

# TECHNICAL BULLETIN

## PRODUCT: GREENSKIES SOLAR SYSTEMS

### CONCERN REGARDING LEGIONELLA:

The HSE Approved Code of Practice and Guidance (L8) "The control of Legionella bacteria in water systems", applicable to the management of hot water systems in non-domestic premises, recommends for hot water storage cylinders that the whole contents should be heated to 60°C for one hour each day to prevent growth of Legionella bacteria in the cylinder.

**Briefly raising the water temperature to 60°C is not effective.**

### TWIN COIL CYLINDERS:

Where twin coil cylinders are used, it is best practice to programme the boiler coil to heat the entire contents of the solar hot water cylinder above 60°C once daily for an hour, preferably during a period when there is little demand for hot water and late in the afternoon when there is no further Solar gain likely and before excessive heat loss of the cylinder occurs, i.e. 4-5pm.

**We recommend the fitting of a blending valve on the hot water outlet of the cylinder.**

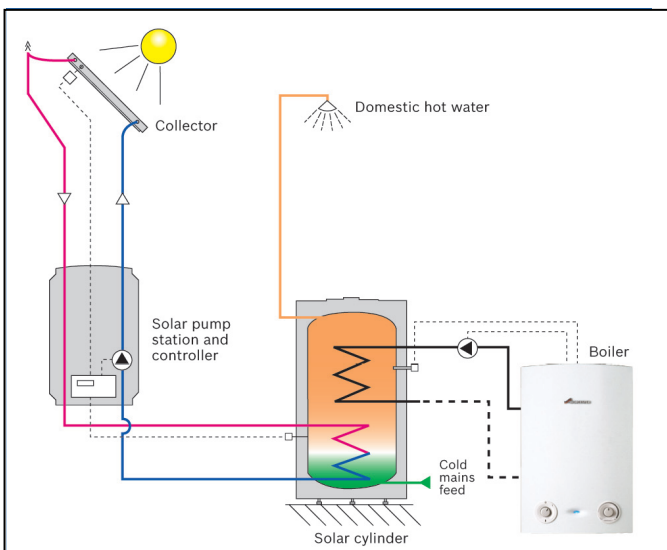


Fig 1: solar with regular or system boiler

The Water Fittings Regulations place a legal duty on the installer and user to ensure that the installation and operation of the complete system prevents contamination of domestic hot water by Legionella bacteria, which can grow and multiply in water stored at temperatures between 20° and 45°C.

**We do not recommend the pre-heating of the mains water inlet to a combi boiler unless the system features approved temperature blending equipment.**

### PRE-HEATED HOT WATER:

If pre-heated water is stored at temperatures between 20°C and 45°C, this favours the growth of the Legionella bacteria, and large numbers of the bacteria can develop, measures will be required to prevent these bacteria causing harm to health.

Single coil solar cylinders are sometimes used to pre-heat water either before it enters the main storage cylinder or to supply a combination boiler (where approved). In such cases, the same pasteurisation measures will be required as for the main storage cylinder however, these cylinders have no primary heat source with which to perform disinfection. It is recommended that a shunt pump be used to circulate the boiler heated water to both cylinders to achieve a pasteurisation temperature of 60°C for one hour.

If pre-heated water containing Legionella is subsequently passed through a combination boiler, its temperature does not usually exceed 60°C and it is held at that temperature only for seconds before being distributed. If legionella is present in domestic hot water, particularly at shower heads this can cause harm to health by being inhaled as water vapour.

During the warm-up of a combination boiler up to 20 litres of water could be passed to outlets before the boiler achieves its pre-set water temperature (which in any case may be less than 60°C.)

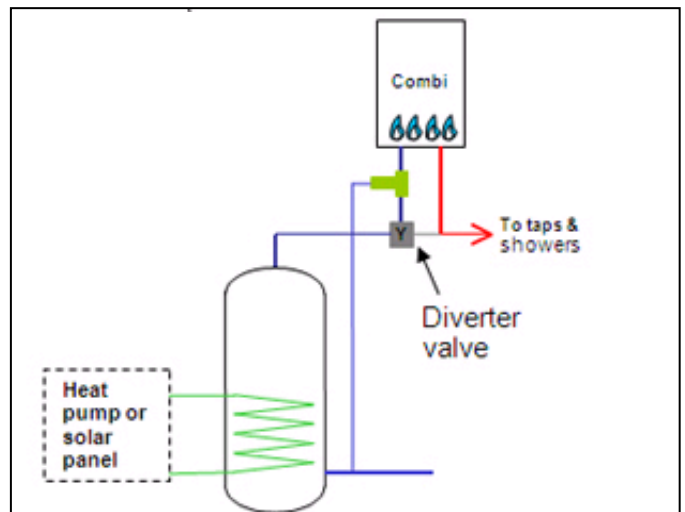


Fig 2: pre-heating solar with combi