



# Heat Merchants PRO On Roof Solar System



**RENEWABLE  
ENERGY**



## Solar Systems Think Renewable

Solar Energy is the cheapest, cleanest, most environmentally friendly source of energy available. Harnessing this energy from the atmosphere correctly and converting it efficiently, quickly and at least cost, into hot water and space heating is the end goal for us all, and Heat Merchants have a Flat Plate system that can do it all for you now.

Introducing the Heat Merchants PRO On Roof Solar System available now from branches nationwide.

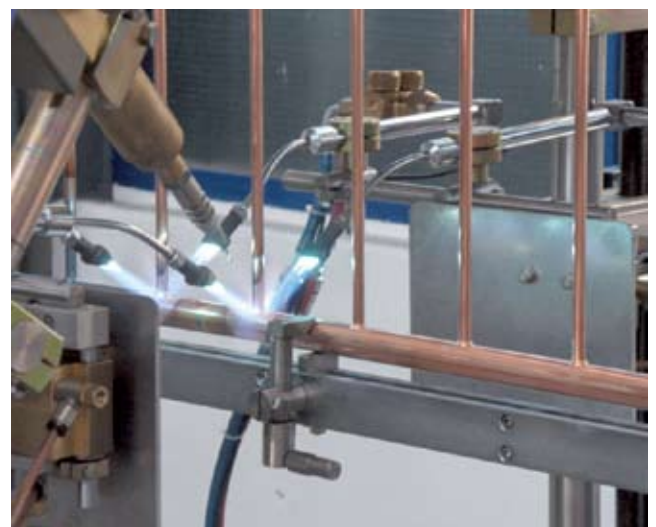
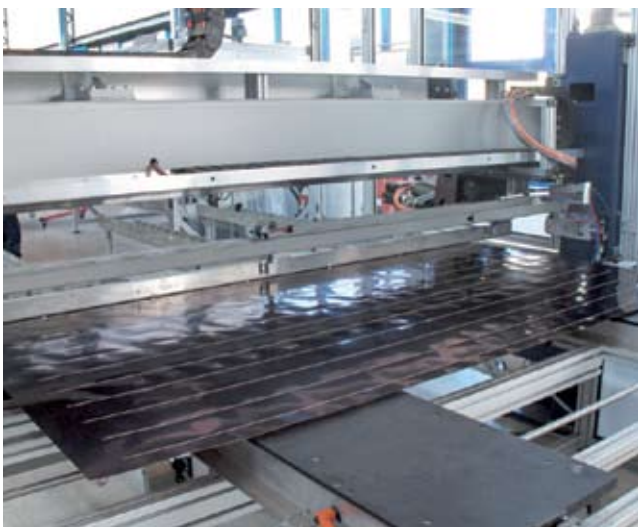
Manufactured by a leading European Industrial Manufacturer exclusively for Heat Merchants, this system provides high end efficiency levels, aesthetic design and ease of installation in one package.



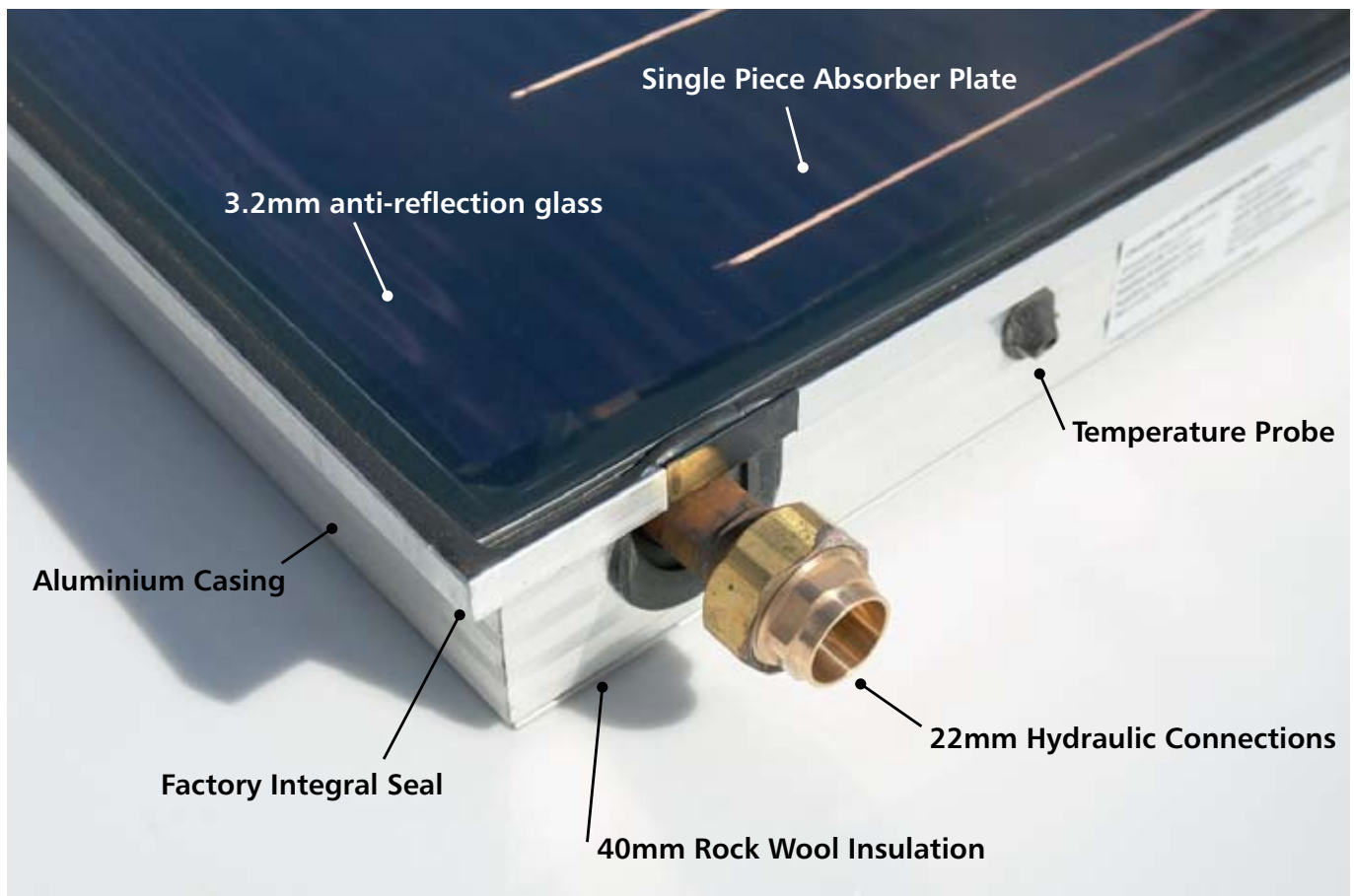
## Manufacturing Excellence

Available in both a 2 square metre and the larger 2.5 square metre, which can be fitted with up to 6 panels in series, there is a system to suit all applications, all tastes and all pockets. These systems are approved for use by SEI (Sustainable Energy Ireland) and are tested by the SPF institute in Switzerland to the highest and most rigorous European testing standards, EN 12975.

Manufactured in Italy to the highest manufacturing quality and independently tested to the most rigorous European standards, both systems are capable of competing with any other quality solar product in today's market.



## Properties of the Solar Panel



- High build quality designed to use both direct sunlight and daylight maximising energy performance even on cloudy days.
- Ideal for retro fit applications with Solar collectors sitting on top of the roof tiles or slates, therefore requiring minimal adaptation to the roof.
- The collectors have an aluminium body, with a single - piece copper absorber plate to create a greater reflective surface, maximising energy performance.
- Flat plate collectors achieve optimum performance when positioned on a south facing roof at an angle of 35° and 45°. If this position is not possible a split system could be used whereby Collectors would be placed on the east facing side roof and on the west.
- A highly selective finish on the copper absorber plate guarantees exceptional absorption performance.
- The collectors are ultrasonically welded together to ensure high build quality and product longevity.
- Heat transfer fluid flows through individual copper pipes in the collector creating a larger surface area for the liquid, therefore increasing the level of absorption.
- Each collector is protected with tempered glass to withstand extreme weather conditions, such as hail stones.
- Solar Keymark seal of approval.

# Features of the 2.5m2 Solar Panel SEI Number SEI-ST-414P

## Dimensions

<b>Total length</b>	2.047 m
<b>Total width</b>	1.187 m
<b>Gross area</b>	2.430 m <sup>2</sup>
<b>Aperture area</b>	2.195 m <sup>2</sup>
<b>Absorber area</b>	2.161 m <sup>2</sup>
<b>Weight empty</b>	40 kg

## Technical data

<b>Minimum flowrate</b>	18 l/h
<b>Nominal flowrate</b>	75 l/h
<b>Maximum flowrate</b>	150 l/h
<b>Fluid content</b>	1.6 l
<b>Maximum operating pressure</b>	10 bar
<b>Stagnation temperature</b>	204 °C

## Types of mounting

- Construction for sloping roof
- Integration into sloping roof
- On flat roof with stand
- Facade

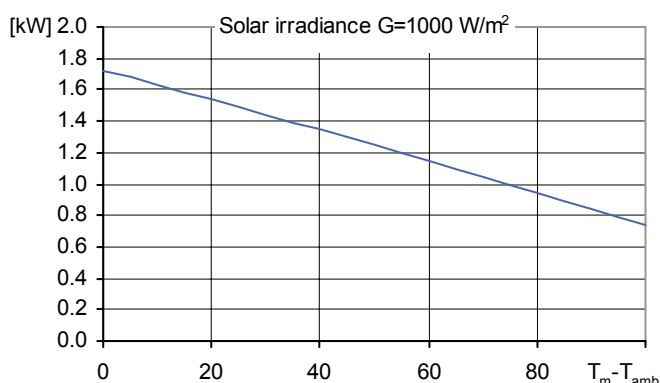
## Further information

- Units in different sizes available
- Glazing replaceable

### Hydraulic connection

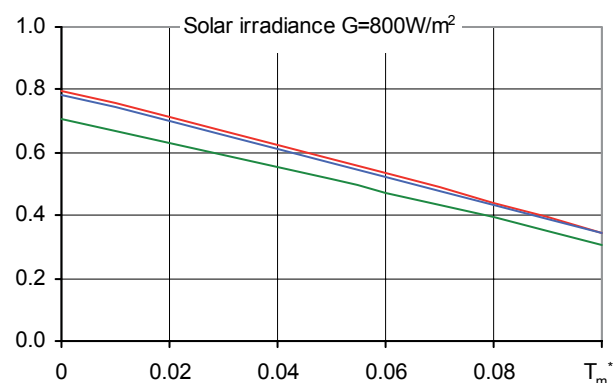
Copper pipe, nominal diameter 22 mm

## Peak Power per collector unit $W_{peak}$



<b>Peak Power <math>W_{peak}</math></b>	1724 W
<b>Thermal capacity*</b>	5.6 kJ/K
<b>Flowrate during test</b>	140 l/h
<b>Fluid for test</b>	Water-Glycol 33.3%

## Relative efficiency $\eta$



Reference	Gross	Aperture	Absorber
$\eta_0$	0.710	0.786	0.798
$a_1$ [WK <sup>-1</sup> m <sup>-2</sup> ]	3.80	4.20	4.27
$a_2$ [WK <sup>-2</sup> m <sup>-2</sup> ]	0.0027	0.0030	0.0030

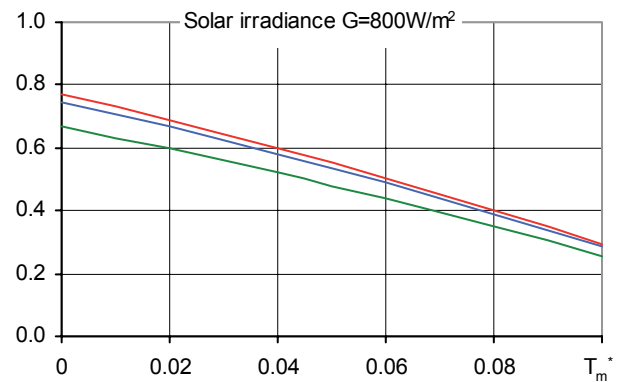
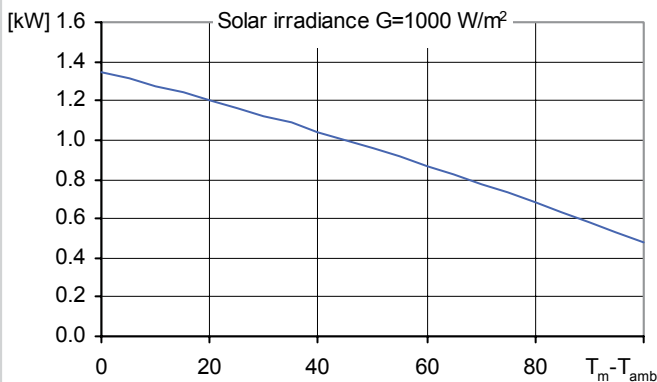
\*) Specific thermal capacity C of the collector without fluid, determined according to 6.1.6.2 of EN12975-2:2006

# Features of the 2.0m<sup>2</sup> Solar Panel SEI Number SEI-ST-414P

Dimensions		Technical data	
<b>Total length</b>	1.857 m	<b>Minimum flowrate</b>	18 l/h
<b>Total width</b>	1.087 m	<b>Nominal flowrate</b>	75 l/h
<b>Gross area</b>	2.019 m <sup>2</sup>	<b>Maximum flowrate</b>	150 l/h
<b>Aperture area</b>	1.804 m <sup>2</sup>	<b>Fluid content</b>	1.2 l
<b>Absorber area</b>	1.752 m <sup>2</sup>	<b>Maximum operating pressure</b>	10 bar
<b>Weight empty</b>	31 kg	<b>Stagnation temperature</b>	193 °C

Types of mounting	Further information
<input checked="" type="checkbox"/> Construction for sloping roof	<input checked="" type="checkbox"/> Units in different sizes available
<input type="checkbox"/> Integration into sloping roof	<input type="checkbox"/> Glazing replaceable
<input checked="" type="checkbox"/> On flat roof with stand	<b>Hydraulic connection</b>
<input type="checkbox"/> Facade	Copper pipe, nominal diameter 22 mm

Peak Power per collector unit $W_{peak}$	Relative efficiency $\eta$
--	----------------------------



<b>Peak Power <math>W_{peak}</math></b>	1349 W
<b>Thermal capacity*</b>	3.7 kJ/K
<b>Flowrate during test</b>	120 l/h
<b>Fluid for test</b>	Water-Glycol 33.3%

Reference	Gross	Aperture	Absorber
$\eta_0$	0.668	0.748	0.770
$a_1$ [WK <sup>-1</sup> m <sup>-2</sup> ]	3.41	3.82	3.93
$a_2$ [WK <sup>-2</sup> m <sup>-2</sup> ]	0.0090	0.0101	0.0104

\*) Specific thermal capacity C of the collector without fluid, determined according to 6.1.6.2 of EN12975-2:2006

## Codes and Selected Pack Options

### HM PRO 2.0m<sup>2</sup> Solutions

Code	Description	2 panel 3 panel	
		kit	kit
U45287	2.0 Panel	2	3
U45288	2m Fixing Rail (Pair)	1	-
U45289	3m Fixing Rail (Pair)	-	1
U45302	Fixing Rail Joiner (Pair)	-	-
U45301	On roof fixing pack	2	3
U45304	Single Line Pumping Station	1	1
U45305	Basic Solar Controller	1	1
608177	10kg Solar Fluid (premix)	2	3
Various	Solar Vessel	1	1
U45309	Vessel Bracketry	1	1
U45310	HT Sensor Collector (Black)	1	1
U45311	HT Sensor Cylinder (White)	1	1

### Additional Extras

U84031	Solar Airvent
U45303	Dual Line Pumping Station
U45306	Vision Plus Solar Controller
U45308	Over Voltage Protection
U44165	5-50mm Solar Flashing
U45576	Pair 1m Insulated S/S Solar Pipes

### Other Options available in Store

Stainless Steel Ins Solar Pipe (Various Coils and Diameters)
Stainless Steel Solar Cylinders
Copper Solar Cylinders
Control Packs and Management Systems
Plumbing Pipe and Fittings
Expansion Vessels

### HM PRO 2.5m<sup>2</sup> Solutions

Code	Description	2 panel 3 panel	
		kit	kit
U45294	2.5 Panel	2	3
U45295	2m Fixing Rail (Pair)	1	-
U45296	3m Fixing Rail (Pair)	-	1
U45302	Fixing Rail Joiner (Pair)	-	-
U45301	On roof fixing pack	2	3
U45304	Single Line Pumping Station	1	1
U45305	Basic Solar Controller	1	1
608177	10kg Solar Fluid (premix)	2	3
Various	Solar Vessel	1	1
U45309	Vessel Bracketry	1	1
U45310	HT Sensor Collector (Black)	1	1
U45311	HT Sensor Cylinder (White)	1	1

