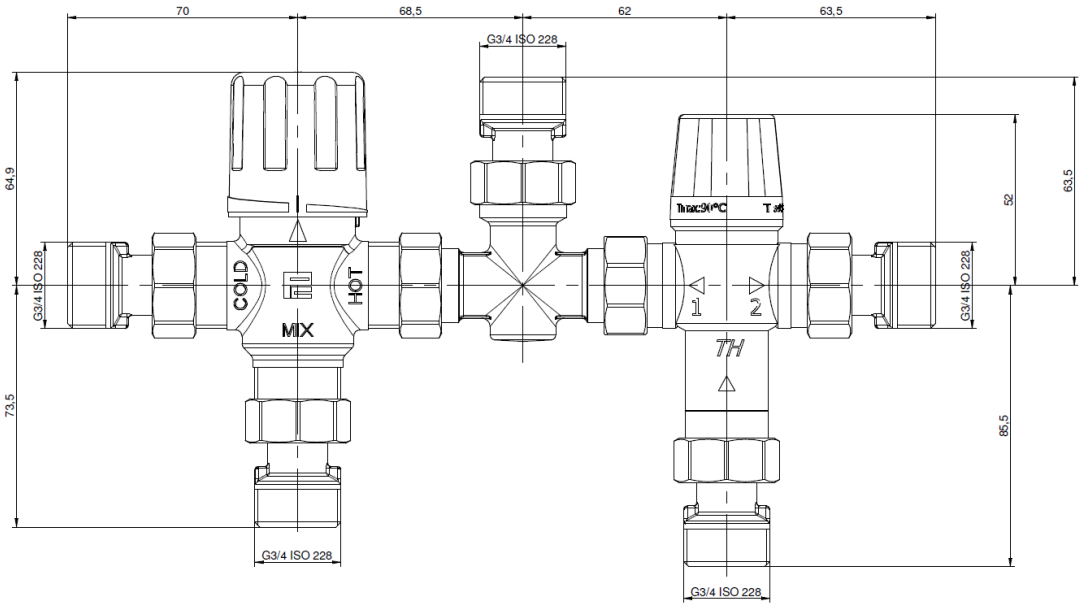
2. Ta > 45°C

The water from the solar storage is diverted to the outlet 1 in the direction of the solar mixing valve to be mixed with cold water at the set temperature.



Dimensions





Circuit preparation

It's important to verify the systems conditions before proceeding with the installation of the thermostatic mixing valve in the circuit, like temperature and pressure, which must be aligned with those requested in the technical datasheet. Clean the pipes from any metallic debris and scaling. Besides it's important, for a correct functioning of the valve, that the air contained in the system is removed.
Is recommended to inspect the TMV at least once per year to verify it is operating correctly, especially in installations with poor or unknown water quality. For this reason, is recommended the use of strainers or to treat the water with suitable instruments.
The valve may be positioned in any orientation.

Installation

1. Verify that each end of the tube is aligned with the kit connections.
2. Connect the water supply from the solar storage to the lower inlet of the diverter.
3. Connect the cold water supply to the inlet of the mixing valve marked COLD.
4. Connect the diverter outlet marked with 1 with the mixer inlet marked with HOT via the special tee fitting.
5. Connect the boiler line with the special tee fitting.
6. Connect the mixed water line to the outlet of the mixing valve marked MIX.
7. Tighten the threads completely with each connection.
8. Set the desired mixing temperature using the mixing valve knob.
9. Check that the correct temperature of the mixed water has been reached.

Temperature setting

MARKING	MIN	RED LINE	MAX
TEMP.	27°C	38°C	55°C

Fluid characteristics

Reference standard for water treatments in heating systems is Norm UNI 8065:2019 which regulates the parameters that must be observed to avoid scale and corrosion phenomena.
In order to grant product warranty, the fluid characteristics must comply with the rules in force in the country of relevance or at least present features not less to the ones prescribed by the Norm UNI 8065:2019.
In particular, minimum standards necessary but not sufficient to control are the following:

Fluid aspect:	Limpid
PH:	Between 7 and 8
Iron (FE):	< 0,5 mg/kg (< 0,1 mg/kg for steam)
Copper (CU):	< 0,1 mg/kg (< 0,05 mg/kg for steam)
Antifreeze:	Passiveted Propylene Glycol
Conditioning:	as indicated by the producer

In any case when using antifreeze and conditioning solutions, is required to control and verify the correct compatibility between these substances and the construction materials stated in Pintossi+C technical datasheet.