

General Instructions for Solar Installation

1. All solar panels must be installed on a northerly facing aspect at an angle of the latitude of the site, plus fifteen degrees. This is an ideal angle for installation and if it is not achievable then the angle should be as near as possible.
2. Frames should be fixed to roof trusses using appropriate length coach bolts, as the unit could be subjected to high wind velocity.
3. The panels must be installed, with the temperature sensor at the hot end, and if installing more than two panels in series, then on a rising angle to the hot outlet to achieve thermo-siphoning within the manifold, which allows the temperature sensor to operate correctly. Failure to do this could result in overheating and possible damage to the system.
4. Do not install the evacuated tubes until all other systems are in place and the system is ready to start up, otherwise the panels will overheat causing damage to the unit.
5. The tempering or temperature/pressure relief valves must be installed on the hot side of the panels. The outlet from the valve should be piped from the roof or discharged into an area which will not cause damage to the roof or spouting. If the system is being installed with water coming from a tank supply, then this

- discharged water should be returned to the tank.
6. If the panels are installed, using an indirect connection to a coil, an expansion vessel must be installed on the cold side with no valves between the coil and the expansion tank. There must be a thermo-siphon break above the expansion tank and a filling valve set at 1.5 bars.
 7. The pump must be installed on the cold side to ensure its longevity there must be a non return valve fitted between the pump and the panel. This will ensure the system does not thermo-siphon during periods when the manifold temperature drops below the cylinder temperature.
 8. Ensure all pipe work is done in rolled copper or, if using a composite pipe that will withstand high temperature, make sure that there are no joint connectors in confined spaces within the walls of the building in case of failure.
 9. The element should be connected to the controller via a relay, to ensure that the controller is not overloaded. This should be on a separate circuit to the switchboard with a cutout circuit breaker installed.
 10. Install the panel sensor probe into the pocket at the hot end of the panels. Install the cylinder sensor probe into the appropriate pocket