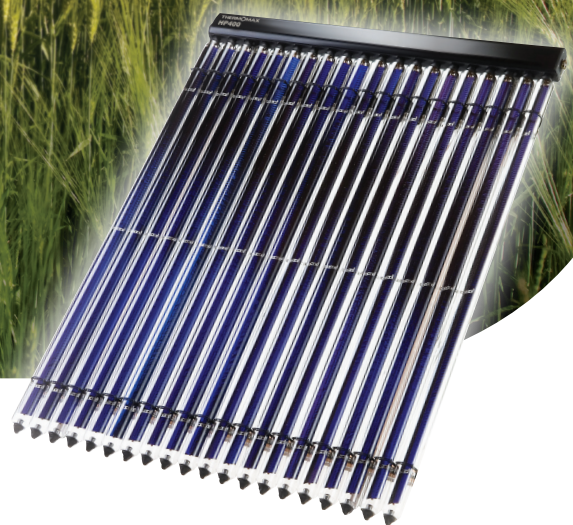




THERMOMAX

HP400



### New Slimline Design

### Heat Pipe Vacuum Tube Solar Collector

A dry heat pipe collector for ease of installation and maintenance. The dry connection between manifold and tube means tubes can be easily fitted and replaced. A unique temperature limitation device gives added system protection. A choice between two temperature limits provides the perfect hot water solution for your home or business.



# Thermomax Heat Pipe Technology has evolved...

## Easy Installation

The unique 'plug and play' design of Thermomax solar collectors makes installation quick and easy. There is no need for heavy lifting equipment as tubes can be carried onto the roof individually. The collector is fixed to the roof by easy-fit brackets, which are simply fixed to the rafter.

## Taking it a step further

The new slimline manifold is not only lighter than HP200 - developments to the lid and tubes also make installation easier.

- An improved hinge means the lid is never separated from the manifold and a tube retaining lip is incorporated into the lid.
- A shorter neck on the tubes, reduces movement, retaining their flexibility but making them easier to insert.

## High Performance Vacuum Tubes

A superior vacuum is maintained over a longer period of time through:

- Glass to metal seal - unique fusing process for durability.
- Superior vacuum - by creating a vacuum of  $10^{-6}$  mbar within the tube, thermal losses caused by conduction and convection are eliminated.
- High quality glass - unique properties give good transmissibility with low reflection losses and increased durability.

The dry fit of heat pipe tubes allows easy maintenance as tubes can be removed without draining the system

## Performance and Savings

**Designed specifically for higher latitude climates, Thermomax products provide heat even in cold, windy or humid conditions**

**A superior vacuum in the tube, over a longer period of time**

**Supplies up to 70% of your annual hot water needs - reducing dependence on increasingly expensive fossil fuels**

**20 year warranty with a Kingspan Solar Accredited Installer**

**Works from dawn until dusk and throughout the year**

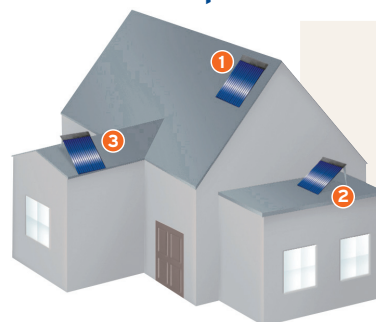
**30% more effective than flat plate collectors**

## Unique Feature - Temperature Limitation Devices

HP400 collectors contain a unique temperature limitation device for system protection, there are 2 types:

1. **New snap disk to limit temperature to 90°C**  
Ideal for domestic installations  
This collector is referred to as HP400
2. **Snap disk to limit temperature to 135°C**  
Ideal for commercial installations  
This collector is referred to as HP450

## Installation Options



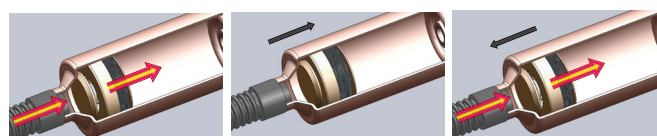
### Collector Positions

- 1 Ideal slope 40°
- 2 Roof kit angled 40°
- 3 Elevated 20°

**HP400 collectors are available in 2 different sizes - both with the option of the 2 different temperature limits.**

HP400 / HP450	2m <sup>2</sup>	3m <sup>2</sup>
Number of Tubes	20	30
<b>Dimensions</b>		
Absorber Area (m <sup>2</sup> )	2.01	3.021
Overall Dimensions (mm)	1952 x 1418 x 93	1952 x 2127 x 93
Width of Manifold (mm)	1418	2127
Length (tube and manifold) (mm)	1952	1952
Depth (mm)	93	93
Aperture Area (m <sup>2</sup> )	2.16	3.23
Fluid Volume (litr)	1.2	1.7
Inlet and Outlet Dimensions (mm)	22	22
Weight (empty) (kg)	48	71
Mounting		
Recommended Inclination (°)	20-70	20-70
Performance Data		
<b>Efficiency</b>	Based on Aperture	Based on Aperture
Eta 0	0.75	0.75
a1 (W/m <sup>2</sup> K)	1.18	1.18
a2 (W/m <sup>2</sup> K <sup>2</sup> )	0.0095	0.0095
Solar Keymark Licence Numbers	HP400: 011-7S1793	
<b>Operating Data</b>		
Flow Rate (litr/h)		
Rated	160	240
Minimum	120	180
Maximum	300	480
Maximum Operating Pressure	10 Bar	10 Bar
Stagnation Temperature (°C)	166	166
Heat Transfer Fluid	Water/Glycol	Water / Glycol
<b>Materials</b>		
Absorber	Copper	Copper
Coating	Selective Coating	Selective Coating
Absorbance (%)	95	95
Emissivity (5)	5	5
Mounting Frame and Clips	Stainless Steel, Aluminium, EPDM	Stainless Steel, Aluminium, EPDM
Glass	Low Iron - Transm. 0.92	Low Iron - Transm. 0.92
Vacuum	<10 <sup>-6</sup> mbar	<10 <sup>-6</sup> mbar
Temperature Limitation (°C)	90 / 135	90 / 135
Quality Certification/ Solar Keymark	Yes	Yes

## Snap Disk Operation



The device is open and heat transfer occurs until the condenser reaches its set point temperature.

Snap disks operate and close the device, stopping heat transfer into condenser

Device re-opens as temperature falls below the set point, reactivating heat transfer

Contact us now for further information

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