

SAHP
Solar Assisted Heat Pumps

PURE
ENERGY

Distribution partner

020 3936 3785

info@pure-energy.uk

**REQUEST
A QUOTE**



Renewable,
cost effective
water heating

**MADE IN
BRITAIN**

SAHP

SAHP is a UK-based global business, which has earned a solid reputation as a leader in the field of solar assisted heat pump water heating technology.

Our focus is to, via the development of advanced environmentally friendly energy saving products, help resist climate change and reduce energy consumption. SAHP's manufacturing site has experience in the

production and global supply of heat pumps. We have applied this advanced understanding of heat pump technologies in the development of our highly innovative superior hot water systems that are manufactured in the UK.

The globally approved, award-winning SAHP product range has been designed and built to last as well as meet the demands of global territories and respective authoritative demands.



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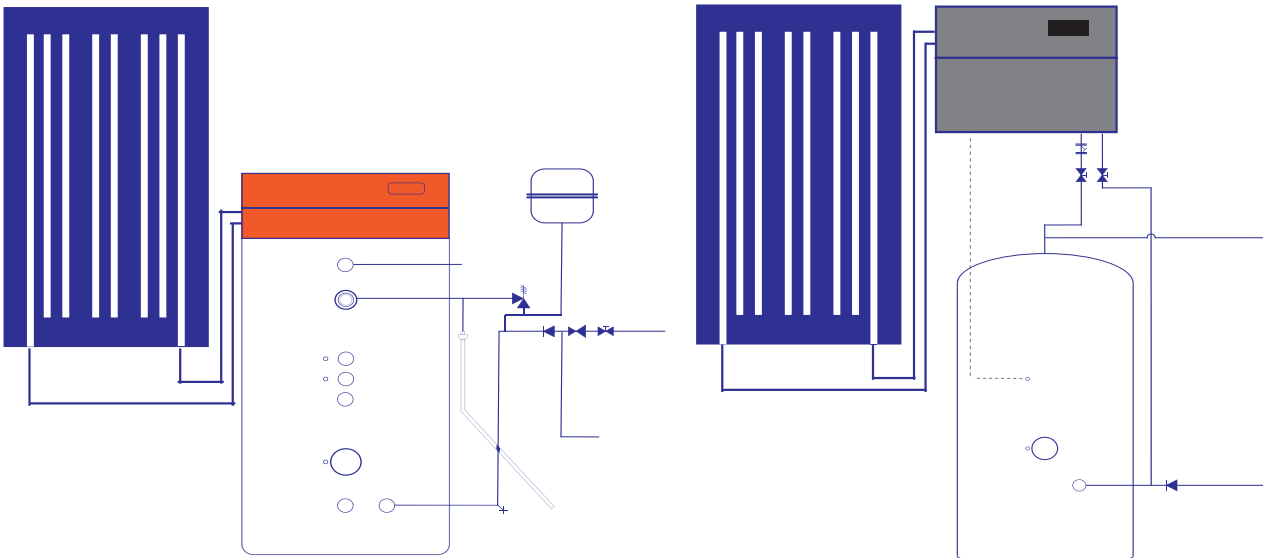
SAHP
Solar Assisted Heat Pumps

Harnessing renewable energy to heat water efficiently

SAHP 130/200/300

OR

SAHP Retrofit



For illustrative purposes only

The requirement to reduce energy bills and carbon emissions are driving the demand for alternative forms of water heating.

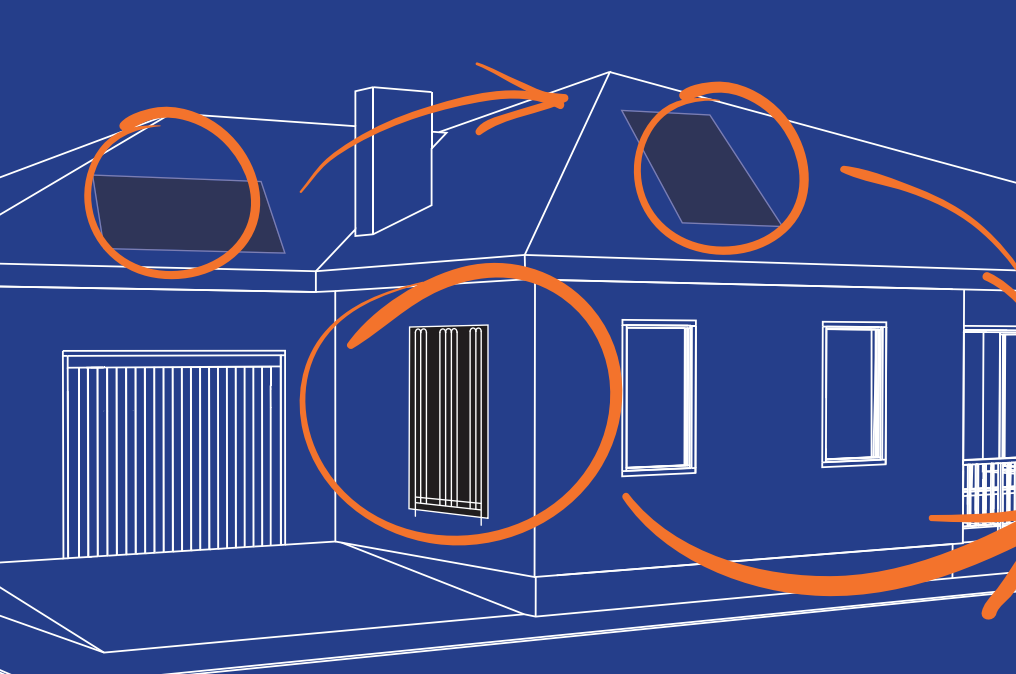
SAHP's range of Solar Assisted Heat Pump Water Heaters meet this demand. The range can be best described as 'a fridge in reverse'. Most people understand that the panel on the back of their fridge is an important factor in keeping its contents cold.

Reversing this principle by using an aluminium evaporator (panel) to absorb

heat rather than reject heat, allows us to utilise the ambient air temperature (day and night, all year) to change the refrigerant liquid circulating through the panel from a liquid state to a gaseous state.

The returning refrigerant, now heated and in a gaseous state is then compressed and heated further.

The compressed refrigerant is then passed through a heat exchanger where the heat is transferred to the water, heating it up to 55°C.



Most installations only require one evaporator panel and can be installed on a wall as well as a roof, both horizontally and vertically and once installed doesn't need to be cleaned or re-filled to operate.



Our SAHP range replaces your existing hot water cylinder.

Our Retrofit range is installed alongside your existing hot water cylinder.

The evaporator panel is located within a 12M pipe run of the SAHP system.



SAHP by SAHP

Solar Assisted Heat Pumps

Hot water day and night

The award winning SAHP combines our innovative solar assisted heat pump technology with a highly insulated vented / unvented indirect duplex stainless steel hot water cylinder.

The SAHP 130, 200 and 300 heat pump sits atop it's internal hot water cylinder to provide a packaged all in one heat pump water heater. Unlike other heat pump water heaters however the SAHP heat pumps have fewer moving parts and no maintenance requirements.

Our range of integrated heat pumps heat water and the internal hot water cylinder stores it.

Unlike traditional hot water cylinders, our vessels keep water hot for longer with heat loss up to 1kw per 24 hour period lower than traditional cylinders.

Inside the hot water cylinder

SAHP

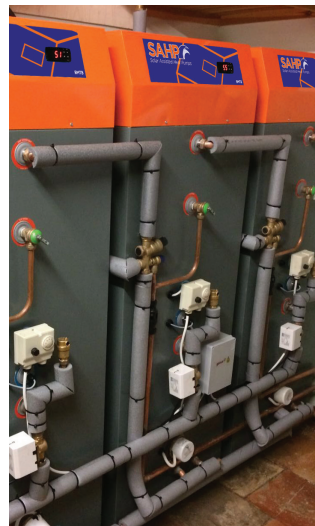
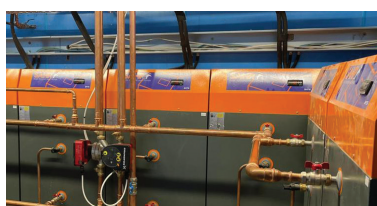
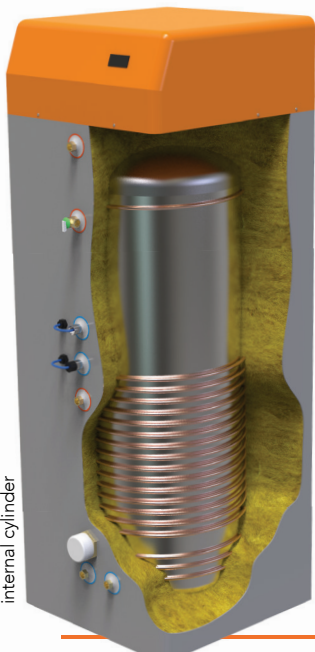
Traditional cylinders



75 - 220 mm
PUR insulation



50 mm
PUR insulation



GRAND DESIGNS

Our SAHPs have been installed and featured in Channel 4 Grand Designs homes

Data sheet - SAHP



Specification

SAHP 130

SAHP 200

SAHP 300

ELECTRICAL

Power supply	230 V	230 V	230 V
Frequency	50 Hz	50 Hz	50 Hz
HP thermal power (Max.)	2,000 W	2,000 W	2,000 W
HP electrical input (Avg.)	500 W	500 W	500 W
Element thermal power (Max.)	1,500 W	1,500 W	1,500 W
Element electrical input (Avg.)	1,500 W	1,500 W	1,500 W
Total thermal power (Max.)	3,500 W	3,500 W	3,500 W
Total electrical input (Avg.)	2,000 W	2,000 W	2,000 W

WATER

Nominal capacity	130 L	200 L	300 L
Target water temperature (Max.)	55°C	55°C	55°C
Operating pressure (Max.)	7 Bar	7 Bar	7 Bar
Operating pressure (Avg.)	3 Bar	3 Bar	3 Bar
Connections (Compression)	22 mm	22 mm	22 mm
Weight (Empty)	83 Kg	106 Kg	146 Kg
Weight (Full)	213 Kg	306 Kg	446 Kg
Heat loss (KW per 24 hours)	0.86 KW	0.90 KW	1.16 KW

REFRIGERATION

Refrigerant charge (R134a/513a)	1.2 Kg	1.2 Kg	1.2 Kg
L.S operating pressure (Max.)	6 Bar	6 Bar	6 Bar
L.S operating pressure (Avg.)	3 Bar	3 Bar	3 Bar
H.S operating pressure (Max.)	28 Bar	28 Bar	28 Bar
H.S operating pressure (Avg.)	12 Bar	12 Bar	12 Bar
Connections (Flare)	3/8 Inch	3/8 Inch	3/8 Inch

Components

Immersion	Factory fitted 1.5 Kw titanium heating element and thermostatic controls
Cold water	Factory fitted 22 Kw high performance auxiliary boiler coil Cold water inlet control kit comprising of 0.3 MPa (3 Bar) pressure reducing valve, 0.6 MPa (6 Bar) pressure relief valve, line strainer, non-return valve, a balance cold water connection, nuts and olives. 0.3 MPa (3 Bar) Expansion vessel
Safety	Factory fitted temperature and pressure relief valve set at 90°C / 0.7 MPa (7 Bar) 15/22 mm Tundish Additional thermostat and thermal cut out
Electrical	22 mm 2 port motorised valve
Refrigeration	2 x 15 M coil refrigeration grade 3/8 " polished copper tube 2 x 15 M coil refrigeration grade 3/8 " amacell class 0 insulation
Fixing	6 x L-shape aluminium wall fixing bracket, 6 x stainless steel fixing screw, 6 x stainless steel M6 bolt, 6 x stainless steel M6 locking nut

Data sheet SAHP by



Dimensions

SAHP 130

SAHP 200

SAHP 300

TAPPINGS

10	Refrigeration copper tube entry	1,205 mm	1,595 mm	1,915 mm
9	Refrigeration copper tube exit	1,205 mm	1,595 mm	1,915 mm
8	Hot water outlet	990 mm	1,380 mm	1,720 mm
7	T&P relief valve	798 mm	1,180 mm	1,520 mm
6	Additional thermostat pocket	627 mm	880 mm	880 mm
5	HP sensor cable pocket	527 mm	780 mm	780 mm
4	Auxiliary boiler coil entry	427 mm	680 mm	680 mm
3	Element heater	275 mm	275 mm	275 mm
2	Auxiliary boiler coil exit	180 mm	180 mm	180 mm
1	Cold water inlet	180 mm	180 mm	180 mm

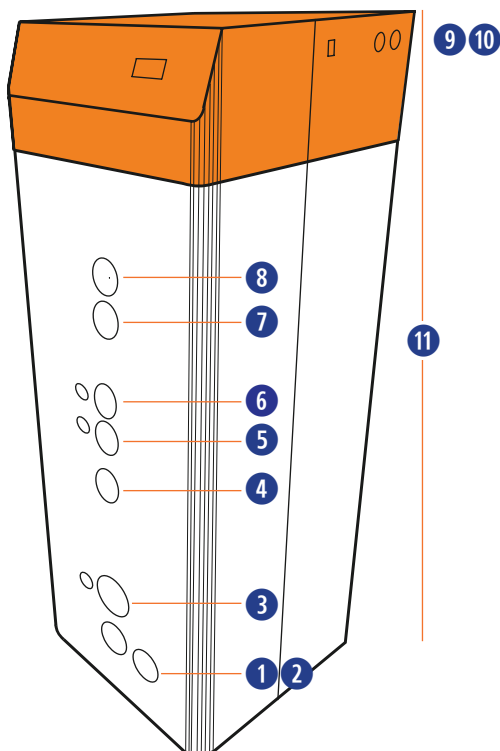
SAHP

11	Height	1,290 mm	1,680 mm	2,000 mm
12	Depth	550 mm	600 mm	650 mm
13	Width	550 mm	600 mm	650 mm

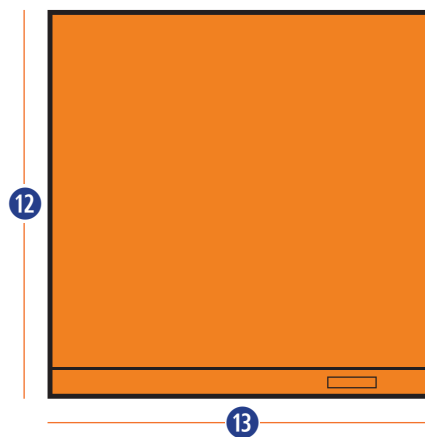
EVAPORATOR PANEL

14	Height	1,700 mm	1,700 mm	1,700 mm
15	Depth (Single / Double)	25 mm / 100 mm	25 mm / 100 mm	25 mm / 100 mm
16	Width	800 mm	800 mm	800 mm

Isometric view



Plan view

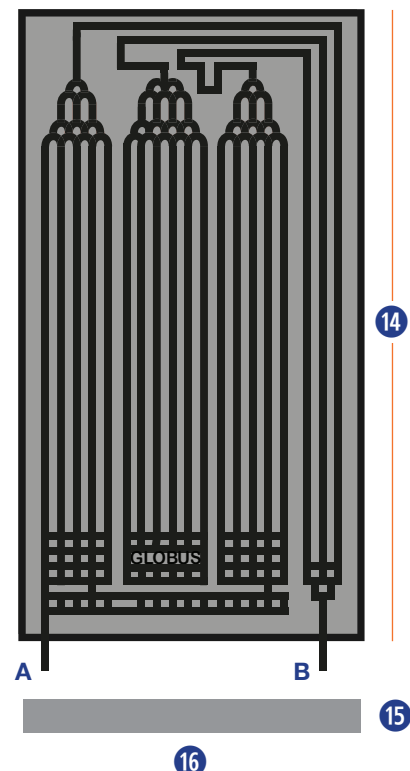


Clearances

Front 375 mm
Top 100 mm

A Refrigerant Gas out
B Refrigerant Liquid in

Evaporator panel



Retrofit by **SAHP** *Solar Assisted Heat Pumps*

Turn your existing cylinder into a Solar Assisted Heat Pump

The Retrofit is our innovative solar assisted heat pump designed to retro-fit to hot water storage cylinders.

Utilising thermodynamic principles our stand alone, retro-fit solar assisted heat pump captures energy from the air surrounding the evaporator panel and transfers this

energy to water circulating from the connected cylinder to efficiently and cost effectively provide hot water.

The Retrofit offers a fantastic introduction to our product range.

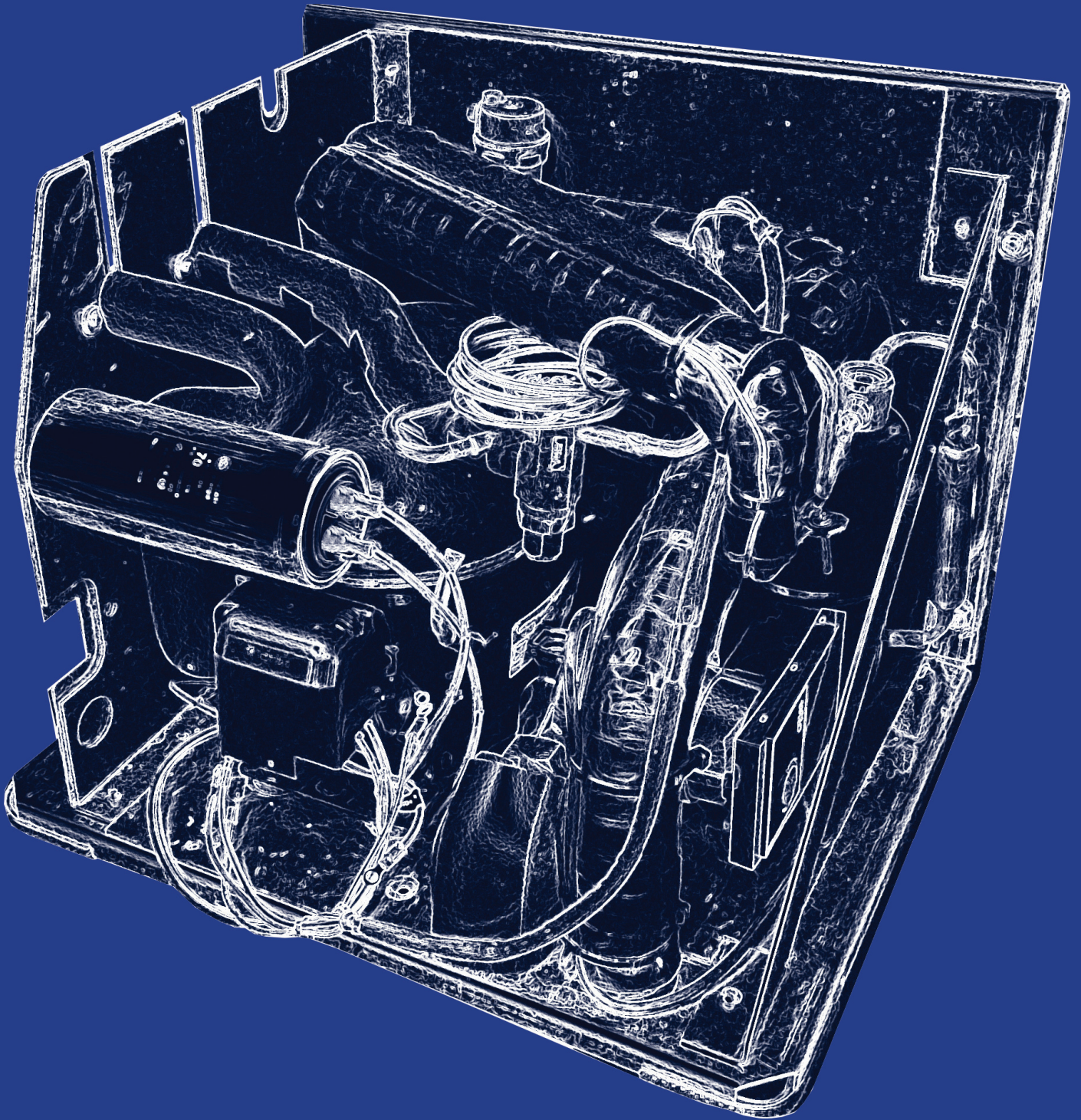
The Retrofit is our latest, most innovative retrofit solar assisted heat pump to date.



GRAND DESIGNS

Our first install on Grand Designs featured a SAHP retrofit





Data sheet - Retrofit



Specification

ELECTRICAL

	Single	Double
Power supply	230 V	230 V
Frequency	50 Hz	50 Hz
HP thermal power (Max.)	2,000 W	2,000 W
HP electrical input (Avg.)	500 W	500 W

WATER

	Single	Double
maximum capacity	300 L	300 L
Target water temperature (Max.)	55°C	55°C
Operating pressure (Max.)	3 Bar	3 Bar
Connections (Compression)	3/4" male	3/4" male
Weight	30 Kg	30 Kg

REFRIGERATION

	Single	Double
Refrigerant charge (R134a/513a)	700 g	850 g
L.S operating pressure (Max.)	6 Bar	6 Bar
L.S operating pressure (Avg.)	1.5 Bar	1.5 Bar
H.S operating pressure (Max.)	28 Bar	28 Bar
H.S operating pressure (Avg.)	12 Bar	12 Bar
Connections (Flare)	3/8 Inch	3/8 Inch

Dimensions

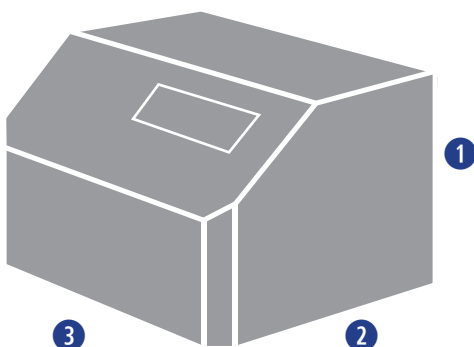
LMTB

	Single	Double
1 Height	340 mm	340 mm
2 Depth	340 mm	340 mm
3 Width	440 mm	440 mm

EVAPORATOR PANEL

	Single	Double
4 Height	1,700 mm	1,700 mm
5 Depth (Single / Double)	25 mm / 100 mm	100 mm
6 Width	800 mm	800 mm

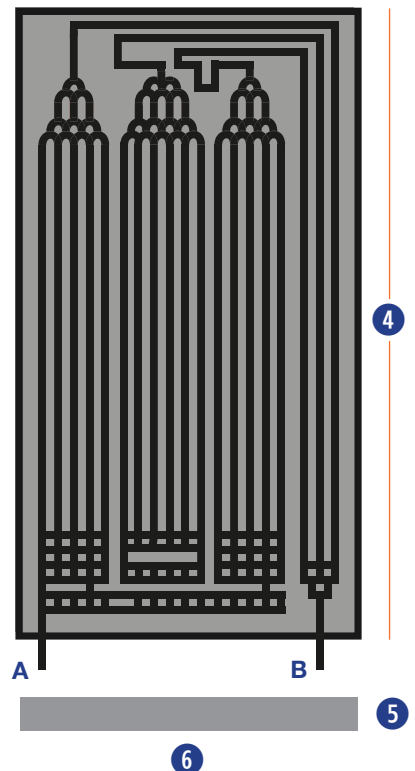
Isometric view



Clearances

Front 150 mm | Back 150 mm
Left 150 mm | Right 150mm

A Refrigerant Gas out
B Refrigerant Liquid in



Looking after our customers

Global after sales support



We work closely with all of our national and international distributors, re-sellers and installers to ensure the SAHP support package truly is industry leading.

All of our installation partners undergo product training that sees them hands on with the product range carefully over watched by trained technical teams, this ensures that every SAHP product is installed to the same high standard whether in the UK or the other side of the world.

Ongoing sales and development training and guidance is available to all of our customers. The team is on hand to help develop fledgling re-sellers as well as offer product insight with well established distributors.



The team also offers on going design and marketing assistance, available to all of our customers offering the tools needed to help promote our products within your business. Everything from help and guidance on creating a new brand to developing exhibition spaces for the latest renewable show!

The team at SAHP are on hand to ensure that anything you need to promote, sell and install our range of Solar Assisted Heat Pumps is available to you whether its something we have worked on before or a new bespoke idea.



Working with other renewable technologies

Solar Ready

With a growing number of consumers now generating their own electricity from Solar PV, our range of Solar Assisted Heat Pumps incorporate intelligent controllers that have the capacity to send & receive a digital signal from a PV inverter in order to be notified when an inverter may be generating or exporting electricity.

When the systems receive this notification they act as a battery, heating the water within the hot water cylinder to a higher temperature, thereby storing the generated electricity in the form of hot water, ready to be used by the consumer when they need it.

Heat Pump Compatible

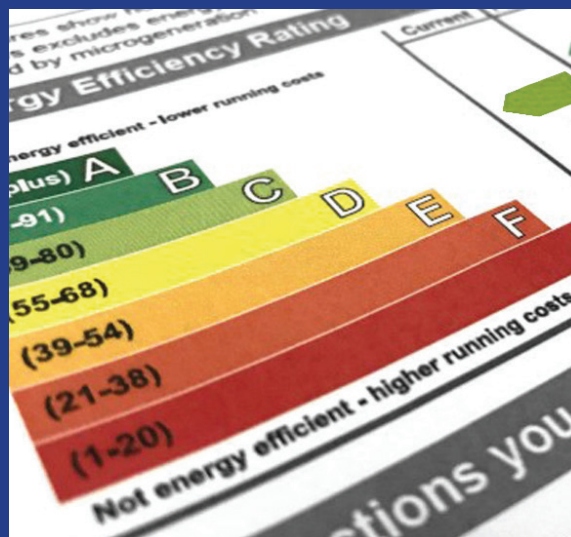
SAHP Solar Assisted Heat Pump systems incorporate a large surface area coil heat exchanger to facilitate connection to low flow temperature auxiliary heat sources such as air source or ground source heat pumps.

Electric Heating

As more and more home owners move away from fossil fuels and towards electrically driven devices, such as electric or infrared heating panels, which can be powered by renewably generated electricity, there remains a demand for hot water heating appliances to accompany their space heating system.

Our range of Solar Assisted Heat Pumps not only run on electricity, but deliver more energy than they consume. Making Solar Assisted Heat Pumps an efficient, cost effective addition to electric heat systems.

Epc and SAP



A SAP EPC is an energy performance certificate issued by an Energy Assessor using SAP software. All new builds now have to have been FSAP compliant with DER's below TER's.

In existing dwellings EPCs are used when a house is either being sold or let.

Our range of Solar Assisted Heat Pumps are now integrated into FSAP & EPC (rdSAP) databases.

This means the CO₂e offset and reduced running costs of our range of solar assisted heat pumps over traditional hot water heating systems are quantified and represented within the new build and existing housing stock sector. Efficient, renewably heated hot water.

Why choose a Solar Assisted Heat Pump

Heat Pump Technologies have been around for some time. This means just like many items of household technology; developments, tweaks and improvements are constantly being made, either to enhance the user experience or to provide improved operational performance.

SAHP's Solar Assisted Heat Pumps are now in their 5th generation, having been continually developed and improved upon to ensure the best experience for the end user and installer. We also know a good heat pump isn't enough which is why we place equal importance on the service and support you receive from us at SAHP.

So why choose a Solar Assisted Heat Pump?

- Single product solution to meet all necessary scenarios - The SAHP can replace your existing cylinder, the Retrofit can connect to your existing cylinder.
- Built and designed in the UK with a UK based manufacturers guarantee.
- A-rated under ErP directive - SAHP products have the highest efficiency rating for hot water heating applications.
- No gas supply, flues or ventilation required, so therefore also poses no carbon monoxide risk.
- You can lower your homes carbon emissions, making your home more environmentally friendly and improving your homes EPC rating at the same time.
- Quiet in operation (from as little as 41dB).
- Compatible with both vented and pressurised systems.
- Increase the life of your existing boiler or extend the life of a new boiler if installed.
- Solar Assisted Heat Pumps have fewer moving parts than comparable systems for a more reliable and lower maintenance hot water heating system.
- Solar Assisted Heat Pumps as the name suggests combines Heat Pump principles with Solar principles to provide a very practical, efficient and cost effective way of heating your Hot Water.
- Solar Assisted Heat Pumps are an efficient and cost-effective way of heating your hot water. End users could enjoy lower fuel bills, especially if they are replacing, Oil, LPG or Electrical water heating.

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Renewable, cost effective water heating

SAHP