Solar Thermal

Grant CombiSOL Control System

Solar Hot Water Control

Installation Instructions

Kit contents list on page 2

Part No. DOC 76. Rev. 01 September 2010

GRANT

Grant CombiSOL Control System

General

The Grant CombiSOL control system allows hot water from either an un-vented hot water cylinder (or a thermal store), heated by solar thermal, to be used safely at hot water outlets or to be seamlessly diverted through a combination boiler.

Using a manifold arrangement designed and set specifically to control the temperature of the pre-heated hot water supplied to a combi boiler, the Grant CombiSOL gives optimum control of the hot water supplied to the taps, showers, etc. When the pre-heated (stored) water temperature is high enough (> 42°C) the Grant CombiSOL control diverts the water directly to the hot tap without it passing through the Combi boiler and being heated – thus preventing unnecessary fossil fuel use.

At temperatures of ≤ 42°C the CombiSOL control will supply pre-heated water to the Cold inlet of the Combi boiler, at a maximum temperature of 24°C.

IMPORTANT. Fully read these installation instructions BEFORE installation. The Grant CombiSOL Temperature control manifold and the separate Hot water mixing valve MUST be installed as directed in these instructions. Failure to install this control system correctly will invalidate the product warranty.

Kit Contents

1 x Temperature control manifold assembly
1 x Hot water mixing valve
2 x 15mm compression tails
2 x 15mm compression tails with integral non return valves
4 x sealing washers (for compression tails)
3 x Compression nuts – with olives

Description

The temperature control manifold consists of two valves (Valves 1 and 2) both factory set to perform specific functions. Refer to Figure.1. For identification each valve is clearly marked with the valve number. The function of these valves is as follows:

Valve 1 – thermostatically controls the temperature of the pre-heated water to the Combi boiler, preventing it from exceeding 24°C.

Valve 2 – functions as a 'diverter valve'.

At inlet temperatures > 42°C (from the secondary hot water store) the manifold will supply hot water directly to the hot inlet port of valve 3 (to be thermostatically controlled) and on to the outlet without passing through the Combi boiler.

At inlet temperatures ≤ 42°C the valve will supply water to the 'Hot' inlet port of valve, to be thermostatically controlled to no more than 24°C and on to the inlet of the Combi boiler.

The Hot water mixing valve (valve 3) thermostatically controls the temperature of the water flowing to the hot taps, limiting it to 49°C at outlet from the valve. This valve can be fitted anywhere in the hot water supply pipe.

Installation

The Grant CombiSOL system is WRAS Approved and must be installed in accordance with the Water Regulations, Building Regulations and any relevant local Regulations or Bylaws in force.

Before installation it is important to ensure that the Combi boiler concerned can accept an incoming water temperature of 24°C. If in doubt, contact the boiler manufacturer for confirmation of the maximum inlet water temperature.

Any unvented hot water cylinders or thermal stores must be installed by a competent person in compliance with all relevant current legislation, codes of practice and local by-laws.

Connections

The valves are supplied with compression connections to suit 15mmØ pipe.

Temperature control manifold - Fit one of the 15mm compression tails, using the sealing washer provided, to the hot output connection on valve 2.

Fit one of the 15mm compression tails with integral non return valve, using the sealing washer provided, to the cold mains inlet connection on Valve 1.

Fit two of the 15mm compression nuts and olives provided to the two remaining threaded connections on valves 1 & 2.

Refer to Figure 1 for location of connections and non-return valve on temperature control manifold.

Hot water mixing valve - Fit one of the 15mm compression tails, using the sealing washer provided, to the hot input connections on valve 3.

Fit one of the 15mm compression tails with integral non return valve, using the sealing washer provided, to the cold mains inlet connection on Valve 3.

Figure 1:
Temperature control manifold

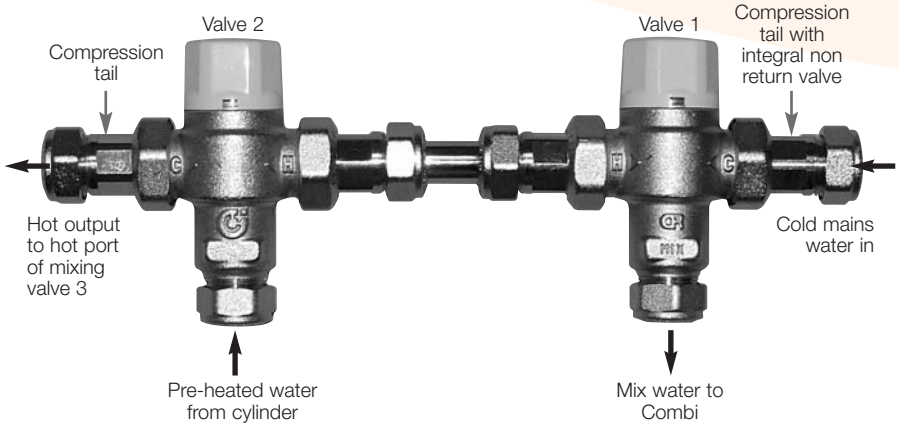
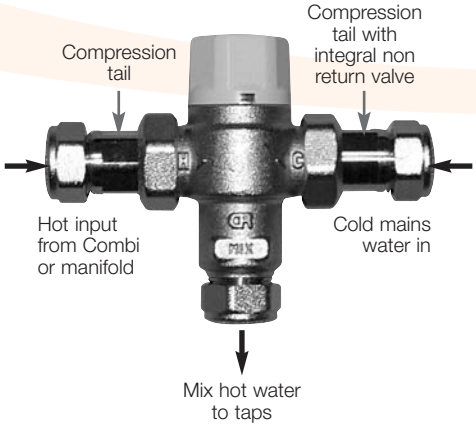


Figure 2:
Hot water mixing valve (Valve 3)



Fit the third 15mm compression nut and olive provided to the remaining threaded connection on the mixing valve (valve 3).

Refer to Figure 2 for location of connections and non-return valve on Hot Water mixing valve (Valve 3).

Note: This hot water mixing valve will NOT be required if a thermostatic mixing valve is already fitted in the water supply to the hot taps, e.g. in Scotland.

Location

Please note that in Figure 3 the manifold and mixing valve are shown installed vertically, one above the other. This is not essential and they can be positioned in any orientation to suit the existing pipework arrangement. Ensure that all connections to both the manifold and mixing valve are readily accessible should it be necessary to remove them for servicing at any time.

IMPORTANT. Do NOT interchange or attempt to adjust any of the valves, however temporary. Each valve has been designed, manufactured and set to perform a specific function. Failure to follow this instruction will invalidate the product warranty and may cause an unsafe condition to occur.

With an existing hot water system, the layout may be such that the Combi boiler and the pre-heated hot water store may not be in the same area. If the manifold and mixing valve are installed adjacent to the store, this would result in an unnecessary pipe having to be installed to take the hot from the Combi back to the mixing valve.

This can be avoided by locating the mixing valve closer to the Combi. The T-piece can be located anywhere on the pipe between the hot outlet from the Combi and Port C on the manifold (Valve 2). Wherever it is located, ensure that mixing valve is readily accessible should it be necessary to remove it for servicing at any time.

Note: If local Regulations require the use of thermostatic mixing valves to control the hot water temperature at every point of use, the Hot water mixing valve supplied with the Grant CombiSOL system can be used as one of these valves.

Scale prevention

As with all components connected to the water supply, there is a risk of lime scale contamination in hard water areas. Precautions must be taken to prevent lime scale build-up in the Grant CombiSOL valves. Any failure of the valves due to lime scale is not covered by the product warranty.

IMPORTANT. The Grant CombiSOL control system is not Intended to act as a means of preventing bacteria (including legionella) in hot water systems. It is the responsibility to ensure that suitable protection is provided to control the growth of any bacteria in the hot water system.

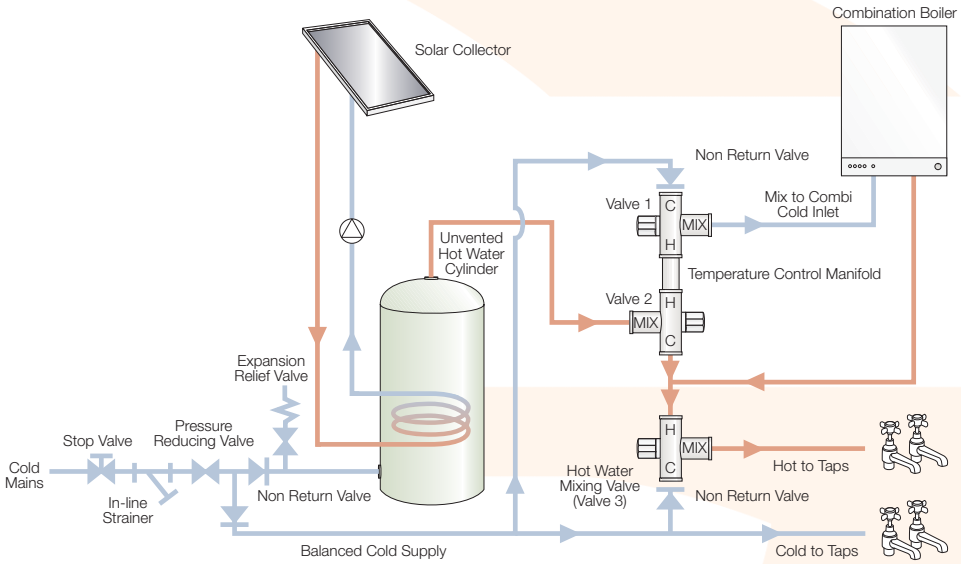


Figure 3: System diagram for Unvented Hot Water clyinder - showing location of manifold and hot water mixing value

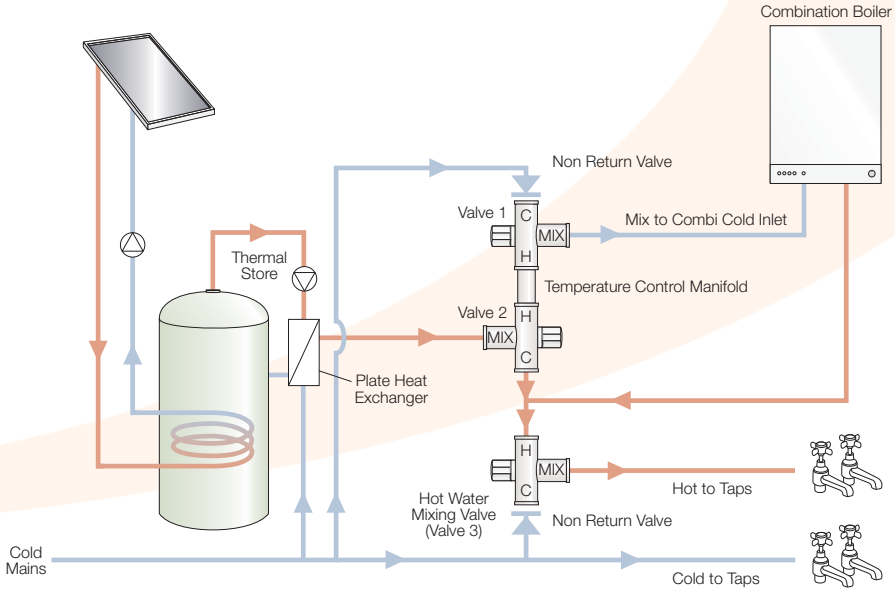


Figure 4: System diagram for Thermal Store - showing location of manifold and hot water mixing valve.

IMPORTANT. Refer to Unvented Cylinder or Thermal Store manufacturer's Installation Instructions when connecting the cold mains supply.

GRANT ENGINEERING (UK) LTD
Hopton House, Hopton Industrial Estate, Devizes, Wiltshire. SN10 2EU
Telephone: 01380 736920 Fax: 01380 736991
Email: info@grantuk.com Website: www.grantuk.com