

HIGH TEMPERATURE WATER WARNING



Solar collectors can generate temperatures that can scald. Exercise extreme care when handling systems, paying special attention to the inlet and outlet fittings. Chromagen advise covering the solar collector during installation.

If solar collectors are not connected to the solar storage tank for extended periods (eg; on new home installations) it is important to ensure that collector flow and return lines are emptied of water after pressure testing has been completed. Failure to drain flow and return lines can lead to dangerous, scalding water temperatures being released during tank 'fit off', or damage to collectors due to over pressurization.

IMPORTANT - It is the plumber's responsibility to use appropriate joint sealant.

Teflon tape is unsuitable for the high temperatures in this system. Use only a jointing system that is rated for high temperatures such as:

1. Hemp and TOT thread sealant, used with Loctite 569 (Hydraulic Sealant),
2. Loctite 55 pipe sealing cord or Loxeal.

NOTE: It's the installer's responsibility to ensure the appropriate sealant is used.

Collector location, orientation & inclination

Location:

- The collector/s should be no more than 15 metres away from the storage tank (for ground mounted systems)
- The solar thermal collector/s should be free from shade all year round and clear from obstructions

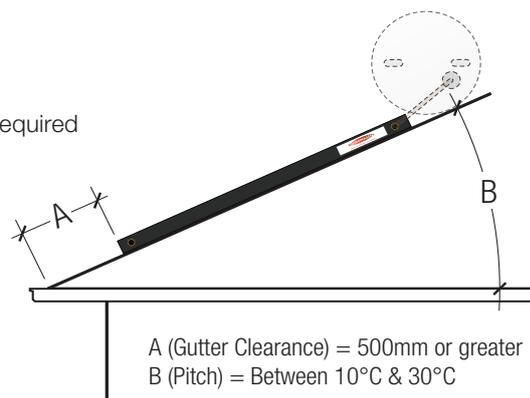
Orientation:

To obtain the best solar gains and most efficient performance from your solar water heater ensure that the collectors are orientated based on the relevant azimuth range. A deviation of 45° to east or west has little effect on annual solar gain. The collectors should be installed facing the equator, which is due North in Australia (South in the Northern Hemisphere).

Inclination:

To ensure best exposure to the sun and best solar gains the pitch of the collector/s must be at a:

- Minimum pitch of 10°
- Maximum pitch of 30°
- If less than 10° pitch, flat roof stands must be used
- If greater than 30° pitch extra fixings and frames may be required



Roof support requirements

A full thermosiphon system can weigh up to 500kg. Care must be taken to ensure the roof can adequately support this weight prior to installation.

Before lifting & fitting the system to the roof

1. Ensure the roof is strong enough to support the weight of a thermosiphon system; up to 500kg
2. Survey the roof space and determined where the collectors and tank will be installed. Ensure that you have accounted for the overall system dimensions, including the tank and strapping.
3. Ensure the bottom of the collector can be located at least 500mm from the guttering
4. Check the roof for broken or loose tiles and rusted or loose steel sheets and make good.
5. Apply the branding label supplied, to the tank in the kit (if applicable)

Anti-freeze kits

Chromagen recommends the use of 'Closed Loop' systems in areas that are known to be frost-prone and where the winter temperature falls below 0°C average.

However, if you are installing an Open Loop system in a known frost-prone zone, then you must fit it with an anti-freeze (frost) kit as per the table below. The frost valve in these kits is designed to prevent the water in collectors freezing when the temperature falls below 4°C.

Frost valves must always be installed at an angle equal to the roof surface or facing down to allow water to drain freely. Installing the valve incorrectly may result in water freezing inside the valve and valve failure.

Kit Code	Description	Number of valves in kit
K1025	Anti-freeze (frost) kit for single-collector systems	1
K1026	Anti-freeze (frost) kit for double & triple-collector systems	2

IMPORTANT: Frost valves are required for all solar hot water installations in Victoria. Frost valve should be inspected annually and replaced as required.



To collector

To tank

THERMOSIPHON ARRESTOR VALVE OPERATION

The thermosiphon arrestor valve (TA20) is fitted to a thermosiphon solar hot water system to limit the water temperature in the storage cylinder to approximately 80°C. The valve is located at the cold flow to the collectors and closes automatically when the water from the bottom of the storage cylinder, passing through the valve, reaches 60°C - 65°C. This prevents any further thermosiphon action from taking place until the temperature in the storage cylinder reduces. When the water temperature in the storage cylinder reduces (cools) the valve opens automatically, allowing the thermosiphon action to resume.

Max Temperature: 99°C

Max Pressure: 1400kPa.

Activation Temperature: 60°C - 65°C

NOTE: Systems should be specified to suit the expected application and usage. Failure to do so may result in insufficient hot water delivery or excessive dumping of heated water to protect the system



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NOTE: All roof penetrations are the responsibility of the installer. All details in this document are accurate at time of publishing. Illustrations shown are representative only. Product specifications may change without notice. For the latest product details and specifications, please visit our website - www.chromagen.com.au.