



infinite energy^{nz}
the power of sun

Hi-MIN[®]
SOLAR
FOCUS ON SUSTAINABILITY



Infinite Energy NZ is proud to represent and recommend a range of products from world's largest solar thermal manufacturer - Himin Solar Co.



Why install Solar Water Heating?

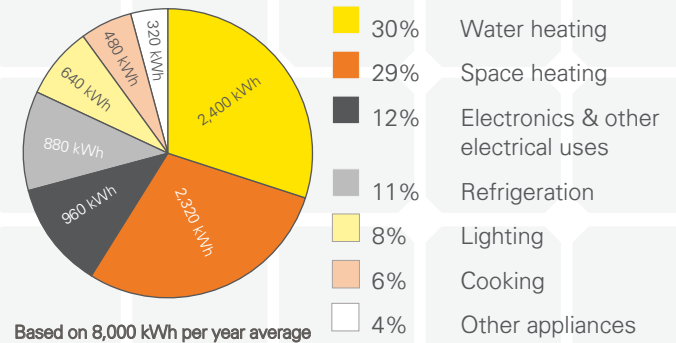
Solar water heating has come a long way in recent years and is a great option to help dramatically reduce your electricity costs. As energy prices continue to increase, so too does the cost of heating your water. In New Zealand, the average household consumes about a third of their annual energy simply heating water. With solar water heating, you can realise all of the benefits of free energy from the sun – and use/store this energy in your hot water cylinder.

Infinite Energy recommend the installation of modern, reliable, evacuated tube systems (from Himin) as they are highly efficient (they capture sunlight much more effectively than flat panel water heaters & are also much more efficient in transferring heat), and provide excellent performance in overcast and winter conditions. In our temperate climate, we also prefer evacuated tubes as they can be used in sub-zero temperatures – and contain no water, so cannot freeze (avoiding breakages and increasing the life of systems).

Closed Loop (Indirect) Systems

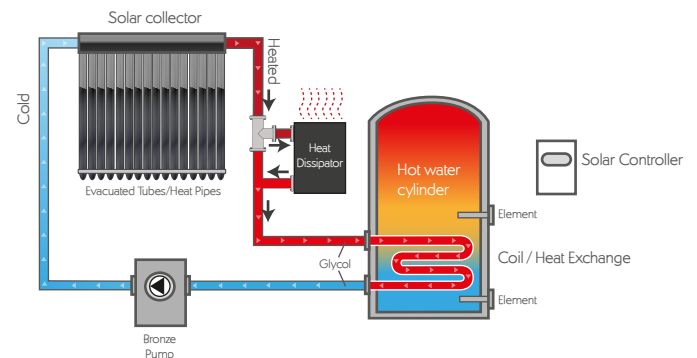
We strongly advocate for the specification and installation of 'indirect' or 'closed loop' solar water heating systems, particularly in frost prone parts of New Zealand. These systems do not circulate the water from your cylinder, instead they pump/circulate a glycol liquid (anti-freeze) via a coil in your hot water cylinder.

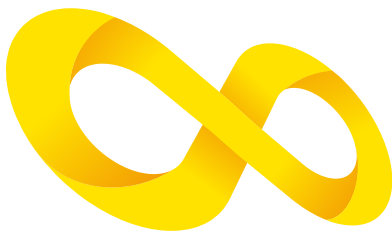
Average family household energy usage



Why install a closed loop?

You'll never need to be concerned about damage from frost, or water quality (hard water can result in deposits building up, potentially causing damage or reduced performance over time).





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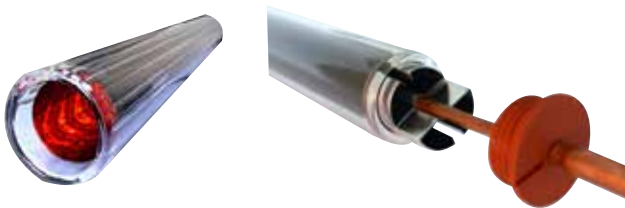


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Himin Solar Heat Pipe

The copper heat pipe is a vacuum heat transmission device filled with an incredibly efficient thermal heat conductive fluid (glycol). The heat conduction fluid in the heat pipe vaporizes during heat absorption, the vapour then moves to the head of the tube and the heat is transferred to the manifold.

The heat pipe collector consists of thermal superconductive heat pipes and evacuated glass tubes. The Himin evacuated tube includes a patented coating technology to deliver ultra-high efficiency.



Heat Pipe Properties

- ▶ Materials selection: use of oxygen-free copper TU1 which is the most pure copper with copper content up to 99.97%.
- ▶ Aging quality resistance: Attenuation of product property <5% for 500H aging performance under 250°C, Lifespan is more than 15 years.
- ▶ Anti-freezing technology: Performance consistency when it's freezing for 48 hours under the experiment environment of -30°C.
- ▶ Starting performance: the starting temperature <30°C, starting speed <60°C seconds.
- ▶ Isothermal performance: the temperature difference of axial direction wall <1°C.
- ▶ The overall efficiency is up to 73.5% with stability and durability based on aperture area transient efficiency.

Specification	HRJ-24/1.8	HRJ-32/1.8
No. of vacuum tubes	24	32
Weight (KG)	90	118
Outline dimension (mm)	1894 x 1977 x 150	2470 x 1977 x 150
Capacity (L)	1.54	1.77
Flow [L/(min - m2)]	0.6~1.2	0.6~1.2
Collector types	Heat pipe	Heat pipe
Material of inner tank	Copper	Copper
Material of insulation	Glass wool	Glass wool
Heat-transmission fluid	Propylene glycol, water	Propylene glycol, water
Rated pressure (Mpa)	0.6	0.6
Gross area (m2)	3.74	4.88
Aperature area (m2)	2.41	3.21
Absorber area (m2)	1.95	2.59
Material of shell	Aluminum profile	Aluminum profile
Material of frame	Hot-galvanised steel plate	Hot-galvanised steel plate
Material of tailstock	Nylon	Nylon
Collector interface	3/4" coupling nut	3/4" coupling nut
Max operating temp (°C)	240	240
Loading Capacity (Set)	20 Ft	52
	40 Hq	108
		33
		96