My
shower
never felt
so refreshing...

EMMVEE

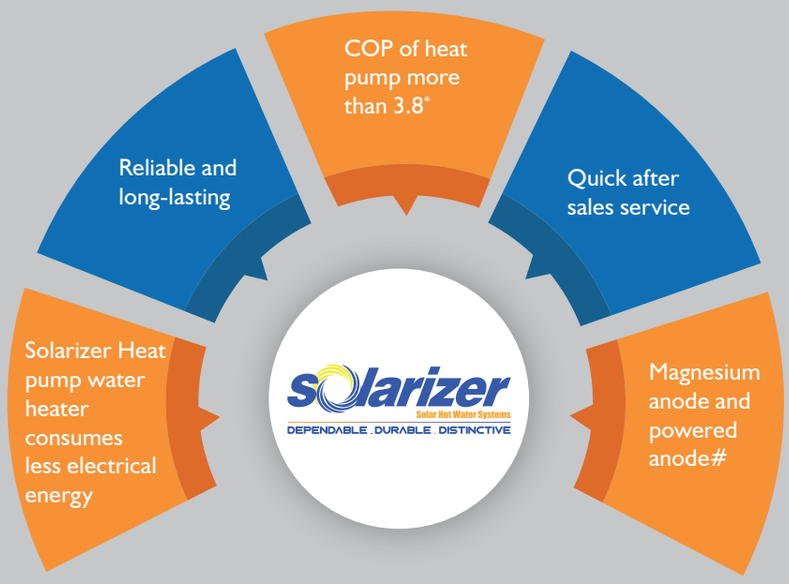
YOUR RELIABLE
PARTNER FOR
SOLAR ENERGY
SINCE 1992

Solarizer

Solar Hot Water Systems

DEPENDABLE . DURABLE . DISTINCTIVE

Heat Pump Water Heater



*Under ideal conditions
#Available only for 1000 litres and above

What is a heat pump?

In simple terms, heat pump is a reverse refrigerator! It has the same components as a refrigerator except that, the heat pump works in a reverse mode, i.e., it takes heat from the surrounding air and transfers that heat to the water in the storage tank.

Emmvee Solar Systems introduces a new concept of heating water for domestic use using a heat pump. The heat pump-based water heater absorbs heat from the air and heats up the water in the tank, consuming only about ¼ of the electrical energy* that would be required if electrical element heater is used to heat the water of the same volumetric capacity. The heat pump water heaters are also very reliable and require almost zero maintenance.

The heat pump water heaters designed and manufactured by Emmvee are superior to other water heaters due to their tank design. The tank, made from special steel and coated with glass enamel, is produced in one of the most modern enamel coating facilities in India. The tank is insulated with PUF and covered with a steel cladding to protect the tank from harsh climatic conditions. Emmvee Solar Systems has experience and knowledge to integrate heat pump-based water heaters for your home or building as they have been doing this for the last 25 years.

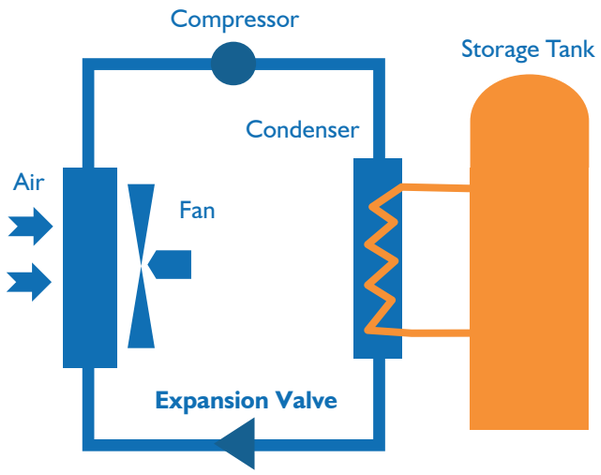
Emmvee's heat pump-based water heater is a necessity in all modern residences and buildings as it can provide bulk hot water at a desired temperature, required for the modern jet shower, rain shower and jacuzzi.

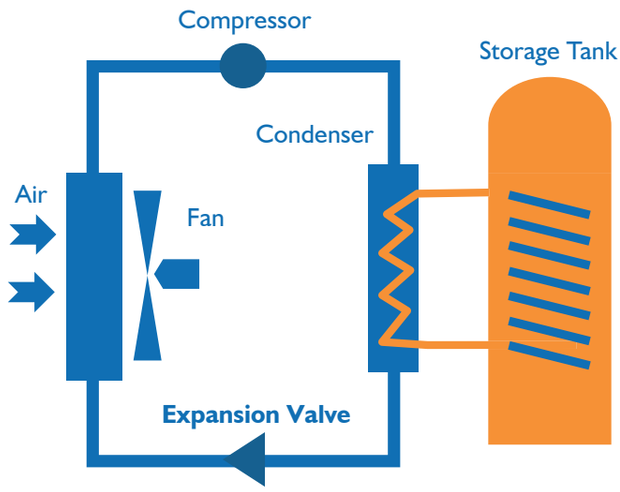
There are heat pump models for hard water as well. These models are like the heat pump heaters for soft water regions, but they differ in their integration. Additional accessories are fitted to these water heaters besides using a special heat transfer fluid to carry the heat from the heat pump to the storage tank.

With over 25 years in the industry, we have the experience to anticipate and resolve consumer concerns. Our team of technicians will be at your doorstep to quickly resolve any issues with the product.

The basic components of a heat pump:

The evaporator draws the surrounding air over the evaporator fins, the cold fluid circulating inside the evaporator extracts heat from the air and gets vapourised and moves into the compressor where the vapour is subjected to high pressure and high temperature. The cold water from the storage tank is made to circulate through a condenser, where the vapour which is of high temperature and under pressure transfers the heat to the cold water. The water gets heated and moves back into the storage tank. The vapour loses heat and condenses into a liquid. The condensed liquid is made to expand in an expansion valve, which lowers the temperature and pressure, and this cold liquid moves into evaporator and is now ready to extract heat from the warm air and this cycle is repeated.

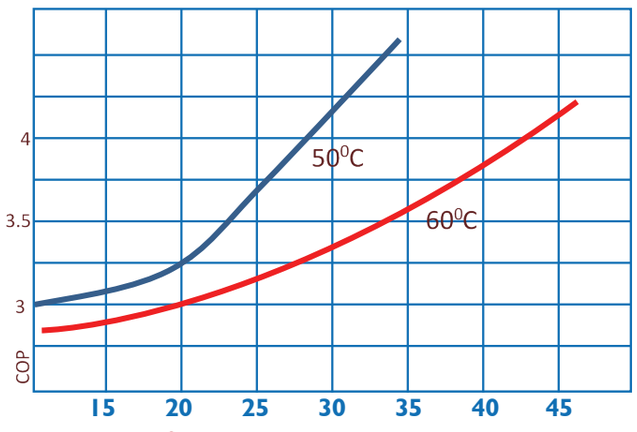




The heat pump automatically switches off when the temperature in the storage tank reaches the desired value. As the heat pump takes the heat from the surrounding area, its ability to extract heat from the air depends upon the heat content in the air. Therefore, in warm areas and during summer, the heat pump operates at higher efficiency and in colder months, the heat pump will operate at a slightly lesser efficiency. The heat pump efficiency is measured in a unit called "COP" (co-efficient of performance). A typical heat pump's COP would be between 2.5–4 depending upon the season and other factors.

So, if you are planning to build your dream house, why wait? Just call our marketing team who will help you to choose the best product that suits your needs.

As Emmvee Heat pump water heater is a centralised system, a proper planning and designing of piping circuit is esse ntial. It is also important to involve our engineers right from the planning stage of your building so that a very efficient and best hot water distribution system is built for your dream house.



Typical performance curve of the heat pump

Condensing temperature

PRODUCTS

Solar Heat Pump Water Heater

SOLARIZER SPRING HPSV-500-13
(SOLAR + HEAT PUMP HYBRID SYSTEM)

The product comprises of a heat pump and solar water heater. The product is suitable for homes which have soft water supply.

WARRANTY

1 year for the heat pump
1 year for the storage tank
1 year for the solar collector

Specifications		
Storage tank	500 litre (vertical)	Glass enamel coated
Heat pump	1.3 kW (input)	Air source, single phase
Voltage	230 V / 50 Hz	
Tank insulation	50 mm	PUF
Anode	Magnesium (Mg)	
Outer cladding	Pre-coated steel	
Pressure safety valve	6 bar	
Solar panel	Standard 2 (can be increased depending on the heating load required)	2 m^2 per collector
Heat pump to tank interconnecting pipe	CPVC (Suitable for hot water)	
Solar panel to tank interconnect	Copper with insulation	
Circulation system:	Integrated pump station	
Water quality	TDS < 2500 mg/L	

Model No.: HPSV-500-13-PR

The product specification is subject to change without notice due to continuous product improvement and the shape and size of the heat pump, tank, configuration, interconnecting system may be different in the actual heating system. Please contact our marketing department for advice and guidance on the best hot water system for your application.

SOLARIZER SPRING HPSH-300-09
SOLARIZER SPRING HPSH-500-13
(SOLAR COLLECTOR COMPATIBLE)

Specifications			
Storage tank	300 litre horizontal	500 litre horizontal	Glass enamel coated
Heat pump	0.9 kW (input)	1.3 kW (input)*	Air source, single phase
Voltage	230 V / 50 Hz	230 V / 50 Hz	
Tank insulation	50 mm	50 mm	PUF
Anode	Magnesium (Mg)	Magnesium (Mg)	
Outer cladding	Pre-coated steel	Pre-coated steel	
Pressure safety valve	6 bar	6 bar	
Solar panel	3	4	1.6 m^2 per collector
Heat pump to tank interconnecting pipe	CPVC (Suitable for hot water)	CPVC (Suitable for hot water)	
Solar panel to tank interconnect	Composite pipe with brass fittings	Composite pipe with brass fittings	
Water quality	TDS < 2500 mg/L	TDS < 2500 mg/L	

Model No.: HPSH-300-09-PR

** Heat pump 1.8 kW optional*

Model No.: HPSH-500-13-PR

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SOLARIZER SPRING HPH-300-09
SOLARIZER SPRING HPH-500-13 to HPH-500-18
(SOLAR COLLECTOR COMPATABLE)

Specifications		
Storage tank	300/500 litre horizontal	Glass enamel coated
Heat pump	0.9/1.8 kW (input)*	Air source, single phase
Voltage	230 V / 50 Hz	
Tank insulation	50 mm	PUF
Anode	Magnesium (Mg)	
Outer cladding	Pre-coated steel	
Pressure safety valve	6 bar	
Heat pump to tank interconnecting pipe	CPVC (Suitable for hot water)	
Water quality	TDS < 2500 mg/L	

Model No.: HPH-500-18-PR

The product specification is subject to change without notice due to continuous product improvement and the shape and size of the heat pump, tank, configuration, interconnecting system may be different in the actual heating system. Please contact our marketing department for advice and guidance on the best hot water system for your application.

SOLARIZER SPRING HPV-500-18

Specifications		
Storage tank	500 litre (vertical)	Glass enamel coated
Heat pump	1.8 kW (input)	Air source, single phase
Voltage	230 V / 50 Hz	
Tank insulation	50 mm	PUF
Anode	Magnesium (Mg)	
Outer cladding	Pre-coated steel	
Pressure safety valve	6 bar	
Heat pump to tank interconnecting pipe	CPVC (Suitable for hot water)	
Water quality	TDS < 2500 mg/L	

Model No.: HPV-500-18-PR

The product specification is subject to change without notice due to continuous product improvement and the shape and size of the heat pump, tank, configuration, interconnecting system may be different in the actual heating system. Please contact our marketing department for advice and guidance on the best hot water system for your application.

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