



INSTRUCTIONS

FOR INSTALLING AND USING

the Intasol Control System

July 2010



Intasol Control System - installation guide

Introduction

The Intaeco Intasol manifold allows unvented hot water heated by solar thermal panels, to be used safely with a combination boiler. The Intasol system automatically harnesses the thermal energy contained in a solar water storage system to provide water at a controlled, optimum temperature.

The Intasol system comes complete with a TMV2 thermostatic mixing valve, thermostatic diverting valve, thermostatic blending valve and integral non-return valve.

The system ensures that the user always receives hot water at the set temperature, and diverts cold water at 28°C to activate the boiler when the temperature of the water coming from the solar storage cylinder falls below 48°C.

Its compact design means that all the valves are housed in the body of the Intasol, and it's supplied complete with connections suitable for copper pipe.

Technical specification

Connections:	15mm compression for copper tube
Body material:	DZR copper alloy BS EN 12164 CW602N
Shutter:	UDEL GF-120NT
Spring:	Stainless steel AISI 302

Thermostatic mixing valve

Maximum working pressure:	10 bar (static), 5 bar (dynamic)
Adjustment range:	35-55°C
Accuracy:	± 2°C
Maximum inlet temperature:	100°C
Maximum inlet pressure ratio (H/C or C/H)	2:1
Minimum temperature difference between the inlet hot water and the outlet mixed water to ensure anti-scald performance:	10°C
Minimum flow rate for stable operation:	6 litres per minute

Thermostatic diverting valve

Maximum working pressure:	10 bar (static), 5 bar (dynamic)
Factory set:	48°C
Maximum inlet temperature:	100°C

Thermostatic blending valve

Maximum working pressure:	10 bar (static), 5 bar (dynamic)
Factory set:	28°C
Maximum inlet temperature:	90°C

High temperature solar systems

The temperature of the domestic water in solar thermal systems can reach very high temperatures over long periods.

In Summer, especially if there is little water usage, the hot water can reach a temperature of around 98°C before the temperature and pressure safety relief valves are actuated.

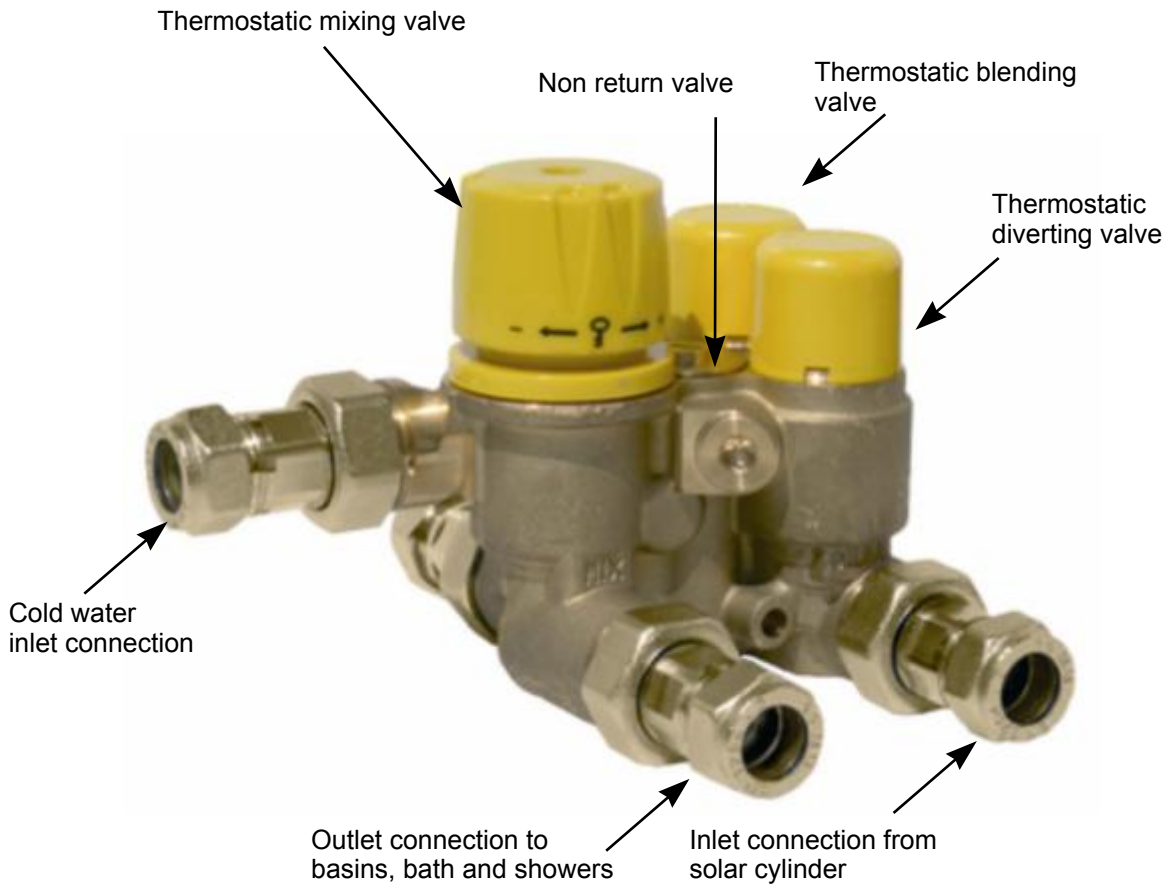
At these temperatures, the hot water cannot be used directly because of the risk of scalding to the user.

Water temperatures over 50°C can cause burns very quickly. At 55°C, partial burns occur after 30 seconds immersion. At 60°C, they can occur in as little as 5 seconds.

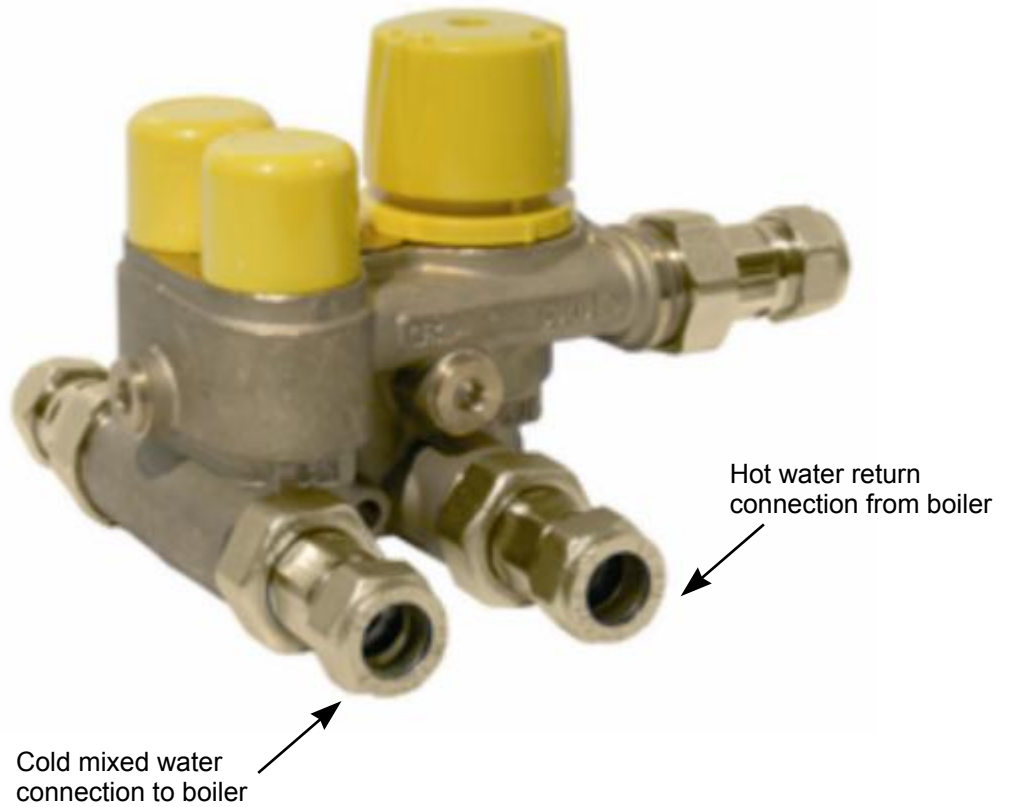
Intasol incorporates a TMV2 thermostatic mixing valve which blends the hot and cold water to deliver blended water at a safe temperature for users.

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Features

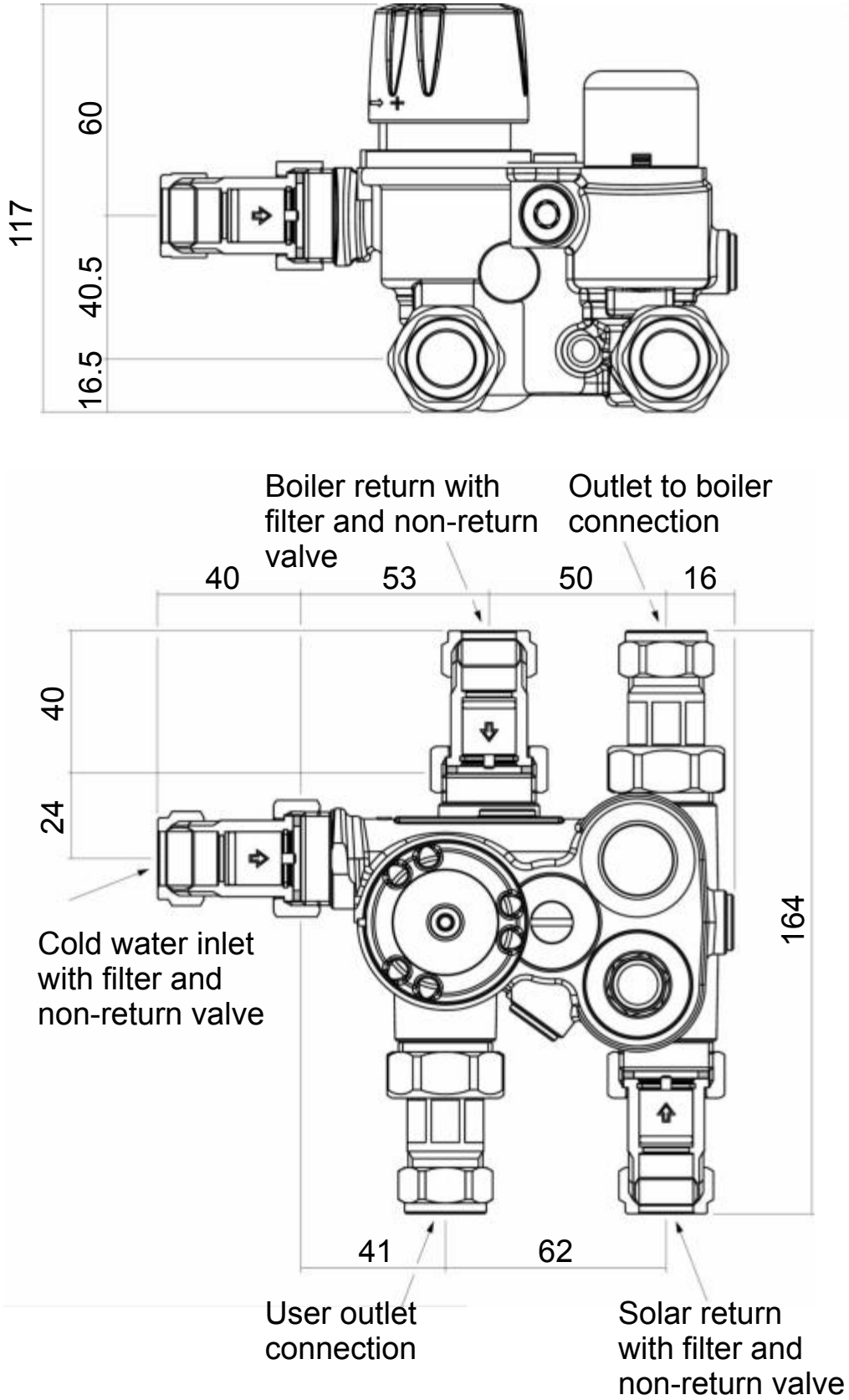


Reverse view



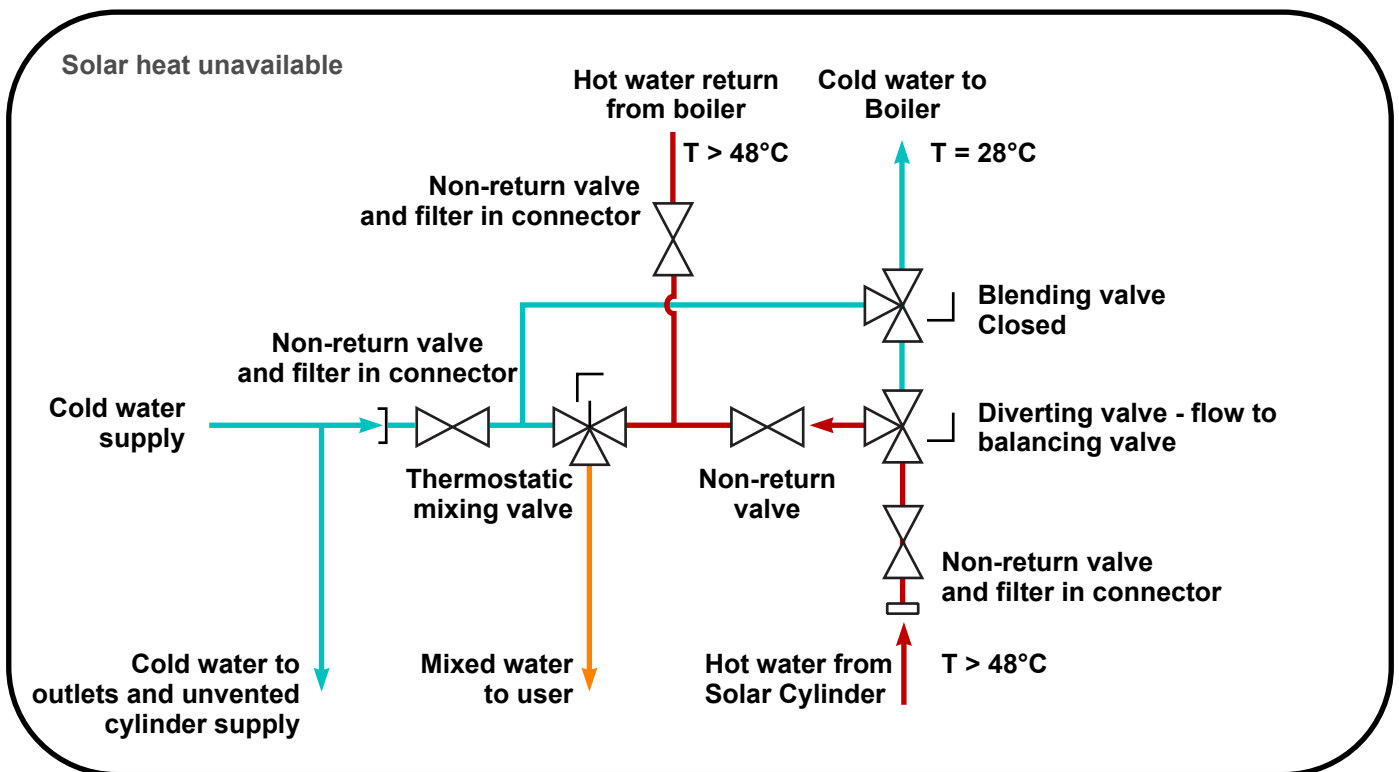
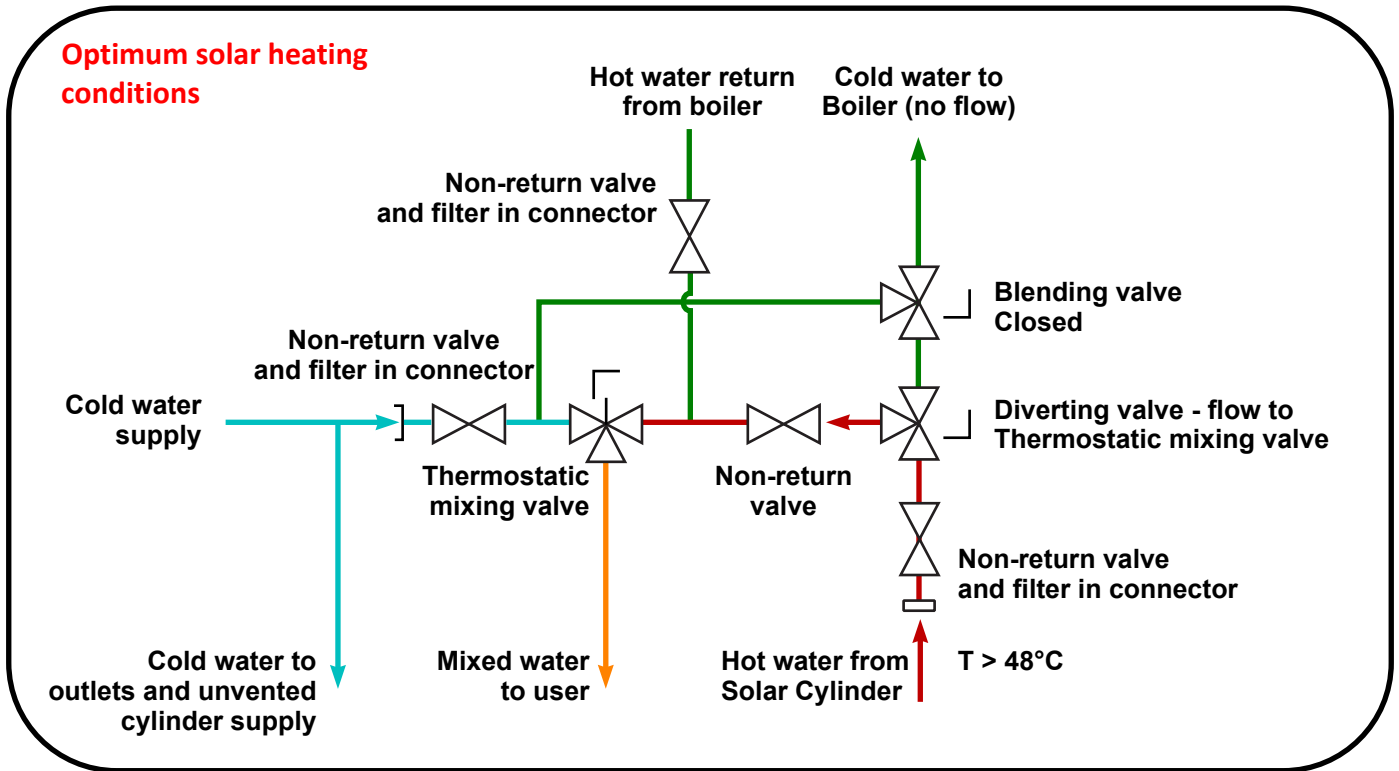
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Dimensions



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Schematic diagrams



Inactive

Hot water

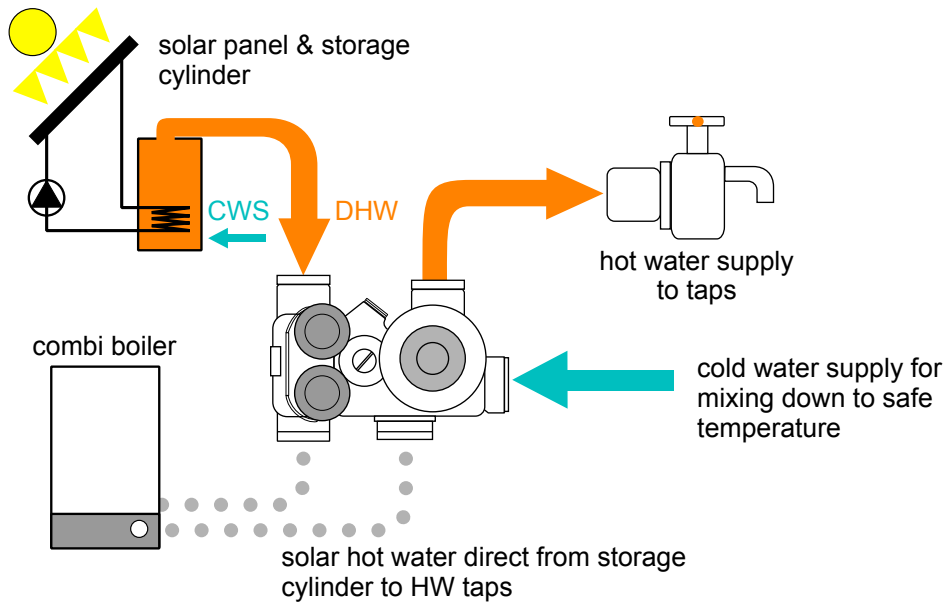
Cold water

Blended water

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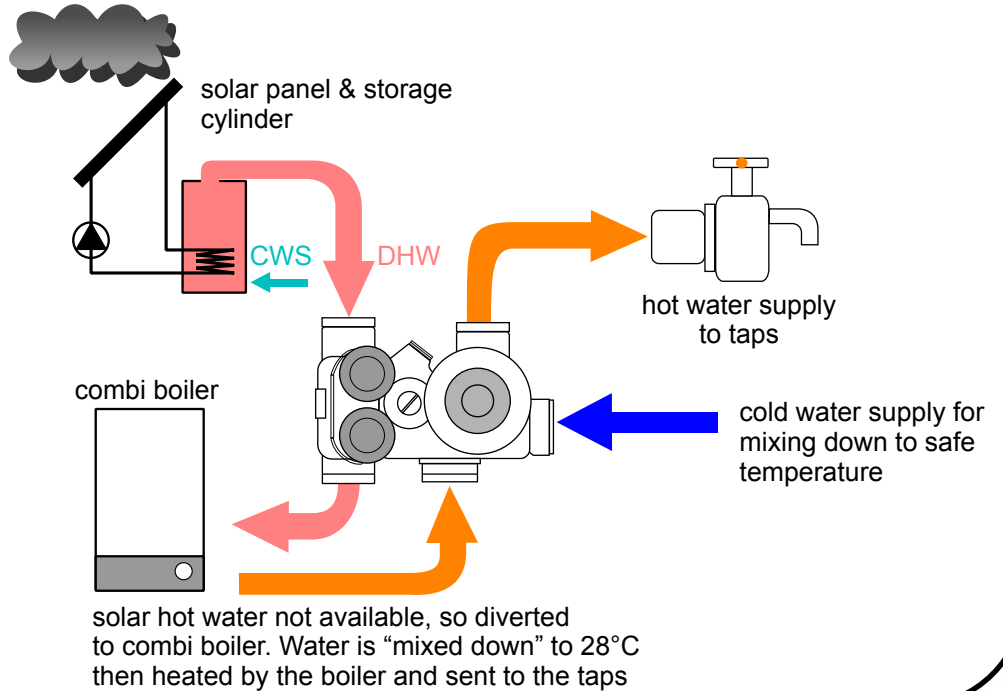
Operation example 1:

DHWS heated by Solar delivery direct to taps via mix with cold to a safe temperature



Operation example 2:

DHWS from cylinder only warm (or cold). Intasol diverts to the combi boiler, heats DHWS and delivers to taps. DHWS is mixed at the Intasol valve to maintain safe temperatures



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In service testing

If the thermostatic mixing valve of the Intasol has been adjusted or serviced, it must be re-commissioned and re-tested in accordance with the following instructions.

Problem solving

The following details are provided to answer on-site queries. If you require any further assistance, please contact our Technical team on 01785 218220.

1. Hot water at the cold tap

- i Operation of the check valve is hindered. Confirm that the valve is seated correctly
- ii Check valves not fitted
- iii Unbalanced hot/cold supply pressure

2. Fluctuating mixed water temperature

- i Erratic supply temperatures at the valve inlet
- ii Starvation of the water supplied at the valve inlets
- iii Incorrect commissioning of the valve

3. Erratic flow

- i Insufficient water supplies
- ii Fluctuations of the water supply pressures/temperatures
- iii Adverse effect created by other draw-off points on the system

4. No flow/reduced flow from valve

- i In line filters are blocked
- ii Insufficient supply pressure
- iii Debris obstructing valve operation
- iv Valve requires servicing (servicing kits available on request)

5. Valve does not "fail safe" when tested

- i Installation not in accordance with our recommendations
- ii The minimum temperature differential has not been achieved
- iii Internal mechanism hindered by debris