



## THERMOMAX HP400

# HEAT PIPE VACUUM TUBE SOLAR COLLECTOR



### THERMOMAX HP400

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.

The vacuum inside each tube provides perfect insulation and therefore protects the system from outside influences such as cold and windy weather or high humidity. This vacuum insulation also ensures that the energy collected from the sun is very efficiently and effectively transferred into usable heat.



# THERMOMAX HP400

## PERFORMANCE & SAVINGS

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

**THERMOMAX HP COLLECTORS ARE AVAILABLE IN 2 DIFFERENT SIZES (20 OR 30 TUBES) - both with the option of the 2 different temperature limits - 90°C (referred to as HP400) or 135°C (referred to as HP450).**

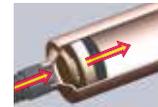
NUMBER OF TUBES	20	30
<b>DIMENSIONS</b>		
Absorber Area (m <sup>2</sup> )	2.01	3.021
Overall Dimensions (mm)	1952 x 1418 x 93	1952 x 2127 x 93
Width of Manifold (mm)	1418	2127
Length (tube and manifold) (mm)	1952	1952
Depth (mm)	93	93
Aperture Area (m <sup>2</sup> )	2.13	3.20
Fluid Volume (ltr)	1.1	1.7
Inlet and Outlet Dimensions (mm)	22	22
Weight (empty) (kg)	52	71
<b>MOUNTING</b>		
Recommended Inclination (°)	20-75	20-75
<b>PERFORMANCE DATA</b>		
Efficiency	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
<b>OPERATING DATA - FLOW RATE (ltr/h)</b>		
Rated	120	180
Minimum	80	120
Maximum	210	300
Maximum Operating Pressure	10 Bar	10 Bar
Stagnation Temperature (°C)	168	168
Heat Transfer Fluid	Propylene Glycol Solution	
<b>MATERIALS</b>		
Absorber	Copper	Copper
Coating	Selective Coating	Selective Coating
Absorbance (%)	95	95
Emissivity (%)	5	5
Mounting Frame and Clips	Stainless Steel, Aluminium, EPDM	
Glass	Low Iron - Transm. 0.92	
Vacuum	<10 <sup>-6</sup> mbar	
Temperature Limitation (°C)	90 / 135	
MCS Certificate Number	KM 559829	
Solar Keymark Licence Numbers	011-7S1793	

# FEATURES

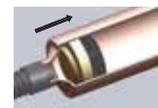
- ▶ An improved hinge means the lid is never separated from the manifold and a tube retaining lip is incorporated into the lid.
- ▶ A shorter neck on the tubes reduces movement, retaining their flexibility but making them easier to insert.
- ▶ The dry fit of heat pipe tubes allows easy maintenance as tubes can be removed without draining the system.
- ▶ 30% more effective than flat plate collectors.
- ▶ Supplies up to 70% of your annual hot water needs.
- ▶ 20-year warranty when fitted by a Kingspan Accredited Installer.
- ▶ MCS Approved

## UNIQUE FEATURE

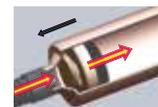
HP400/450 collectors contain a unique temperature limitation device for system protection.



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.

## INSTALLATION OPTIONS

Collector Positions

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



KM 559829 BS EN 12975  
Thermal solar systems and components

Contact us today for more information:

T: +44 (0) 28 3836 4520

solar@kingspan.com