

SAHP



Solar Assisted Heat Pumps



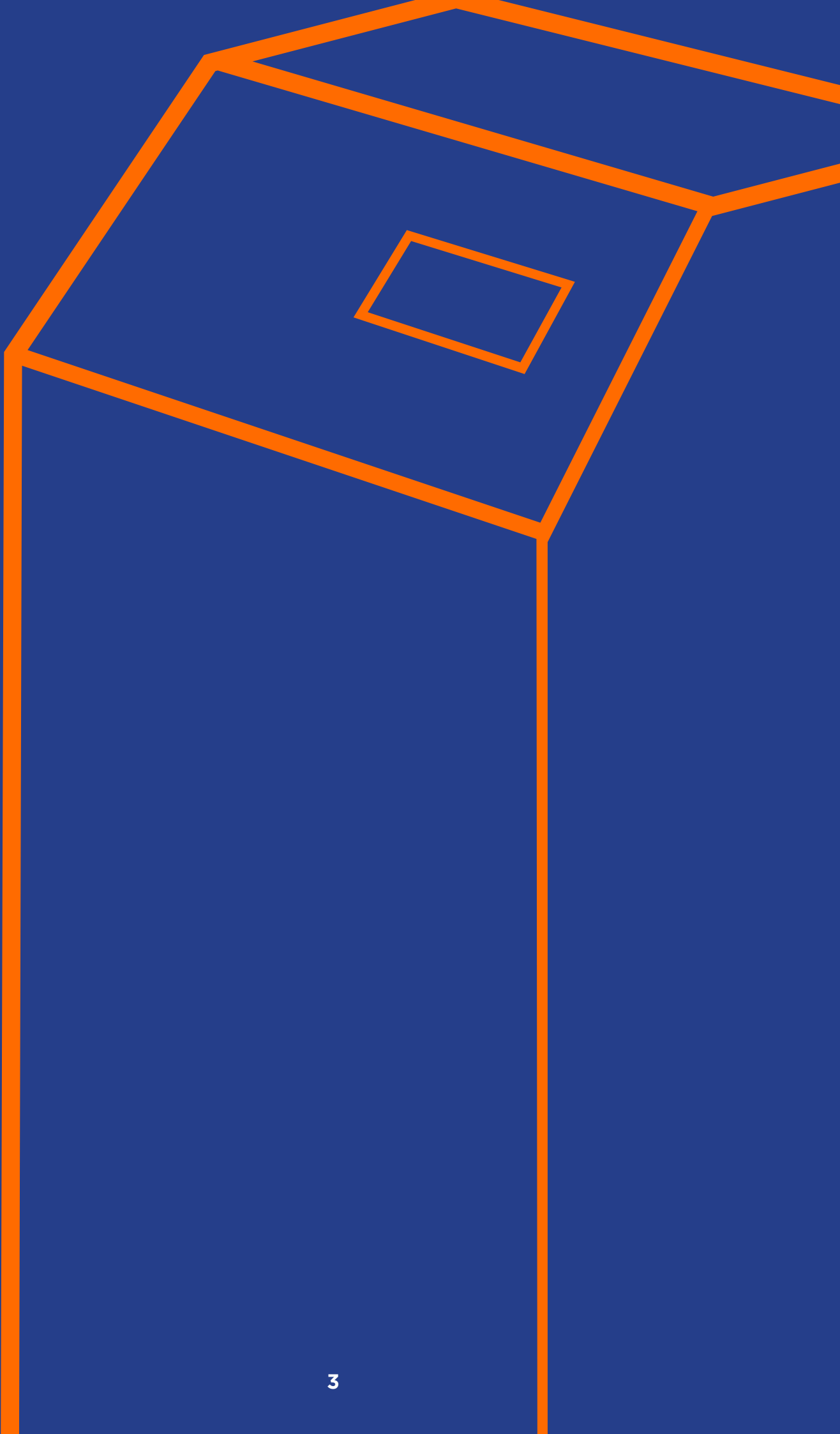
SAHP

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.

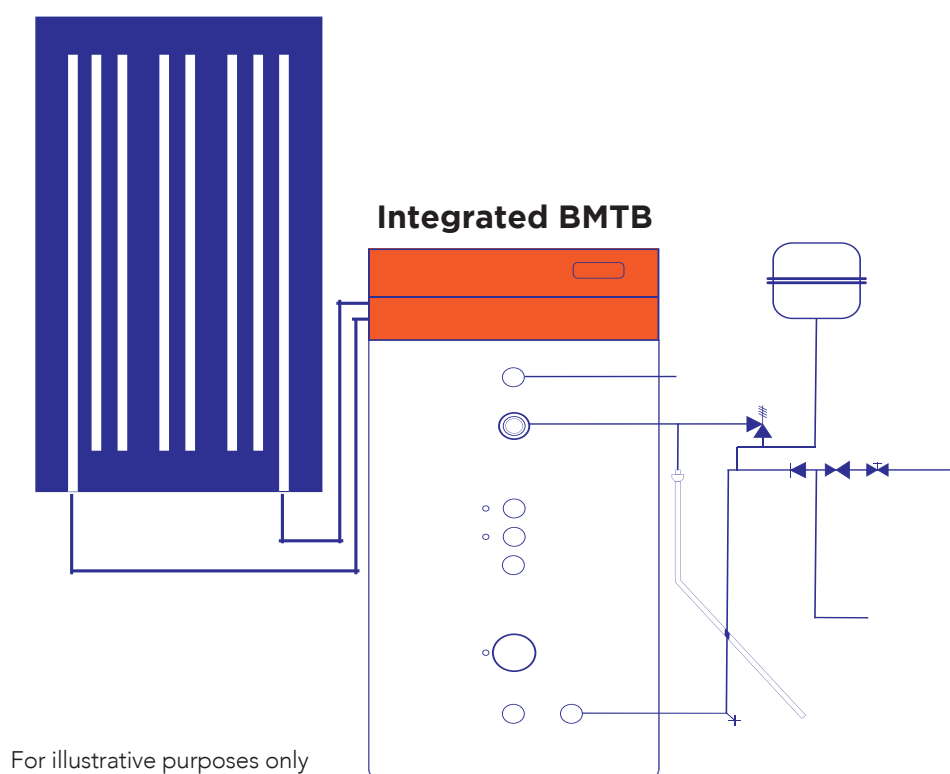
Our focus is to, via the development of advanced environmentally friendly energy saving products, help resist climate change and reduce energy consumption. SAHP's manufacturing site has more than 40 years experience in the

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.



Harnessing renewable energy to heat water efficiently



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

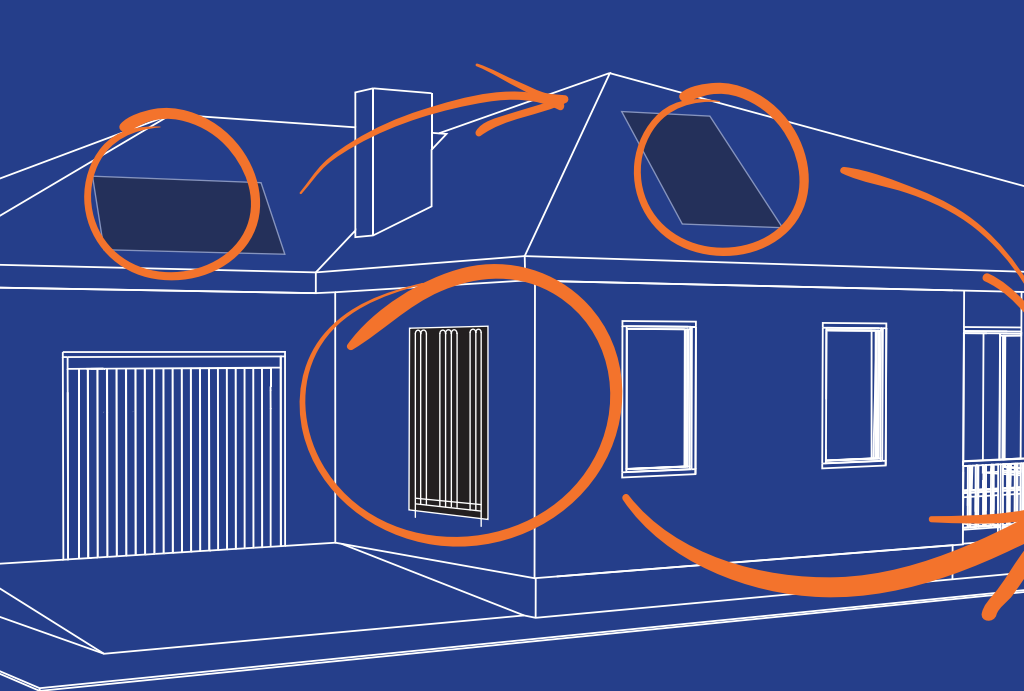
SAHP's range of Solar Assisted Heat Pump Water Heaters meet this demand. The range can be best described as 'a fridge in reverse'. Most people understand that the panel on the back of their fridge is an important factor in keeping its contents cold.

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

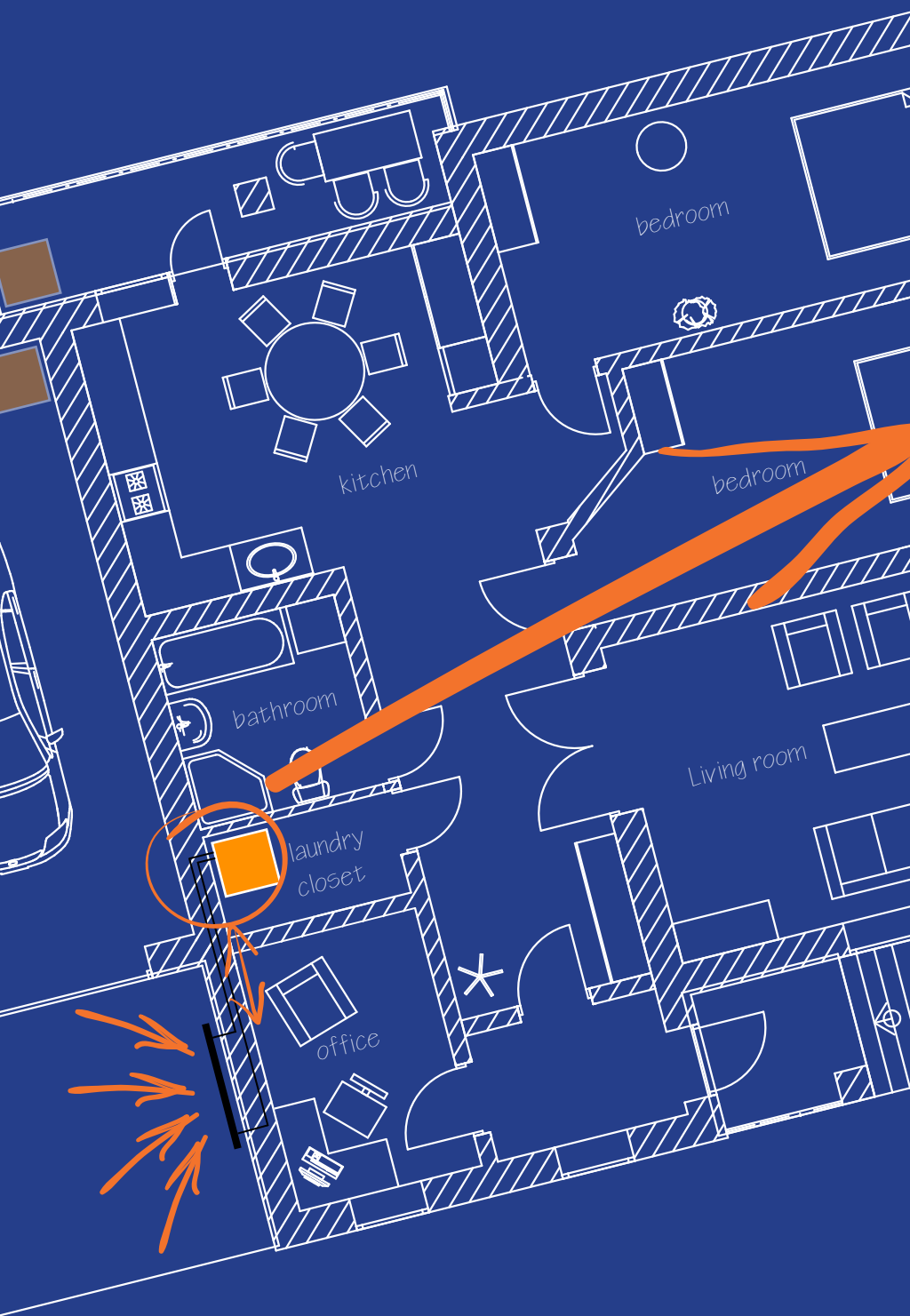
heat rather than reject heat, allows us to utilize the ambient air temperature (day and night, all year) to change the refrigerant liquid circulating through the panel from a liquid state to a gaseous state.

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 130°F.



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 BMTB range replaces your existing hot water tank.

The evaporator panel is located within a 15M pipe run of the BMTB system.



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BMTB by SAHP

Solar Assisted Heat Pumps

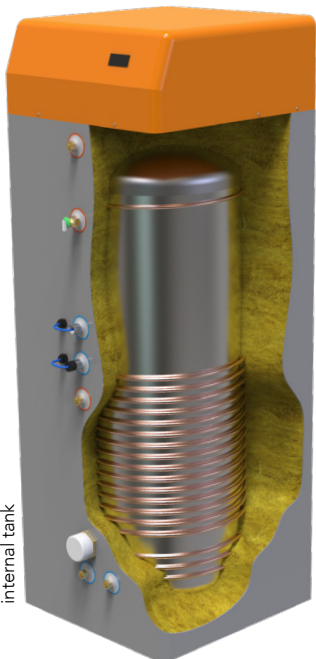
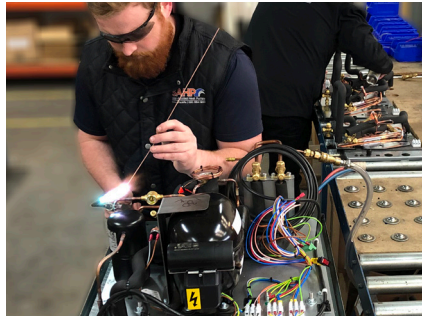
Hot water day and night

The award winning BMTB combines our innovative Solar Assisted Heat Pump technology with a highly insulated 34, 52 or 79 gallon vented / unvented indirect duplex stainless steel tank.

Utilizing thermodynamic principles, the BMTB directly transfers energy from the heated compressed refrigerant to water held within the integral stainless steel tank.

Once heated the highly insulated integral hot water tank helps the BMTB maintain the temperature of the water.

The BMTB is a great renewable option for heating your water. Taking advantage of renewable energy for your water heating makes this a very cost effective and environmentally friendly water heating solution. With water heating day and night, all year, the BMTB is an ideal money saving, green, Heat Pump Water Heater.



GRAND DESIGNS

Our BMTBs have been installed and featured in the UK on Channel 4 Grand Designs homes

Illustration showing internal tank

Data sheet BMTB by SAHP

Solar Assisted Heat Pumps

Specification	BMTB 130	BMTB 200	BMTB 300
ELECTRICAL			
Power supply	220 - 240 V	220 - 240 V	220 - 240 V
Frequency	60 Hz	60 Hz	60 Hz
HP thermal power (Max.)	6,800 BTU/hr	6,800 BTU/hr	6,800 BTU/hr
HP electrical input (Avg.)	600 W	600 W	600 W
Element thermal power (Max.)	5,100 BTU/hr	5,100 BTU/hr	5,100 BTU/hr
Element electrical input (Avg.)	1,500 W	1,500 W	1,500 W
Total thermal power (Max.)	11,900 BTU/hr	11,900 BTU/hr	11,900 BTU/hr
Total electrical input (Avg.)	2,100 W	2,100 W	2,100 W
WATER			
Nominal capacity	34 gal	52 gal	79 gal
Target water temperature (Max.)	130°F	130°F	130°F
Operating pressure (Max.)	101 psi	101 psi	101 psi
Operating pressure (Avg.)	43 psi	43 psi	43 psi
Connections (Compression)	3/4 "	3/4 "	3/4 "
Weight (Empty)	183 lbs	234 lbs	322 lbs
Weight (Full)	470 lbs	675 lbs	983 lbs
REFRIGERATION			
Refrigerant charge (R134a)	2.6 lbs	2.6 lbs	2.6 lbs
L.S operating pressure (Max.)	87 psi	87 psi	87 psi
L.S operating pressure (Avg.)	43 psi	43 psi	43 psi
H.S operating pressure (Max.)	406 psi	406 psi	406 psi
H.S operating pressure (Avg.)	174 psi	174 psi	174 psi
Connections (Flare)	3/8 Inch	3/8 Inch	3/8 Inch

Components

Immersion	Factory fitted 1.5 kW incoloy element heater and thermal controls
	Factory fitted 22 kW high performance auxiliary boiler coil
Cold water	Cold water inlet control kit comprising of 43 psi pressure reducing valve, 87 psi pressure relief valve, line strainer, non-return valve, a balance cold water connection, nuts and olives.
	43 psi expansion vessel
Safety	Factory fitted temperature and pressure relief valve set at 194°F / 101 psi
	1/2 " to 3/4 " Tundish
	Additional thermostat and thermal cut out
Electrical	3/4 " 2 port motorized valve
Refrigeration	2 x 50 ft coil refrigeration grade 3/8 " polished copper tube
	2 x 50 ft coil refrigeration grade 3/8 " armacell class 0 insulation
Fixing	6 x L-shape aluminum wall fixing bracket, 6 x stainless steel fixing screw, 6 x stainless steel M6 bolt, 6 x stainless steel M6 locking nut

Data sheet BMTB by SAHP

Solar Assisted Heat Pumps

Dimensions **BMTB 130** **BMTB 200** **BMTB 300**

TAPPINGS

10	Refrigeration copper tube entry	47.4 "	62.8 "	75.4 "
9	Refrigeration copper tube exit	47.4 "	62.8 "	75.4 "
8	Hot water outlet	39.0 "	54.3 "	67.7 "
7	T&P relief valve	31.8 "	46.5 "	59.8 "
6	Additional thermostat pocket	24.6 "	34.6 "	34.6 "
5	HP sensor cable pocket	20.7 "	30.7 "	30.7 "
4	Auxiliary boiler coil entry	16.8 "	26.8 "	26.8 "
3	Element heater	10.8 "	10.8 "	10.8 "
2	Auxiliary boiler coil exit	7.1 "	7.1 "	7.1 "
1	Cold water inlet	7.1 "	7.1 "	7.1 "

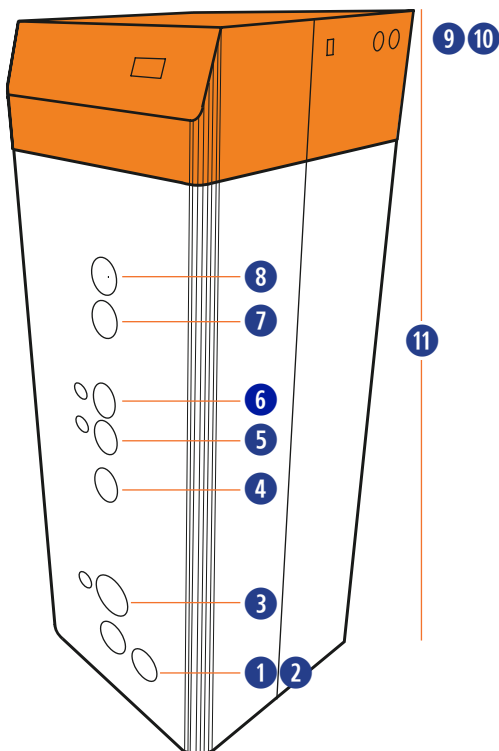
BMTB

11	Height	50.8 "	66.1 "	78.8 "
12	Depth	21.7 "	23.6 "	25.6 "
13	Width	21.7 "	23.6 "	25.6 "

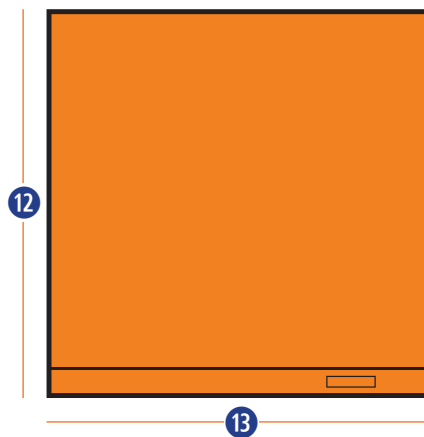
EVAPORATOR PANEL

14	Height	66.9 "	66.9 "	66.9 "
15	Depth (Single / Double)	1 " / 4 "	1 " / 4 "	1 " / 4 "
16	Width	31.5 "	31.5 "	31.5 "

Isometric view



Plan view

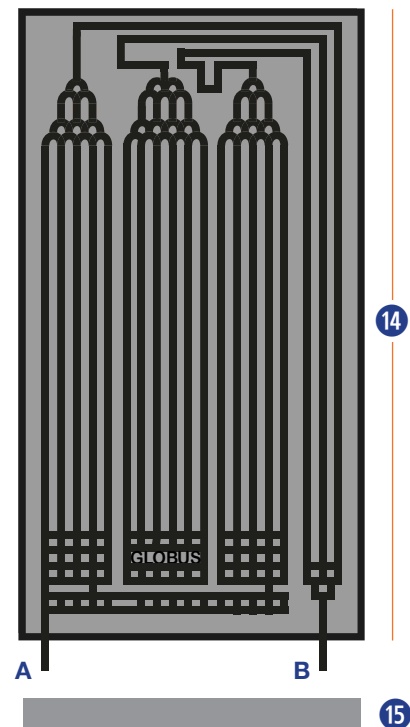


Clearances

front 15 "
top 4 "

A Refrigerant Gas out
B Refrigerant Liquid in

Evaporator panel

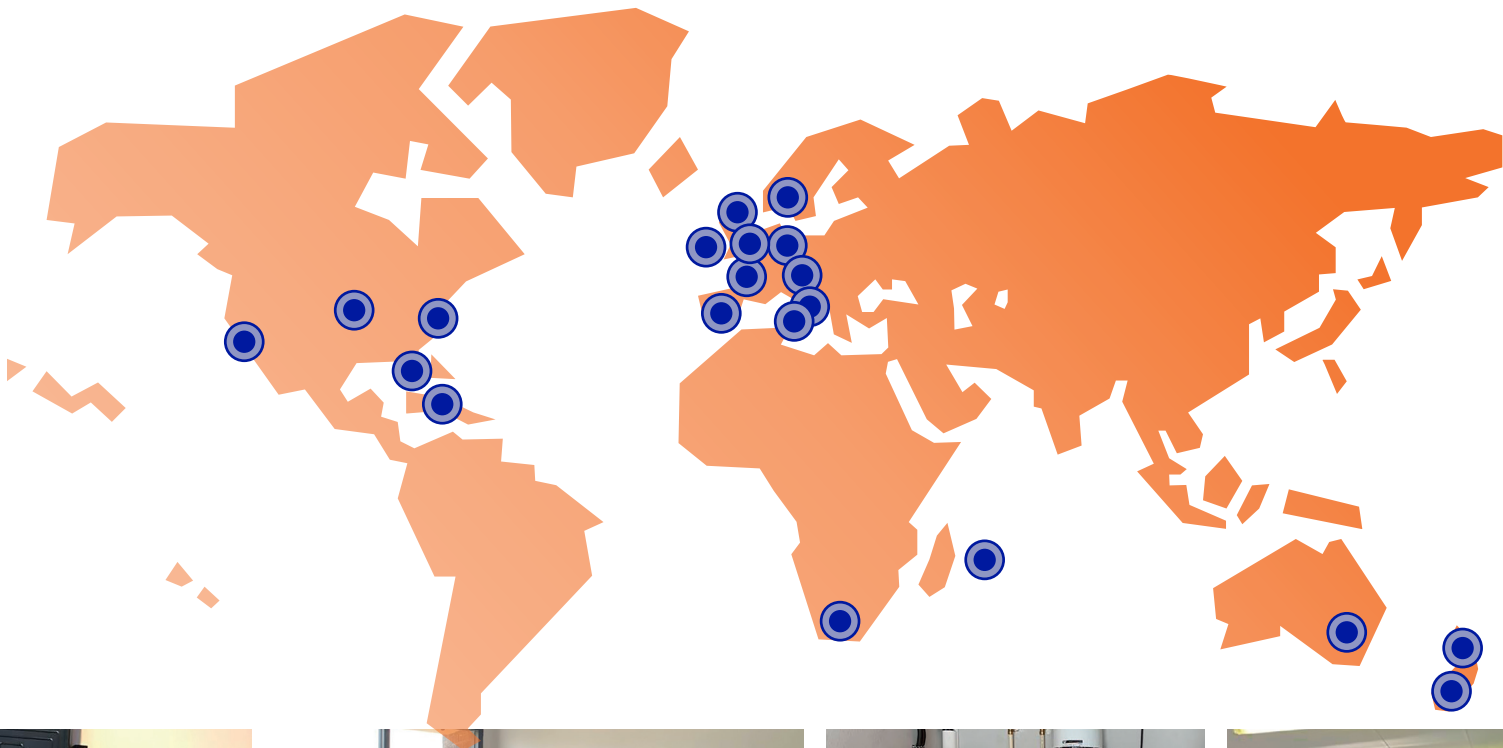


Looking after our customers

Global after sales support



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.



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 in-house product training that sees them hands on with the product range carefully over watched by our own technical team, our two day course 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!



GRAND DESIGNS



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 tank 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.

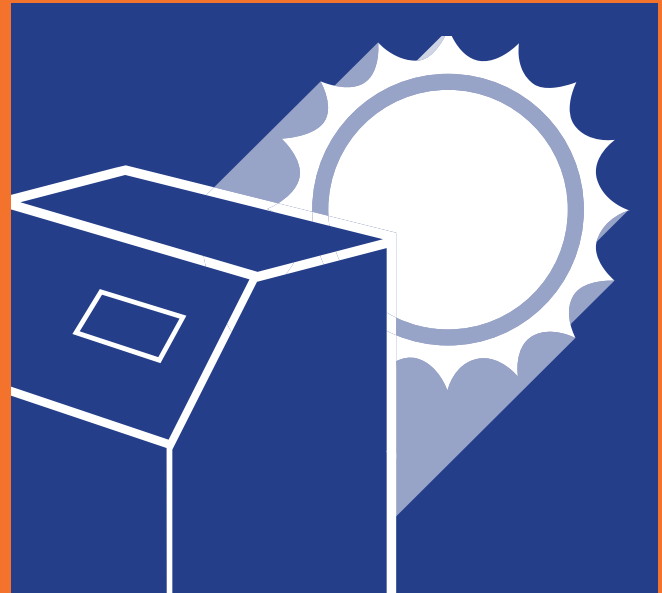
Heat Pump Compatible

BMTB 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.



The impact on your solar PV system

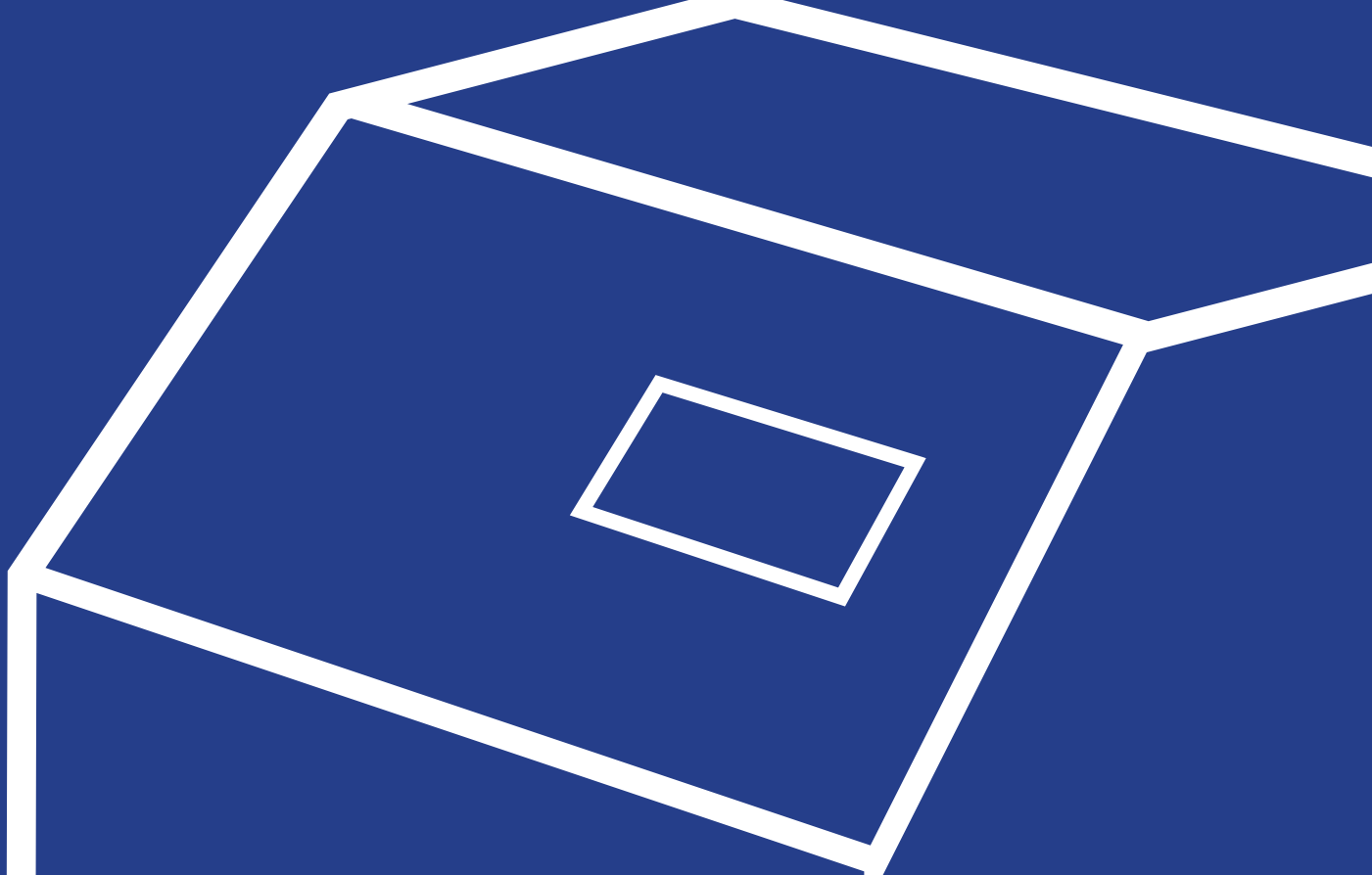
The BMTB Heat Pump, which requires only 600W to operate - As little as 15% of a 4kW PV array - Is connected to the ring main of the property during installation and therefore draws this 600W the same way as other wired or plugged in appliances within the home.

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.

- Self contained heat pump, integrated into the top of the tank.
- 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.
- 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.
- Designed to work in low ambient temperatures.
- Digital staging thermostat allows for continuous readout and preset temperature control.
- High pressure control reset.
- Dual high and low pressure service ports for service and monitoring.
- Quiet in operation (from as little as 41dB).
- End users could enjoy lower fuel bills, especially if they are replacing, Oil, LPG or Electrical water heating.



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