

Intasol Solar TMV Combination Diverter Valve - 555CSD1

Installation and Maintenance Instructions



Introduction

The Intasol combi diverter valve enables solar heated unvented hot water cylinders to be linked with a combi boiler. In the event the hot water temperature in the cylinder dips below a usable temperature, the valve diverts this water to the combi boiler treating it as a pre-heat.

The 555CSD1 assembly consists of a thermostatic mixing valve, thermostatic diverting valve, thermostatic blending valve and integral non-return valves.

The valve then blends hot water produced by the combi boiler or the cylinder with cold water from the mains to deliver water at a safe, usable temperature for the end user.

We recommend that the installation of any Inta product is carried out by an approved installer.

It is recommended, especially in hard water areas, that a limescale reduction device, such as the ActivFlo or ActivFlo lite, be fitted to reduce the risk of calcium deposits forming.

Products

Description

Intasol Solar TMV Combination Valve

Part Code

555CSD1

Technical Specification

Body material - DZR brass:	BS EN 12164 CW602N
Max. working pressure:	10 bar - static 5 bar - dynamic
Temperature adjustment range:	35 to 55 °C
Fluid type:	water
Max. inlet temperature:	95 °C
Max. pressure differential:	2:1
Min. temperature differential:	10 °C
Min. flow rate to achieve stable operation:	6 l/m
Temperature stability:	±2 °C
Connections - compression for copper tube:	Ø15mm

High Temperature Solar Systems

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

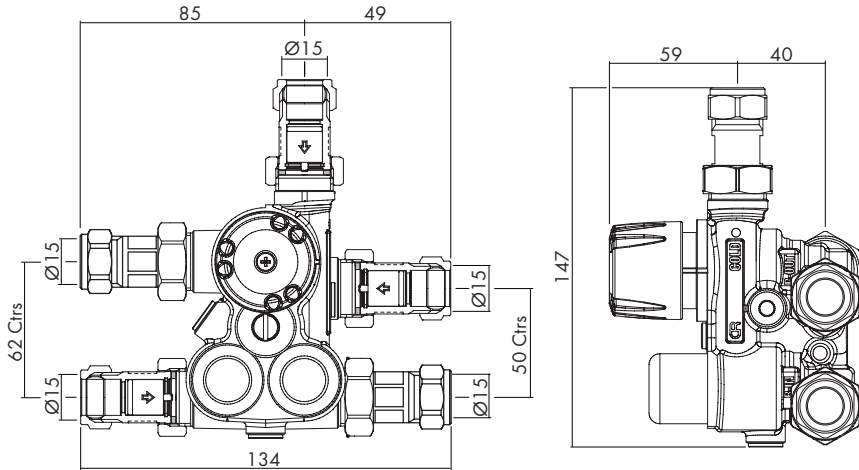
In Summer, especially if there is little water usage, the hot water can reach a temperature of 90 °C+ before the temperature and pressure safety relief valves are actuated.

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

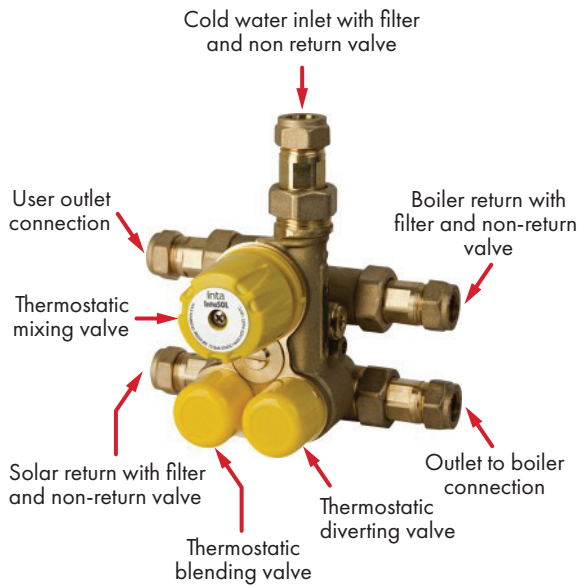
Water temperatures over 50 °C can cause burns very quickly. At 55 °C, partial burns occur after 30 seconds immersion. At 60 °C, they can occur in as little as 5 seconds.

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

Dimensions

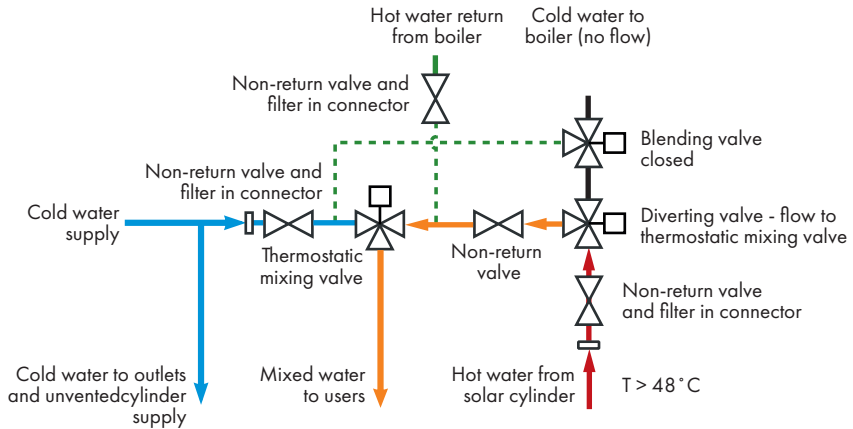


Connections & Features

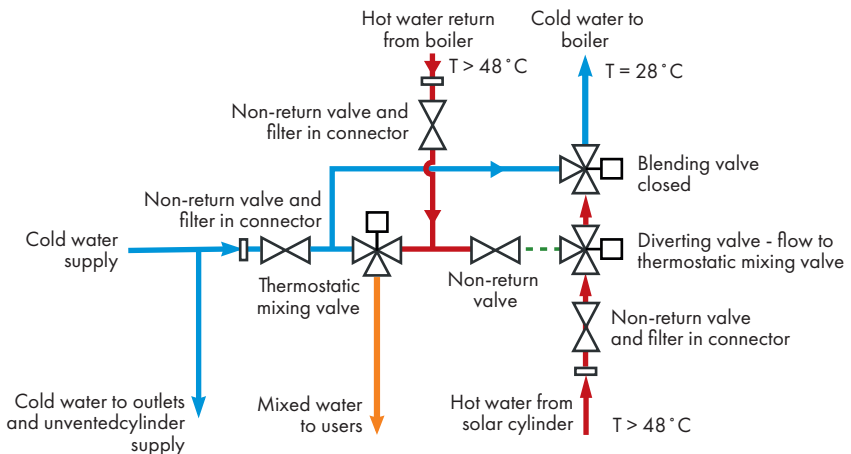


Schematic Diagrams

Optimum Solar Heating Conditions



Solar Heat Unavailable



Inactive

Hot water

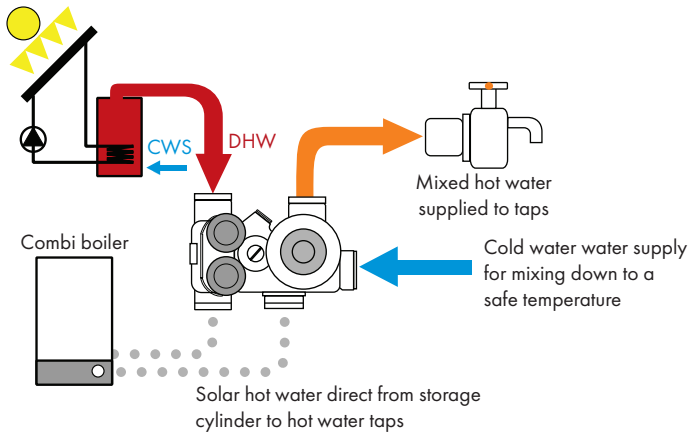
Cold water

Blended water

Installation Guide

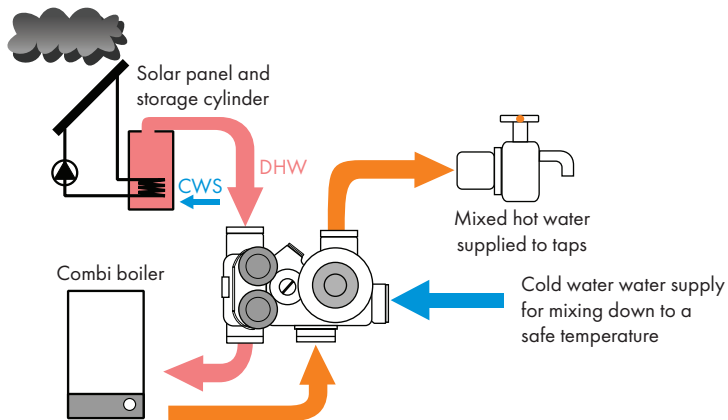
Operation example 1

DHW heated by Solar is mixed with cold water to a safe temperature and delivered to the taps.



Operation example 2

DHW from a cylinder is only warm or cold, the Intasol diverts to the combi boiler, heats the DHW and delivers to the taps. DHW is mixed at the Intasol assembly to maintain a safe temperature.



Solar hot water is not available so water is diverted to the combi boiler. The water temperature is lowered to 28 °C before being heated by the boiler and directed to the taps via the thermostatic mixing valve.

Installation

The location of the Intasol should be planned to consider the distance from the tank and the heat loss through the pipework.

The Intasol TMV Combination Valve is easy to install with five 15mm compression joints to make. When making the compression joints use only copper tube to BS EN 1057 grade R250 (half hard).

After preparing the copper tube fit the olive ensuring that the tube will protrude through it.

Using a suitably sized spanner, tighten the compression nuts until watertight.

Do not over-tighten or use sealing tape.

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 normal procedure for thermostatic mixing valves

Problem solving

The following details are provided to answer on-site queries. If you require any further assistance, please contact our Technical team on 01889 272199.

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

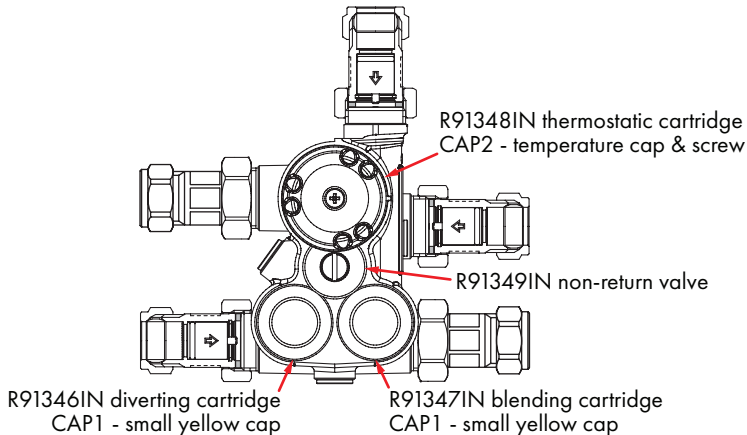
- i Installation not in accordance with our recommendations
- ii The minimum temperature differential has not been achieved
- iii Internal mechanism hindered by debris

Cartridge Replacement

The Intasol combi diverter valve has three thermostatic mixing/blending valves with thermostatic cartridge which may need to be removed for cleaning or if damaged to be replaced.

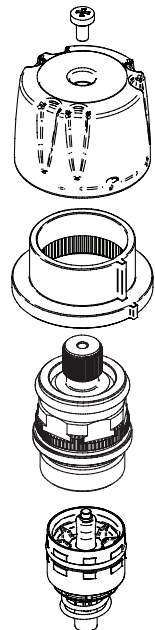
It also has a non-return valve which may need cleaning or replacement.

The three thermostatic mixing/blending cartridges are all different and should only be used in the appropriate valve.



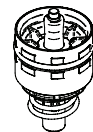
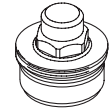
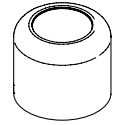
R91348IN - Thermostatic Mixing Valve

- 1 Undo the retaining screw and remove the yellow temperature cap CAP2 and locking plate.
- 2 Using a suitably sized spanner unscrew and remove the metal retaining cover to expose the thermostatic cartridge R91348IN.
- 3 Using long nosed pliers or a similar tool grip the plastic bush at the top of cartridge and carefully extract it, this may be held securely.
- 4 The cartridge consists of three components, the thermostatic element, the conical spring and base plate.
- 5 Check the thermostatic element of signs of damage, especially to the 'O' rings, and inspect for evidence of debris and calcium deposits.
- 6 Rinse the thermostatic element in clean water, if in doubt replace the cartridge.
- 7 Re-assemble in the reverse order, the base plate and the largest diameter of the spring are fitted at the bottom of the chamber in the body.
- 8 The yellow locking plate can be fitted to set the maximum or working temperature by rotating it around before fitting onto the splines.
- 9 The yellow temperature cap can be fitted onto the locking plate for a fixed temperature (no adjustment) or to allow rotation varying the temperature.



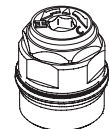
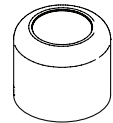
R91346IN - Diverting Valve

- 1 Pull off the small yellow cap CAP1.
- 2 Using a suitably sized spanner unscrew and remove the metal retaining cover to expose the diverter cartridge R91346IN.
- 3 Using long nosed pliers or a similar tool grip the plastic bush at the top of cartridge and carefully extract it, this may be held securely.
- 4 The cartridge consists of three components, the thermostatic element, the conical spring and base plate.
- 5 Check the thermostatic element of signs of damage, especially to the 'O' rings, and inspect for evidence of debris and calcium deposits.
- 6 Rinse the thermostatic element in clean water, if in doubt replace the cartridge.
- 7 Re-assemble in the reverse order, the base plate and the largest diameter of the spring are fitted at the bottom of the chamber in the body.



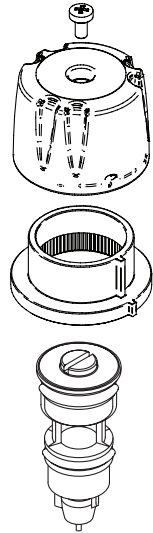
R91347IN - Blending Valve

- 1 Pull off the small yellow cap CAP1.
- 2 Using a suitably sized spanner unscrew and remove the metal retaining cover to expose the diverter cartridge R91347IN.
- 3 Using long nosed pliers or a similar tool grip the plastic bush at the top of cartridge and carefully extract it, this may be held securely.
- 4 The cartridge consists of three components, the thermostatic element, the conical spring and base plate.
- 5 Check the thermostatic element of signs of damage, especially to the 'O' rings, and inspect for evidence of debris and calcium deposits.
- 6 Rinse the thermostatic element in clean water, if in doubt replace the cartridge.
- 7 Re-assemble in the reverse order, the base plate and the largest diameter of the spring are fitted at the bottom of the chamber in the body.



R91349IN - Non-Return Valve

- 1 In order to gain access to the non-return valve you need to first remove the thermostatic cap CAP2 and locking plate.
- 2 Using a suitably sized screw driver to unscrew and remove the non-return valve cartridge
- 3 Check the non-return valve for signs of damage, especially to the 'O' rings, and inspect for evidence of debris and calcium deposits.
- 4 Rinse the non-return valve in clean water, if in doubt replace the valve R91349IN
- 5 Re-assemble in the reverse order.



Notes:

Notes:



Please leave this Manual for the User

To activate your product warranty please visit

www.intatec.co.uk

and click on Product Registration



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