

Commercial Range



*Hot water all day long at the*  
**Lowest operating cost**

More than  
**70%**  
Energy  
Savings\*

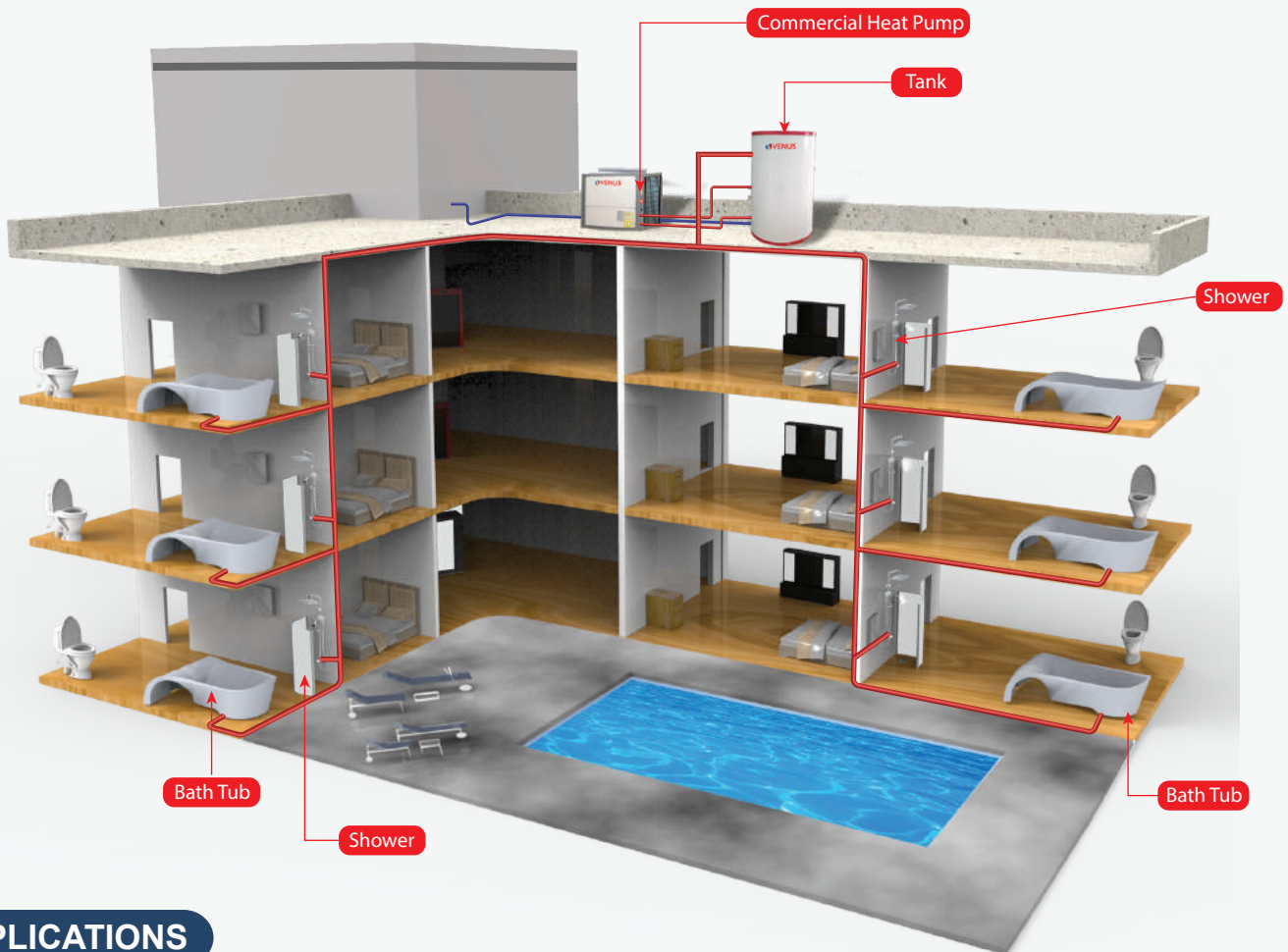


## VENUS HEAT PUMPS

Venus introduces Heat Pump Water Heaters in India. Using renewable energy heat sources from the ambient air to heat water, these heaters can provide hot water round-the-clock and throughout the year in an energy-efficient and affordable way. Venus Heat Pump Water Heaters are the right solution for commercial hot water applications.

### HEAT PUMP Commercial

Uses heat from the air to heat water and saves energy as much as 60-80%, when compared to oil fired boilers or electric water heaters. It is ideal for commercial applications like in hotels, hospitals, spas, hostels etc. where hot water is needed in large volumes. This range saves on operating costs by tapping into the heat in the air in a safe and affordable way. You can satisfy your customers while saving on your energy bills.



### APPLICATIONS



Hotels



Hospitals



Hostels

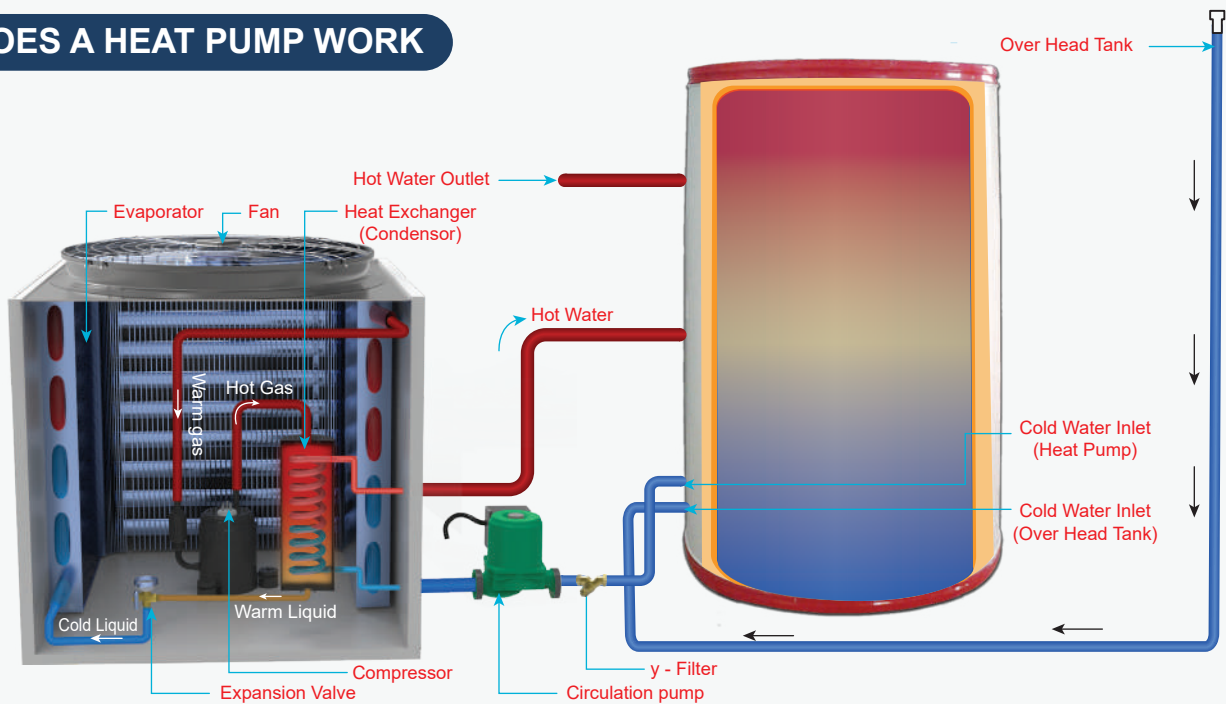


Spas

Heat pump water heaters are highly energy efficient as most of the energy for heating comes from the external environment, and only a fraction comes from electricity. Thus for 1kW electricity consumed the heat transferred will be 4kW. The amount of electrical energy needed to heat water is greatly reduced compared to a conventional electric water heater in which, for 1kW electricity consumed the heat transferred is only 1kW. Thus in heat pump water heaters the coefficient of performance (ratio of output power to input power) can be as high as 4.



# HOW DOES A HEAT PUMP WORK



Major components of a heat pump water heater include a compressor, a refrigerant, two heat exchangers (a condenser and an evaporator) and an expansion valve.

- The operation begins with air being forced through an evaporator which contains a liquid refrigerant, with the help of a fan.
- This refrigerant evaporates to a gas and extracts heat from the ambient air.
- The warm gaseous refrigerant then passes through the compressor, which increases its pressure and it becomes a hot gas.
- This hot gas enters a heat exchanger (condenser) and transfers its heat to the water flowing from a storage tank.
- The refrigerant cools down in the condenser and becomes a warm liquid.
- It then passes through an expansion valve and becomes a cool liquid and enters the evaporator again.
- The cycle is then repeated in this manner.
- Thus heat absorbed from the air is transferred to the water and the heating continues till the desired temperature is reached.

## KEY FEATURES

- Eco-friendly technology - using eco-friendly refrigerant
- Intelligent digital controller for precise control and easy operation
- Wide temperature range operation, from -10°C to 43°C. Can work at night as well as on cloudy or rainy days just like on sunny days
- Can be scaled to meet any requirement of hot water - 500 L & above.
- Rugged and reliable Scroll compressor with high efficiency heat exchanger - reliable and durable
- High energy efficiency - COP of 4.2
- Easy to install. Just need to connect the pipelines and electrical connections
- Occupies very little space and can be installed on the terrace or roof
- Heat input as low as 2.86 kW; delivers heat output up to 12 kW (for VCHX10i model)
- Long life and corrosion-resistant cabinet to withstand severe climates

## COMPARISON OF VARIOUS HEATING SYSTEMS

Type	Weather Independent	On Demand	Water Volume	Eco-Friendly	Low operation cost
Heat Pump	✓	✓	High	🌿	💰
Solar Heater	✗	✗	Medium	🌿	💰
Gas Heater	✓	✗	Low	✗	💰
Electric Heater	✓	✗	High	🌿	💰

## FEATURES



Eco-friendly Refrigerant



Higher requirements of hot water



Low operating cost - more savings



Condensor



Expansion valve



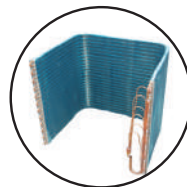
High Energy Efficiency - COP of 4.2



Compressor - heart of the heat pump



Intelligent Electronic controller



Evaporator



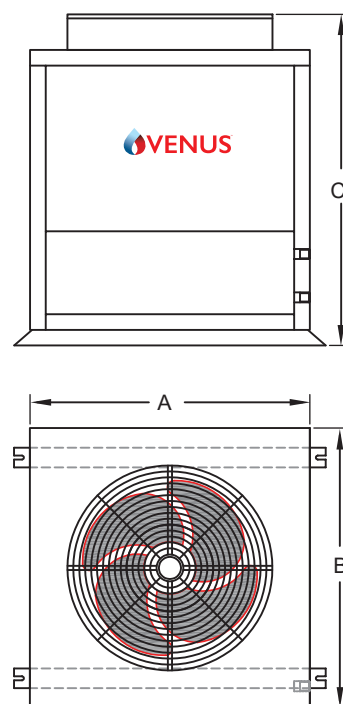
Circulation Pump

## PRODUCT SPECIFICATION

Model			VCHX10i	VCH 20i
Heating Capacity		kW	12.0	19.3
		Btu/h	40900	65850
COP			4.2	4.2
Rated Hot Water Output	Inlet Water Temp. 15°C	L/h	260	415
	Inlet Water Temp. 20°C		295	475
	Inlet Water Temp. 25°C		345	555
	Inlet Water Temp. 30°C		415	665
Rated Power input		kW	2.86	4.5
Rated input current		A	13.0	9.0
Power Supply		V/Ph/Hz	220~240V/1PH/50Hz	400~440V/3PH/50Hz
Rated output water temperature		°C	55	
Maximum output water temperature		°C	60	
Ambient Temperature Range		°C	(-10°C~45°C)	
Fan type			Low noise axial fan	
Fan direction			Vertical Discharge	
Heat exchanger			Tube in Tube	
Noise level		DBA	≤54dB(A)	≤58dB(A)
Compressor			scroll*1	
Cabinet			Powder Coated	
Refrigerant			R410A	R407C
Product size (A x B x C)		mm	715 x 715 x 830	860 x 840 x 1022
Net weight		Kg	100	140
Gross weight		Kg	115	160
Pipeline dia			1 inch	
Hot Water Storage Tank			Available in 500 L, 1000 L, 1500 L, 2000 L and above (Pressure & Non-pressure models)	
Guarantee			1 year	

\*Higher capacity models - 35 kW, 45 kW, etc. available on demand

\* Testing condition - Heating: Ambient temp. (DB/WB): 20°C/15°C, water temp. (input/output): 15°C/55°C.



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