

Thermostatic mixing valve for solar applications

HELYOS TH

Art. 1567s – 1569s



100% MADE IN ITALY 

Function

HELYOS TH series thermostatic mixing valve is designed for use in domestic water as well as heating systems.

The main function is to **maintain constant**, to a set value, **the mixed water temperature**, regardless of any variation of temperature and pressure of hot and cold water supply.

The thermostatic mixing valve is equipped with a temperature-sensitive element that detect the temperature of the mixed water. This sensor is directly in contact with the fluid, allowing a high precise measurement of the mixed water and grating and **high speed response** in case of temperature and pressure changes in the inlet hot and cold water.



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. Thanks to this and anti-burning function the valve is particular indicated in public buildings like schools and hospitals for the presence of individuals at risk.

High flow rates of this thermostatic mixing valve model makes it suitable to be used in buildings where the demand of hot water is significantly high, like commercial and industrial buildings.

Thanks to the **high water temperatures allowed**, the valve is suitable for use in solar systems or in standard systems where the incoming hot water can reach high temperatures.

The valve is normally installed in multiple points of use such as sink, shower, bidet etc. as well as in heating applications. This type of valve is also particularly suitable for use in fixed point mixing systems in underfloor heating systems with radiant soil. In this way, the lukewarm water returning from the radiant panels can be mixed with the water arriving from the hot water production source for heating use, leading to significant economic savings.

The valve is suitable for **use with drinking water** and complies with the provisions of the Ministerial Decree 174/2004.

Product range

Art. 1567s 1" - 1 1/2"
Art. 1569s 1" - 1 1/4"

Male thermostatic mixing valve
Pipe union thermostatic mixing valve

Technical specifications

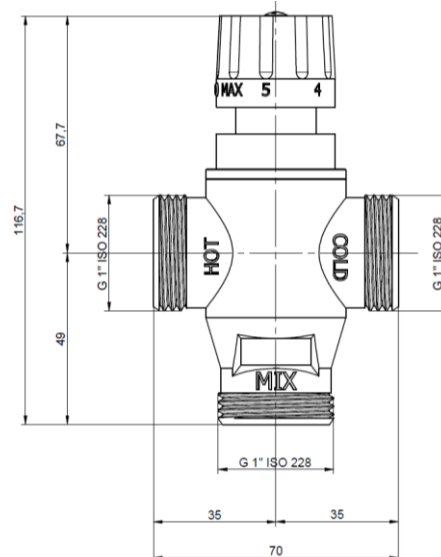
Fluids: Water or glycol solutions
Max. glycol: 30%
Max. working temp.: 100°C
Max. working pressure: 10 bar
Mixed water range: 30°C - 65°C
Min cold inlet water temp.: 4°C
Max hot inlet water temp.: 100°C
Temperature stability: +/- 3°C

Materials

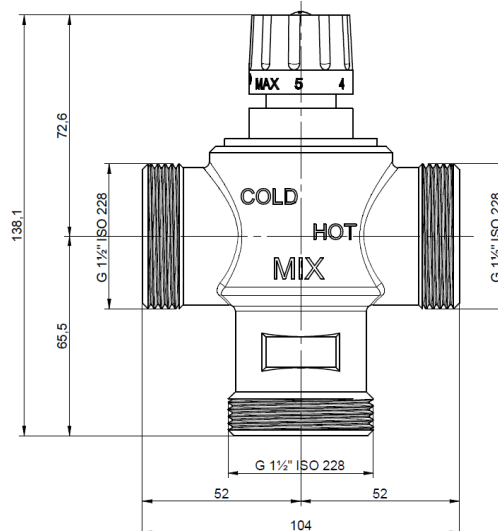
Body: Brass CW617N
Shutter: Brass CW617N
Springs: Stainless steel AISI 302
Gaskets: EPDM
Wheelhandle: Nylon

Dimensions

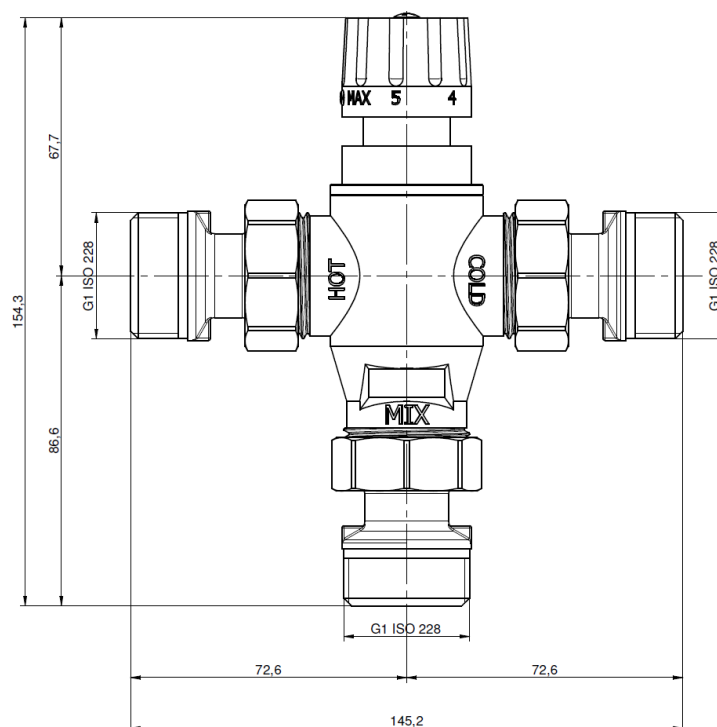
1567 1"



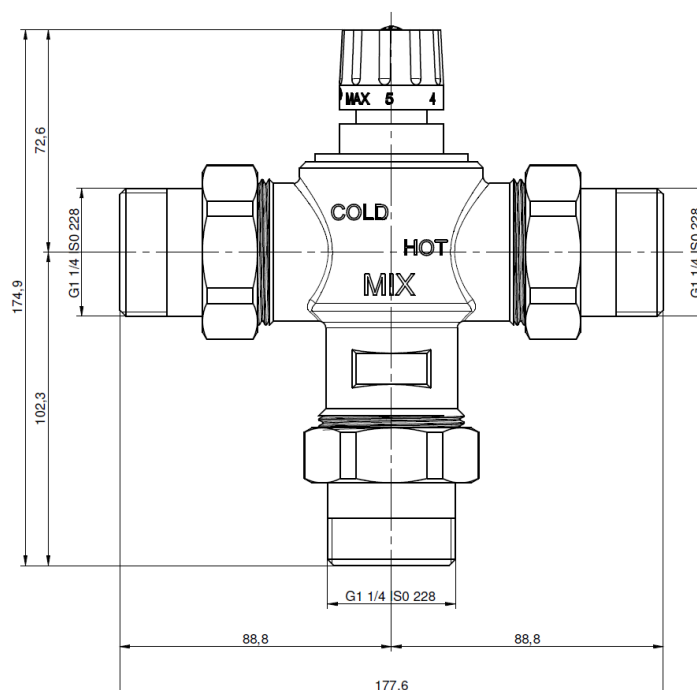
1567 1 1/2"



1569 1"



1569 1 1/4"



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. Ensure that each pipe ends is aligned with the valve.
2. Connect the hot water supply with the inlet marked HOT.
3. Connect the cold water supply with the inlet marked COLD.
4. Connect mixed water line to outlet marked MIX.
5. Fully tighten the threads with each connection.
6. Set the desired temperature output using the wheelhandle.
7. Turn the wheelhandle to increase or decrease the outlet temperature as needed.
8. Verify the correct mixed water temperature is being achieved.

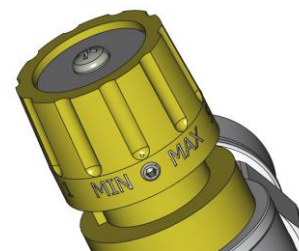
Temperature setting

MARKING	1	2	3	4	5
TEMP.	30°C	38°C	42°C	52°C	65°C

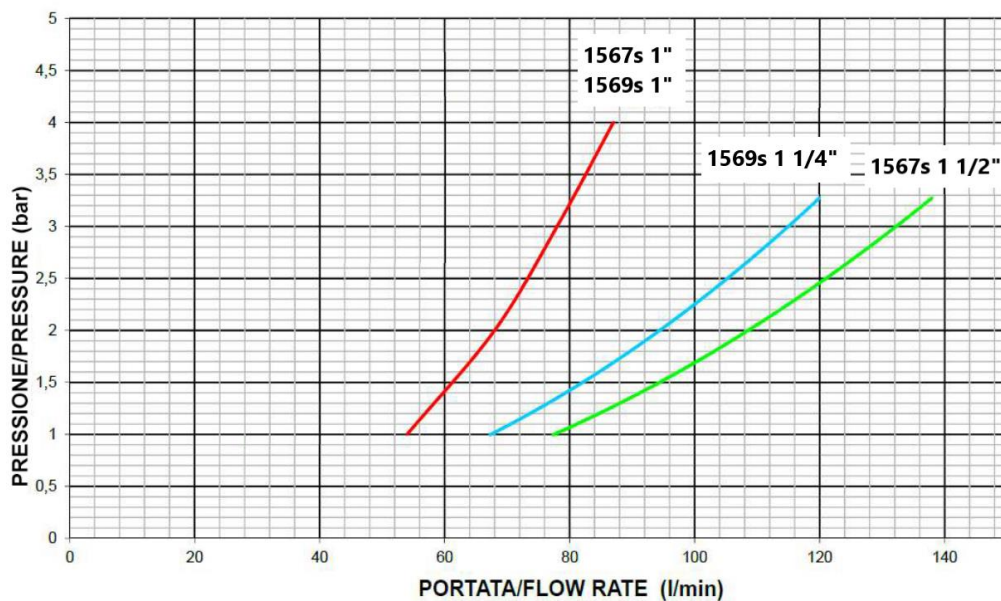
Temperature setting locking

It's possible to lock the rotation of the temperature setting handwheel through the use of an allen key 2 mm on the screw positioned between MIN and MAX markings.

This operation avoids unwanted or unintentional handwheel rotation and consequentially changes in the mixed temperature water.



Head loss diagram



Dimension	Kv [m³/h]
1"	3,2
1 1/4"	4,3
1 1/2"	5,1

Accessories

In order to facilitate servicing and cleaning operations Pintossi+C shut-off cock with swivel nut art.5018 (female thread) or 5553 (male thread) are available as spare part. It is advisable to install filters (art. 9023) on the inlet water connections, in order to retain impurities and dirt that could compromise the correct functioning of the valve. Besides in order to prevent unwanted backflows situations it's necessary to install check valves.



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: Passivated 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.