

Kit di collegamento solare caldaia con integrazione termica - S170

/ Function

The solar storage-to-boiler connection kits automatically control and optimize the terminal energy contained in a solar water storage, ensuring that domestic hot water is distributed throughout the system at the controlled optimum temperature.

They ensure that users always receive hot water at the set temperature and switch the boiler on if the temperature of the water coming from the solar storage falls below the set point.



/ Products

Art.	Code	Size
S170	93S170AE0645	G 3/4" M

/ Technical specifications

MATERIALS

Body:	Nickel-plated brass CW617N - UNI EN 12165
Springs:	Stainless steel
Seals:	EPDM PEROX (high thermal resistance)

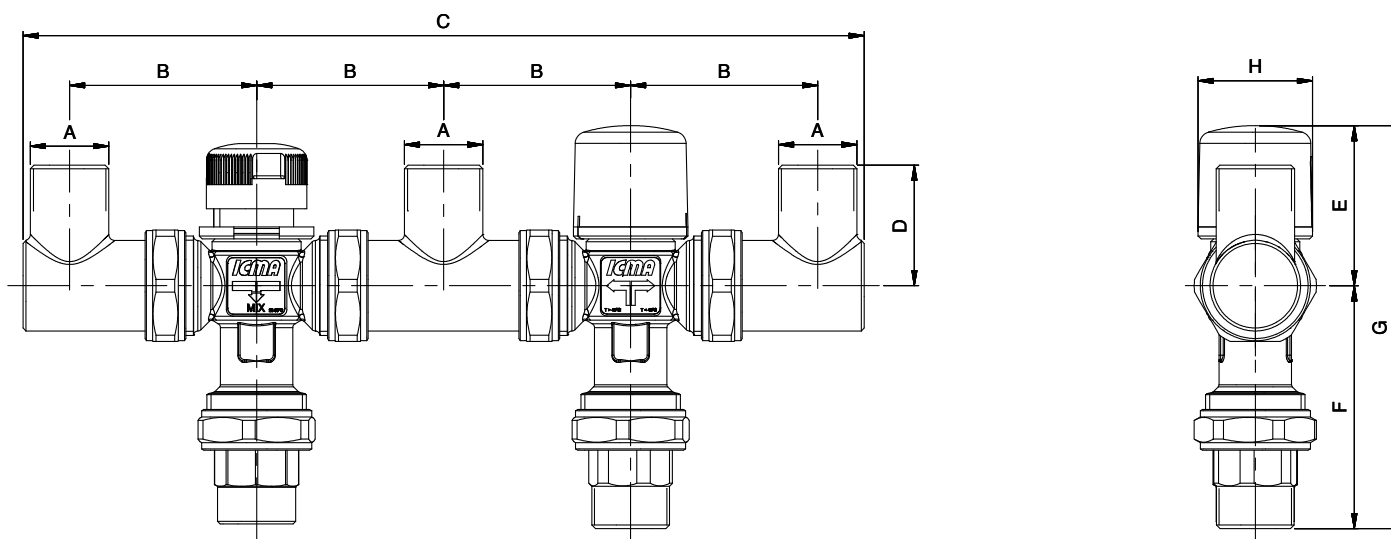
NON-RETURN VALVE MATERIALS

Body:	Brass CW617N - UNI EN12165
O-Ring:	EPDM PEROX - (high resistance)
Spring:	Stainlass Steel

PERFORMANCE

Max. working pressure:	10 bar (static) 5 bar (dynamic)
Adjustment temperature range:	30-60°C
Factory calibration:	38±2 °C
Max temperature at inlet:	110°C
Max. inlet pressure ratio:	2:1 bar
Connections:	G3/4" M
Union seals:	fibre high thermal resistance
Diverter setting:	45°C±2 °C
Max. working pressure:	10 bar

Dimensions



Code	A	B	C	D	E	F	G	H	Weight (Kg)
93S170AE0645	G 3/4"	63,5	285	40	53	80	132	38	1,6

ATTENZION!: Lock the nuts before starting-up the hydraulic system.

Operating principle

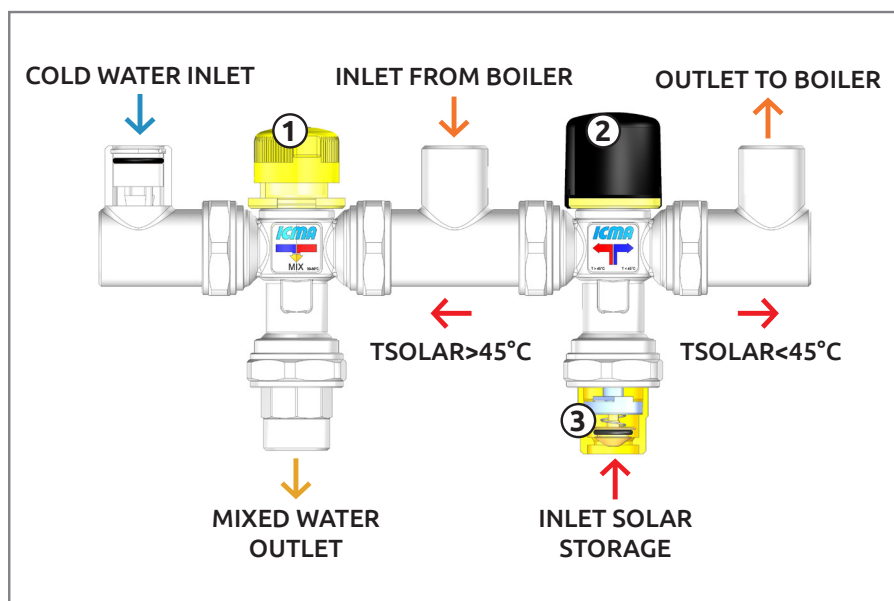


Fig. 1

1. Solar Thermostatic mixing valve
2. Solar Diverting valve
3. Non-Return valves

Hydraulic diagram

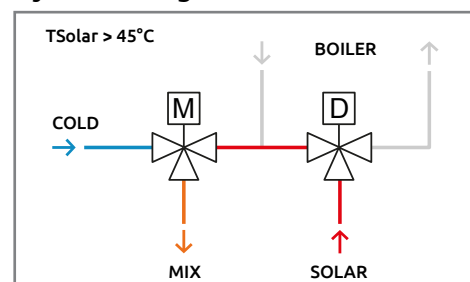


Fig. 2

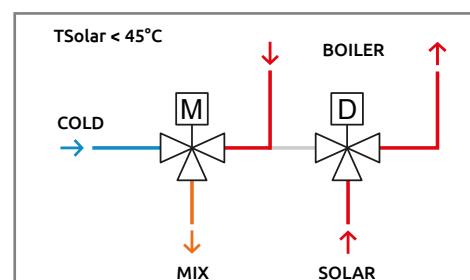


Fig. 3

/ Non-return valves

To prevent undesired backflows of fluid in systems with mixing valves we recommend using non-return valves. Our kit S170 includes a non-return valve at the entrance of cold and hot water systems (see scheme previous page, fig. 1, n. 3).

/ Installation

Before using the mixing valve, make sure all pipes are clean to prevent equipment malfunctions; we also recommend installing water filters

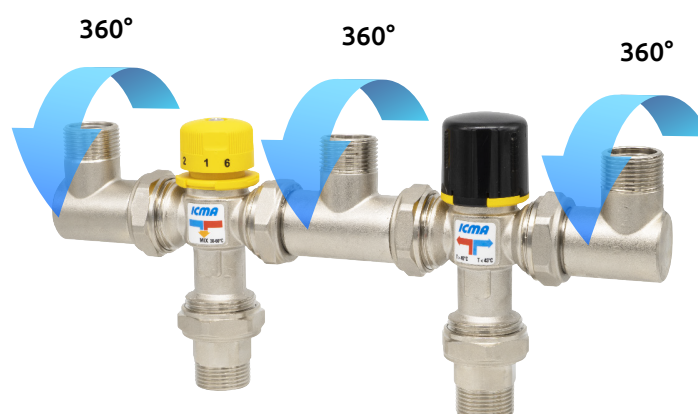
/ Assembly

The assembly of the mixing valve requires qualified personnel in accordance with the current regulations and using adequate temperature measurement tools.

/ Construction details

The product design guarantees a 360° connection thanks to its rotating connections which suit any system needs, as shown in the picture.

Art. S170 is made by exposing each component to thermal stress tests to avoid malformations due to hot temperatures which compromise their function. All materials used also guarantee drinkable water.



/ Operating principle

The diverting valve is located at the entrance of the kit receiving hot water coming from solar panels. According to the temperature calibration the valve automatically diverts the water between the domestic system and the hot-water heater.

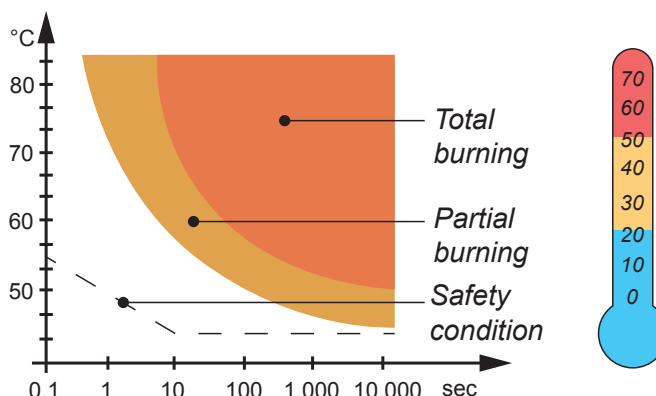
The valve provides the water flow by exploiting solar energy and reducing as much as possible the use of the hot-water heater.

At the exit of the kit there is an anti-burn thermostatic mixing valve which sends the water to the users controlling and restricting the temperature.

/ Burn-proof device

In domestic hot water heating systems with accumulator, water must be kept at a minimum temperature of 60°C in order to totally prevent the growth of the bacteria that causes a very dangerous infection called Legionnaire's disease.

Water cannot be used directly at this temperature because it can cause burns. The installation of a thermostatic mixer is recommended to ensure that water is safe to use. The mixer keeps the preset value constant when there are variations in temperature and pressure at the inlet.



The graph at the side of text indicates the degree of burning that can be caused depending on water temperature and heat exposure time. The mixer solves this problem by interrupting the flow of hot water when the flow of cold water is missing at the inlet.

/ Temperature regulation

The temperature is adjusted using the mixing valve regulating knob.



Reference conditions:

Thot: 68°C

Tcold: 13°C

Inlet pressure: 3+3 balanced

TEMPERATURE RANGE

Position	1	2	3	4	5	6
°C	30	35	40	45	50	60

/ Safety



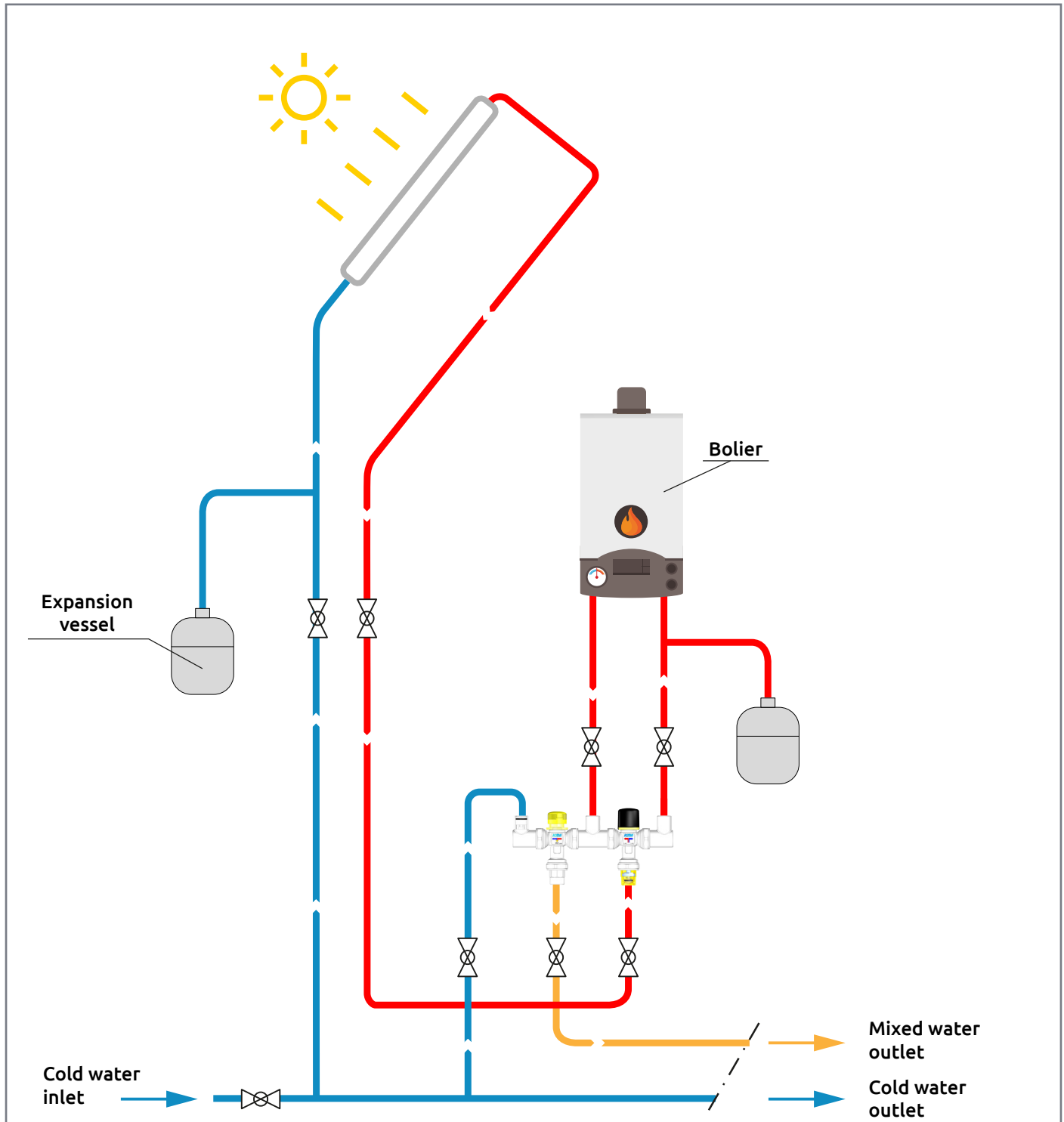
Use the filter in perfect condition for its intended purpose, taking into account safety legislation and any hazards that may be present.

Read the assembly and start-up instructions and comply with them scrupulously before starting the system to prevent accidents and damage to the system caused by improper use. Remember that the guarantee will be forfeited in the event of any unauthorised changes or tampering with the device during assembly and construction. Comply with all safety warnings, and if you have any doubts about use or changes to parameters or functions, request the assistance of qualified service personnel.

Assembly and inspection operations must absolutely be performed by qualified, authorised personnel aware of the instructions contained herein. Make sure that the equipment is turned off before beginning any work on it.

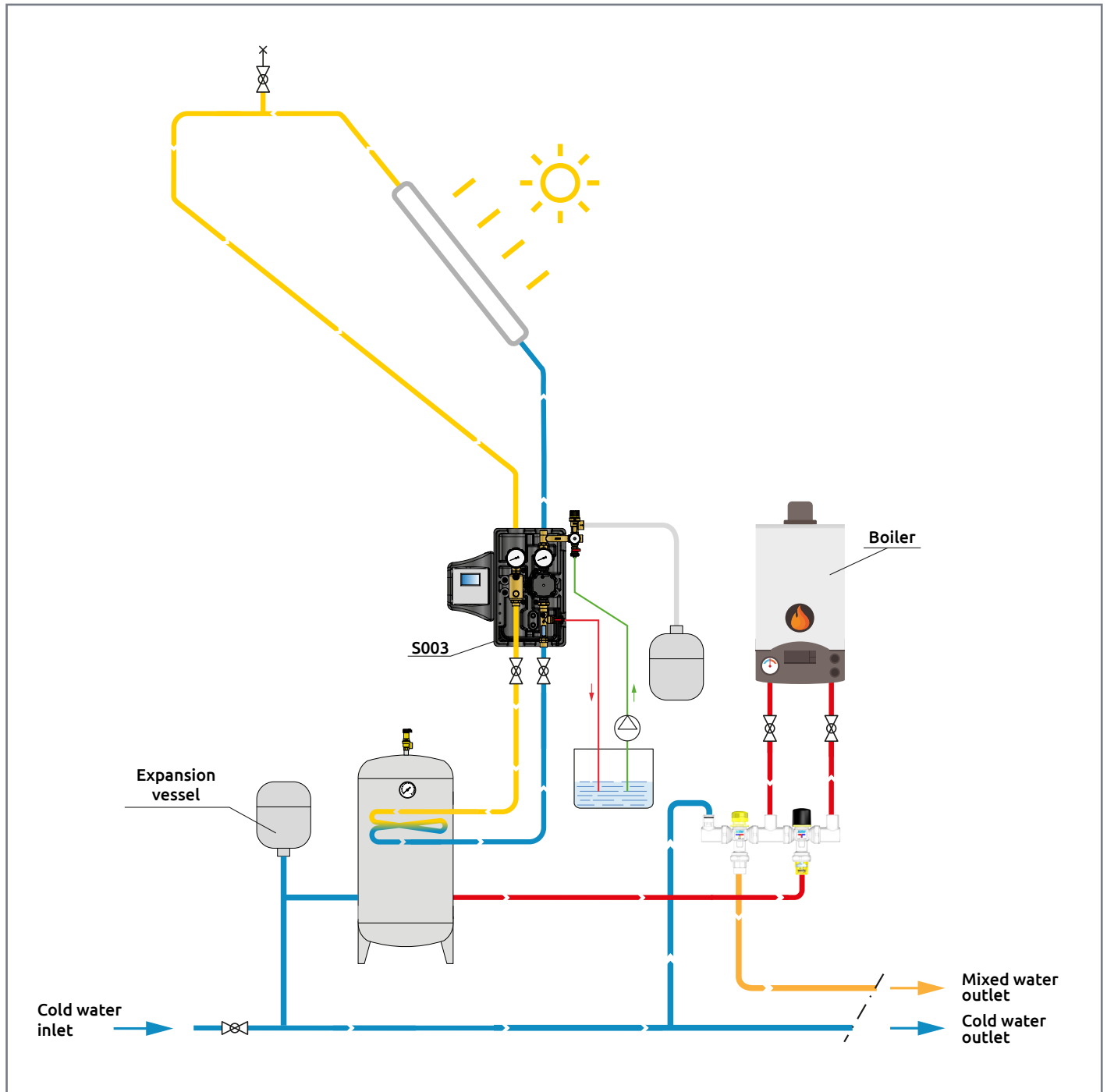
/ Application diagram

Solar system with art.S170 solar storage-to-boiler connection kit with thermal integration – natural condition



Kit di collegamento solare caldaia con integrazione termica - S170

Solar system with pump unit and art.S170 solar storage-to-boiler connection kit with thermal integration



Hydraulic characteristics

