



Efficient Hot Water

Edson Evacuated Tube Solar Hot Water



Sanden Heat Pump Hot Water





Evacuated tube solar hot water consists of a evacuated tubes, a manifold, a low wattage pump, a controller, sensor cables & a storage cylinder



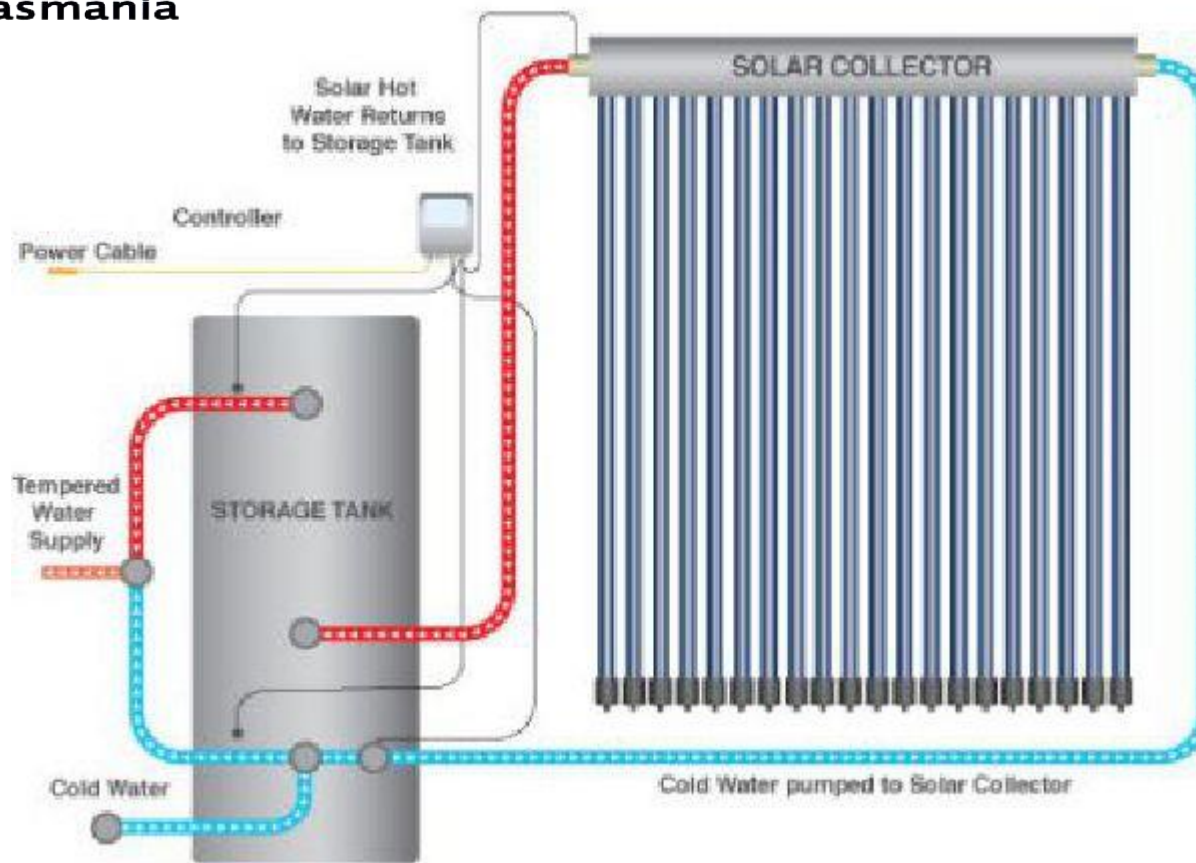
The tubes can be mounted flush on the roof if the roof has a good pitch e.g. greater than 30 degrees



With lower than 30 degree roof pitches a tilt frame should be used to maximise Winter production & minimise over performance in Summer

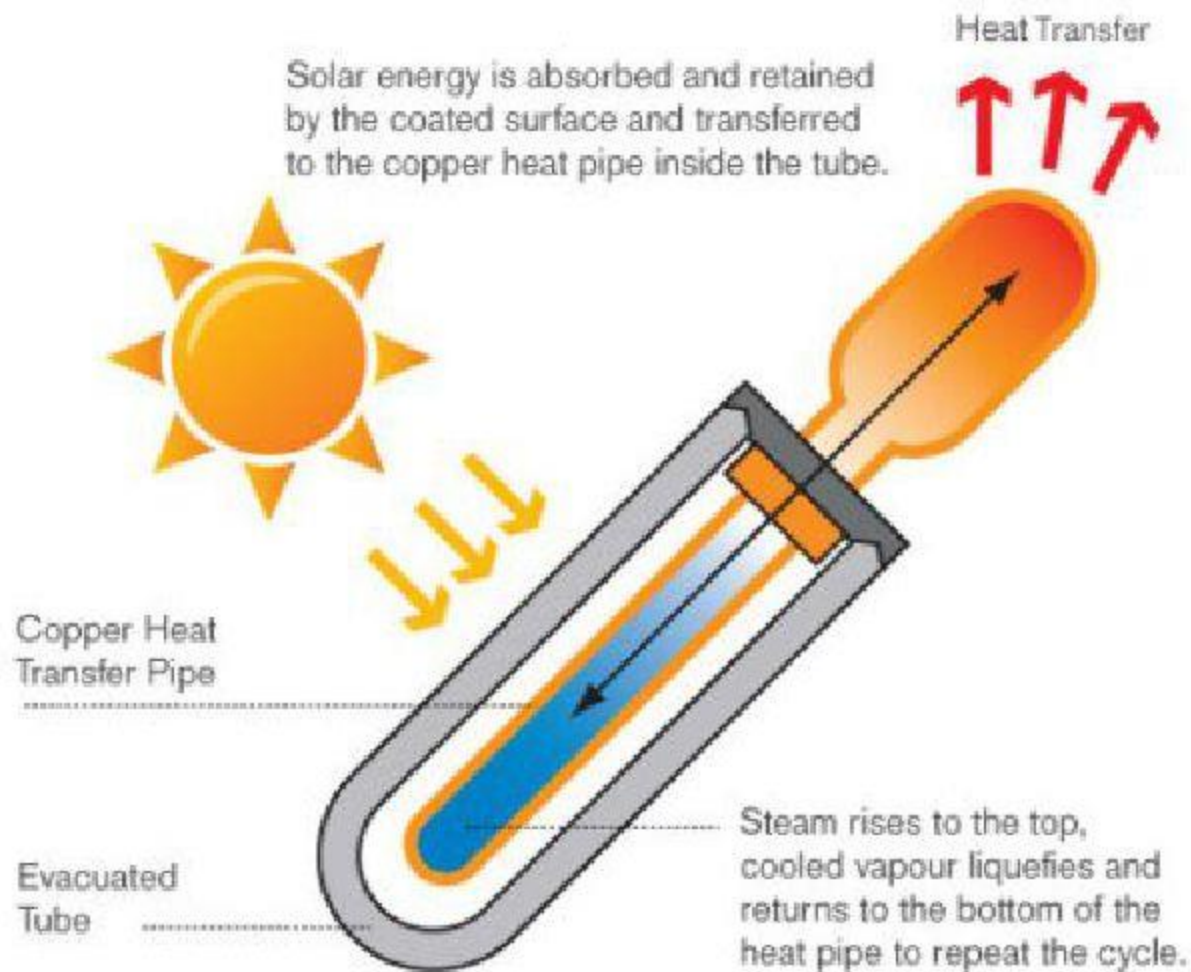


The storage cylinder can be placed inside or outside



When the sensor in the manifold is 12 degrees hotter than the sensor in the tank the pump will activate until the tank temperature hits 80 degrees or the difference in temperature between the two is less than 6 degrees.

When there is insufficient solar input the water will be heated either by the back-up electric element or a gas booster





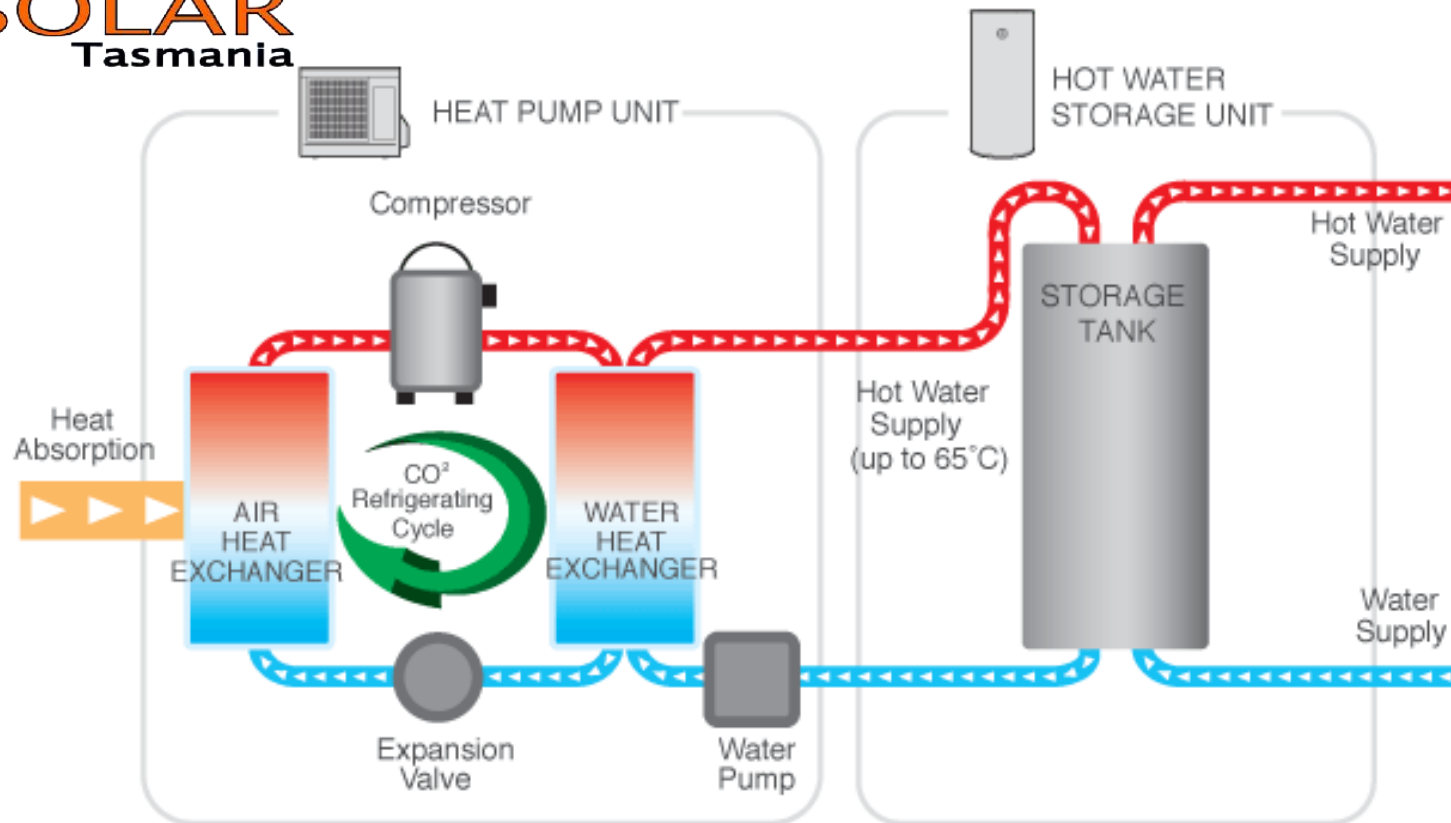
Introducing the Sanden "Eco"™ Hot Water Heat Pump System



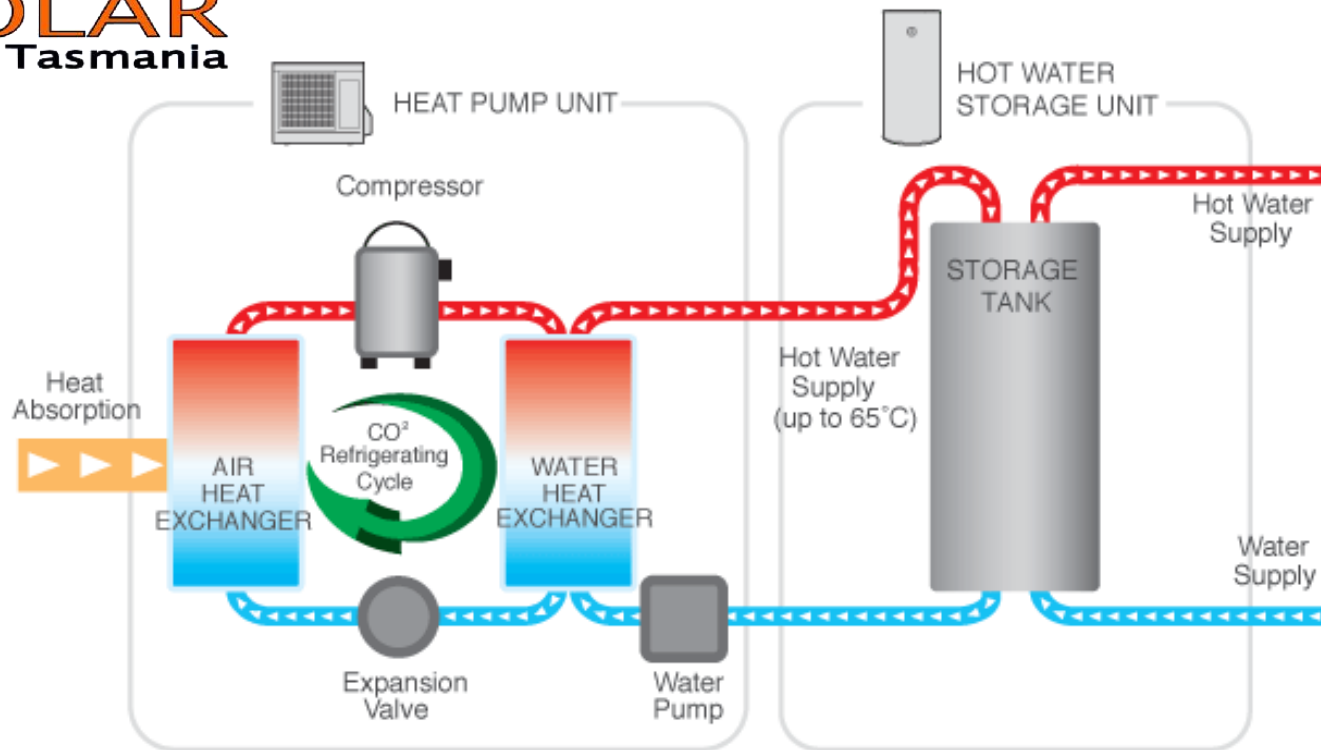
The Sanden heat pump hot water system consists of a air to water heat pump
& a storage cylinder



Affordable
SOLAR
Tasmania



The Sanden "Eco[®]" Hot Water Heat Pump System operates like a refrigerator in reverse. It contains a fan that forces air through an evaporator that contains a refrigerant. The heat in the air passes through the evaporator and is absorbed by a natural refrigerant, R744 (CO₂), which is ozone friendly and does not contribute to global warming. The warm gaseous refrigerant is circulated in the system via a compressor. As it passes through the compressor, its pressure rises, as does its temperature. This hot refrigerant then passes through a heat exchanger to heat the water, which is finally pumped to the storage tank.

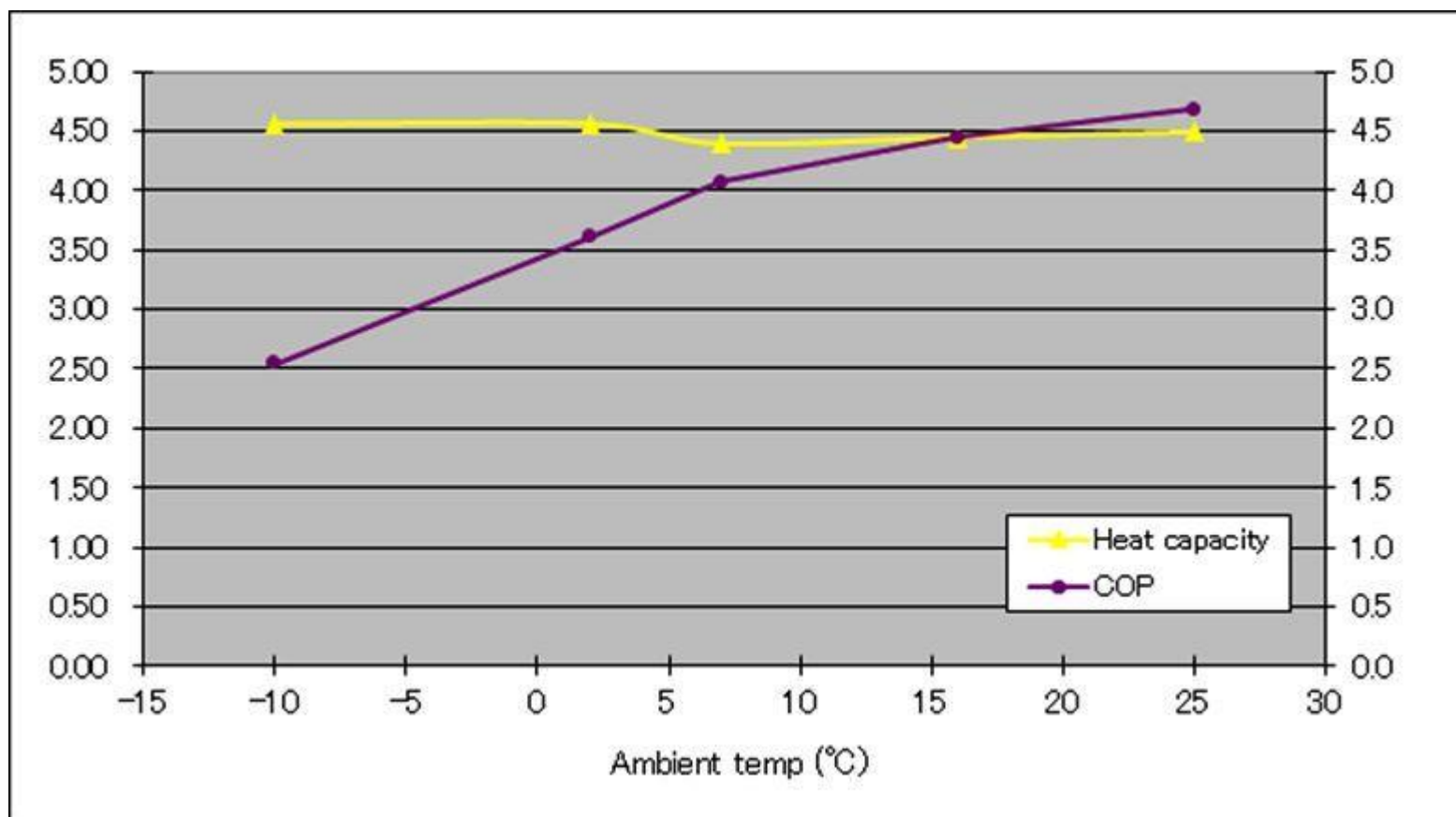


The heat pump will operate when:

- The temperature of the water in the middle of the tank is 45 degrees;
- More than 24 hours has passed since it last run for anti Legionella purposes;
- Electrical disruption occurred when the pump was last running;
- The current time is 10am;
- When the heat pump operation could not start under condition "d" due to blocked out hours.

The unit will stop when the water temperature on the flow side of the heat pump reaches 50 degrees.

The HP has built in freeze & frost protection which will also trigger the HP to run



Very high co-efficient of performance, 4.5 at 15 degrees ambient temperature
A standard electric element HWS will take 1KW of electricity and give you 1KW of hot water
The Sanden will take 1KW of electricity & give you 4.5KW of hot water
Performance drops off at colder temperatures but will still give you a COP of 2.5 at minus 10
without the need of a back-up element!

Which is better? You decide

Solar

Longer warranties on big ticket components i.e. the Sanden HP warranty is 3 years on the HP (which is long for a HP) & 15 on the tank.

Very efficient in Summer

Almost no noise

Sanden Heat Pump

Nothing on your roof – more room & no shading for PV.

Less expensive & more efficient than solar as determined by the ORER i.e. 33 STC's for the Sanden v's 32 for the 30 tube Edson

Can be used effectively as a water battery for your PV system by using the Block Out hours function

During normal operation it only draws 1KW versus the back-up 3.6KW element in the solar system

Efficient year round day & night

Doesn't suffer over-performance issues





Another Solar Option – Wetback

Uses heat from a wood stove/heater to heat your water

During warmer months when your wood stove/heater isn't in use solar does the work in combination with a back-up element.