



THE MAGIC OF A 'HEAT-PIPE'

Thermomax solar collectors convert direct and diffused solar radiation into heat. Infra red rays, which can pass through clouds, are also absorbed and converted into usable heat.

The collectors efficiently collect and transfer this energy through a special collector plate and a rapid heat transfer channel 'the heat-pipe', situated in an evacuated glass tube, to a highly insulated manifold heat exchanger. The collector plate has a special wavelength 'selective' coating using a semi-conductor layer. This special absorber plate converts the maximum amount of solar radiation into heat whilst having very low radiation losses.

The heat-pipe has a very low heat capacity but an exceptionally rapid conductivity and therefore is a very

efficient and speedy heat conductor. It also provides the system with a diode function i.e. heat transfer is always in one direction - from the absorber to the water and never the reverse. Due to the physical properties of the 'heat-pipe' fluid and the special construction of the condenser, the maximum working temperature of the system can be controlled. This unique feature eliminates the need for complicated controls and ensures safety in the system. The special fluid inside the 'heat-pipe' evaporates when heated, transferring heat energy to its top. The vapour condenses inside a special heat exchanger (which is located within a water manifold) and the fluid then returns to its original position, at the bottom of the 'heat-pipe', due to gravity and the cycle is repeated continuously. The vacuum in the glass tube, being the best possible insulation

for a solar collector, suppresses heat losses and also protects the absorber plate and the 'heat-pipe' from external adverse conditions. This results in exceptional performance far superior to any other type of solar collector.

