



SOL PAC
Heat Transfer Module
Engineering Specifications

The heat transfer module shall be a packaged unit combining the solar circulation pump **March 809 12V DC**, heat exchanger all copper **SAH 48**, fill & drain assembly, system pressure gauge, check valve by-pass, solar expansion tank (compatible with propylene glycol) and low flow PV check valve **CVPV-5** and pressure relief valve.

The Heat Exchange Module shall be a side-arm thermosiphon design attached to the storage tank in a manner to allow convective currents and thermosiphoning on the waterside of the heat exchanger. A 20-watt photovoltaic panel located on the same plane and location as the Winston Series CPC collectors shall power the solar DC circulation pump.

Storage Tank

The storage tank shall be any commercially available residential or commercial electric water heater of 50, 80 or 120-gallons with a 5-10 year warranty.

The storage tanks will be insulated to R11 to R17 with a steel or aluminum jacket protecting the insulation.

Electric element in the storage shall be energized only when electric energy is used as the back-up heater and the system design is using a single storage tank. If a demand heater or gas heater is the back-up system, the electric elements in the storage tank are not energized or used.

Tanks shall include a Pressure & Temperature relief valve compatible to local plumbing codes.

Back-up Energy

The solar system may utilize the electric element located in the storage tank as a back up to the solar system.

Demand gas or electric water heaters may also be utilized as a back up to the solar system and will be installed on the hot outlet pipe of the storage tank.

When a separate gas or LPG water heater is utilized as the back up to the system the hot outlet from the solar storage tank will preheat the gas water heater. No cold water supply shall be piped to the gas water heater without a bypass to isolate cold water to the gas/LPG heater.