

SOLAR

SOLAR HOT WATER SYSTEMS

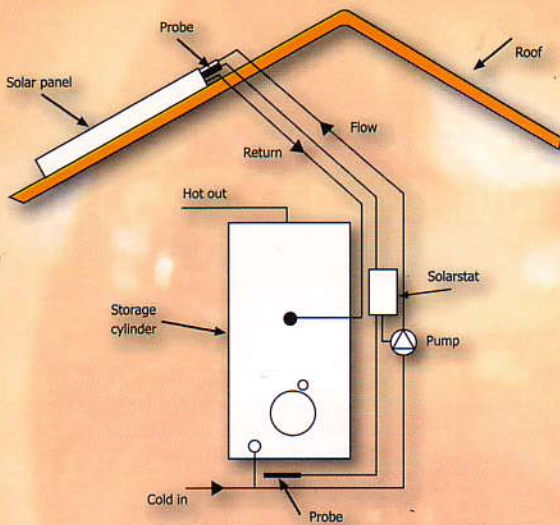
Max

Whether you're building a new, renovating or you have an existing home, one of our systems will suit your individual requirements. "Solarmax" collector panels are lightweight and slim, which makes them aesthetically pleasing to the eye and blend in with any roofline. Frames can be powder coated to match the roof colour. Solarmaster have been manufacturing hot water systems in New Zealand since 1989. "Solarmax" panels are suitable for both mains and low-pressure hot water cylinders.

HOW SOLAR HEATING WORKS: Solar hot water systems use the sun's energy to heat water. Water is circulated through a solar panel, which is mounted on your roof and either pumped or by natural means (thermo syphoning) up to or down to a storage cylinder ready for use. Solar energy can provide up to 65% of your hot water requirement over an annual period.

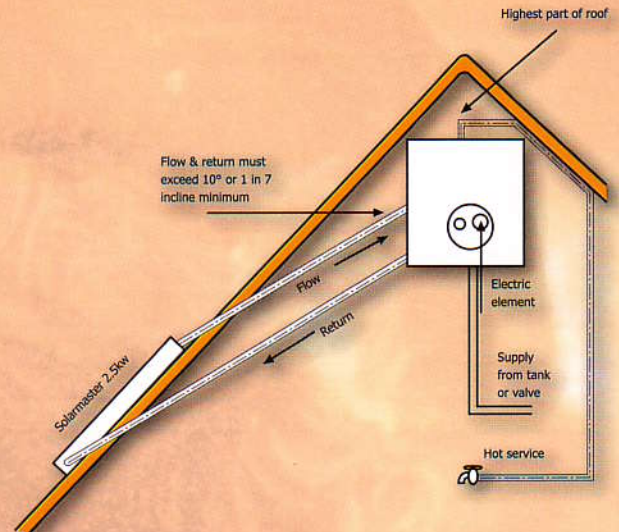
PUMP/SENSOR SYSTEM (Cylinder is in the house)

This system is fitted with a circulating pump, differential solar-stat and two temperature probes. One probe is located on the top of the panel on the roof in the hot water outlet connection. The other probe is mounted on the suction side of the pump. When the differential between the two probes is 12 degrees C the pump is activated drawing cold water from the bottom of the unit pumping it up through the panel and back down to the middle of the cylinder. Once the differential reduces to 6 degrees C the pump turns off. The electric side becomes a "Back up" to the solar operation during this period. A pump system is more efficient than a thermosyphon system comparing the same size panel and will allow for more flexible piping layout within the constraints. The higher water flow means, a higher heat transfer, thus more efficient overall heating.



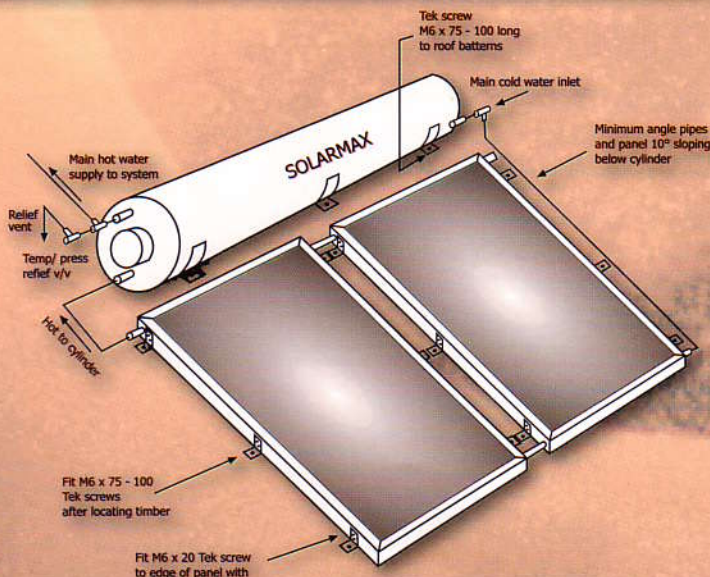
THERMO-SYPHON SYSTEM (Cylinder in the roof space)

Normally installed in high-pitched roofs where the Storage cylinder is mounted inside the highest point of the roof and the Solar panels are mounted outside on the roof at a lower level. No circulation pump is required as the system functions by natural convection of thermal currents drawing cold water down from the cylinder to the bottom of the panel by gravity, and then heated in the panel by the sun's rays. As it heats up, it returns by convection to the cylinder where it rises to the top ready for use.



EXPORTER MODEL

(Panel and cylinder attached situated on roof)



Exporter model solar systems are a thermosyphon unit with electrical back up. The "Solarmax" Exporter model comes as a complete unit, ready to install, including cylinder, solar panel, cyclone brackets and complete installation kitset. The main benefit of this system is the ease of installation, ideal for exporting to the Pacific Islands.

