

THE MANY ADVANTAGES OF HEAT PUMPS

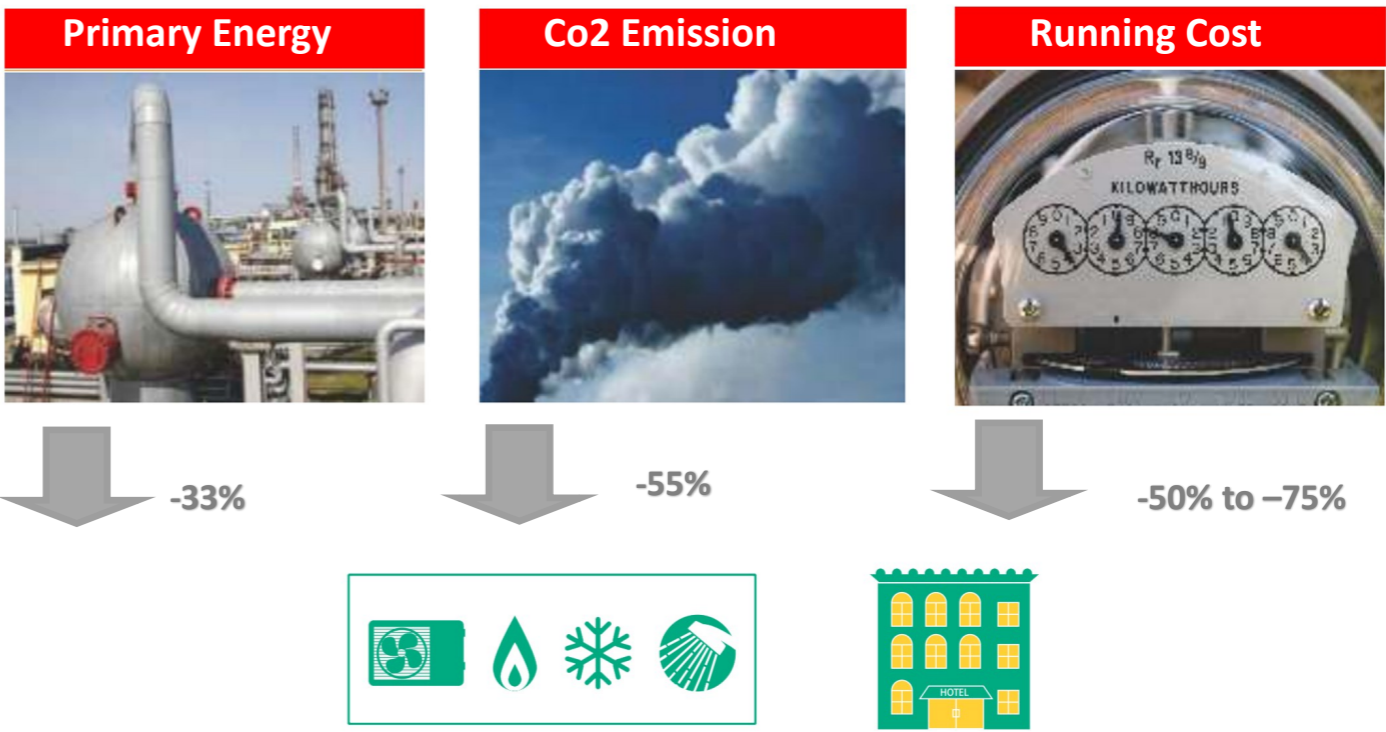
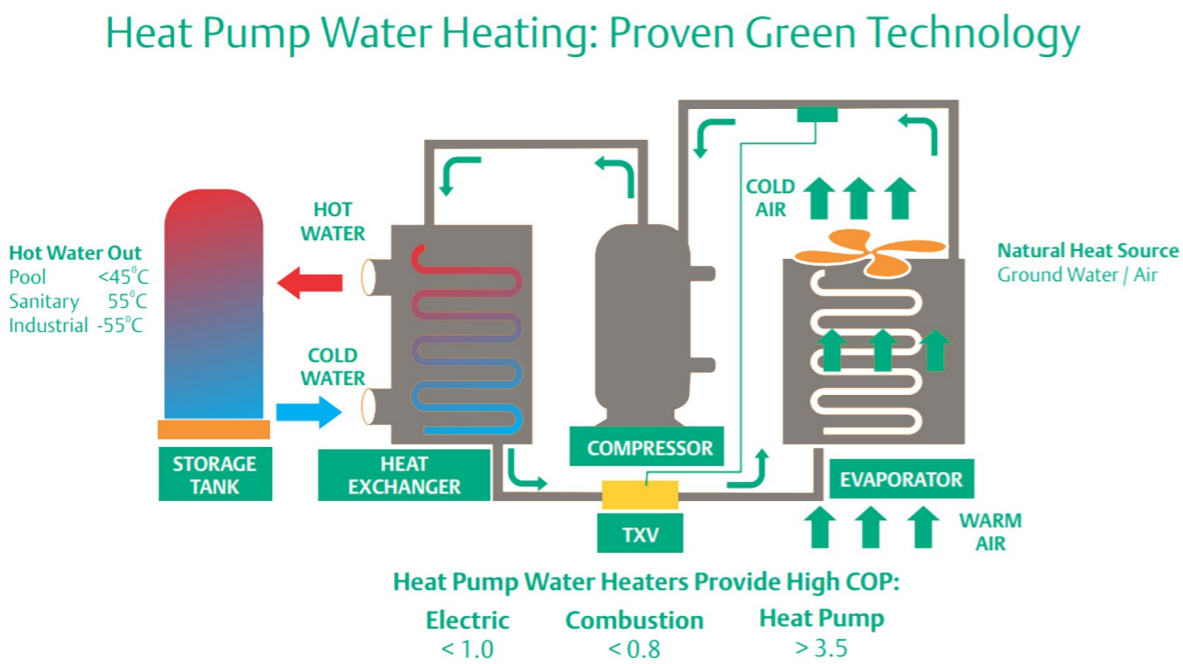
An Eco-friendly Alternative

Hot water is an everyday need for modern living. Traditionally, water is heated by burning fossil fuels or using electric heaters. These traditional methods of water heating operate at an energy efficiency of less than 1 – meaning that the heating provided is less than electrical energy or fuel consumed.

Increasing energy costs of gas or oil heating systems, coupled with the need to meet CO emission targets has resulted in the growing interest for dedicated heat pumps. Rather than burning fossil fuels to produce heat and consequently CO emissions, dedicated heat pumps use renewable energy from the environment like air, ground and water. They consume up to 70% less primary energy and therefore drastically reduce the pollution resulting from the use of fossil fuels.



Heat Pumps Deliver Lower CO2 Emission And Significant Savings For The End-User

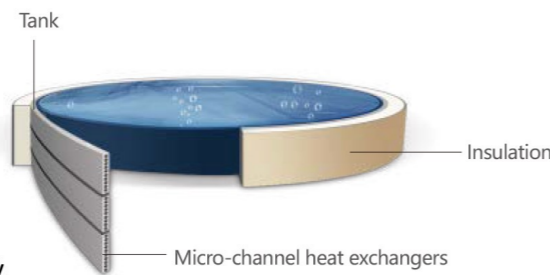


All In One Heat Pump

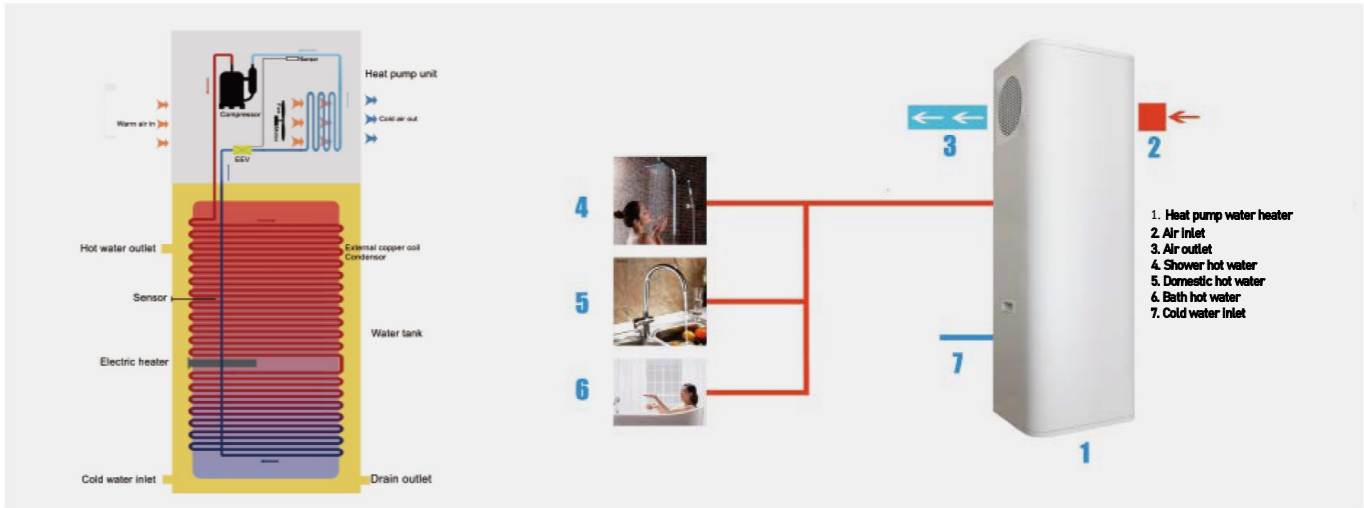


Features:




- Square and uniform design
- IP54 Class, ideal for outdoor application
- Axial ventilation design for higher efficiency
- Micro channel heat exchanger with excellent efficiency
- R134a optional



Application



Technical Data

Photos			
Refrigerant	R134a		
Model	TT-150T	TT-200T	TT-250T
Power Supply	220-240V/1/50Hz		
Heating Capacity at Air 20°C/15°C, Water Temperature from 15°C to 55°C			
	2.4	2.4	2.4
Rated Input Power (kW)	0.57	0.57	0.57
COP	4.1	4.1	4.1
Max Current (A)	15.0	15.0	15.0
Tank Capacity (L)	150	200	250
Outer Casing/ Shape	Full colour painted casing / Square		
Expansion Valve	Electronic		
Air Flow (m³/h)	450		
Air Discharge	Horizontal		
Air Duct Diameter	Non-ducted		
Back-up Heater (kW)	2		
Default Water Temperature (°C)	55		
Working Temperature Range (°C)	-7-43		
Unpacked Dimension (L*W*H)(mm)	500*500*1670	600*600*1600	600*600*1830
Packed Dimension (L*W*H)(mm)	640*640*1840	700*700*1770	700*700*2050
Net Weight (kg)	92	118	136
Gross Weight (kg)	110	137	155
Noise (dB(A))	48		



Bison Heat Pump Rocket Series

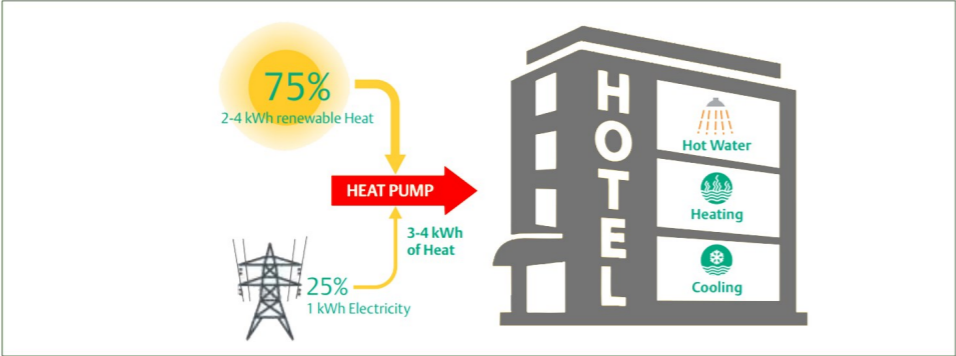
World Class Heating Product

Bison Heat Pump Rocket Series is a more efficient solution for heating water. It utilizes naturally available heat from water, ground and even winter air and applies a vapor compression refrigerant cycle, consuming nearly one quarter of the electrical energy required for traditional water heating. At 75% reduced energy consumption, this contributes to cleaner air.

Bison has developed a full range (from 300 Liters/Hr To 1000 Liters/Hr) of Rocket water heating units; built on heating optimized ZW scroll compressors to provide seasonal efficient heating capacity and effective domestic hot water production in residential and commercial building applications. These are available for use with multiple refrigerants like R407C and R22. It is designed to deliver 60°C water temperature irrespective of the weather conditions. It can operate from a wide ambient from 10 to 43°C. EHP units come fitted with Best-In-Class “Shell & Tube” heat exchanger technology. These are easier to service compared to other available

condensers in the field. Plate heat exchangers are the perfect solution for sites where the water quality is very poor.

Rocket series are designed for simple & easy operation in the field for end-users like Hotels, Hostels & Restaurants etc. These units come with “Simple User Interface” which allows service teams to get advance warnings about field failures, simple error codes for easy diagnosis & troubleshooting. This reduces the downtime and increases the life of the system. With all these benefits, the Rocket heat pump series is definitely the most reliable solution available on the market. Bison supports water heater contractors around the world by providing specifically designed units for heating water.



ZR Water Heating Scroll; Unique Compressor Design Developed To Provide A Reliable Water Heating Solution



Environmentally Friendly Design; Low GWP Refrigerant Options Available



60 C Hot Water Available 24/7; Independent of Weather Conditions



Reliable Hydrophilic Evaporator Design For Coastal/Salty Conditions



Significant Energy Savings; Upto 75% Compared With Traditional Heating Systems



Comes With Full Electrical Protection



Intelligent System Controller For Unit Monitoring; Easy To Control & System Troubleshooting



Reliable And Easy To Maintain; Designed For Safe Operation



100% Factory Tested, Inspected At Dedicated Heat Pump Testing Facility



Adjustable Water Temperature & Accurate Temperature Control

WHAT MAKES ROCKET SERIES UNIQUE?



Copeland ZR Scroll Dedicated Scroll : For Water Heating



**HOT WATER
ASSURED**



**HOT WATER
RELIABILITY**



**HIGH EFFICIENCY
DESIGN**



**LOW LIFECYCLE
COSTS**



**LOW AMBIENT
PERFORMANCE**

The Copeland Scroll™ ZR compressor provides energy efficient alternative for hot water heating and space heating to replace the use of electric heaters or fuel-fired boilers. It is designed basis Emerson's strong experience of manufacturing over 120 million scroll compressors, that are recognized as reliable and efficient products. On this strong base, ZR applies Scroll Heating™ technology and multiple new product design features. Additionally ZR scrolls hold a new patent on its design.

High Efficiency

Copeland Scroll's efficiency is primarily derived from its axial compliance design. ZR scrolls are required to operate on a much wider range of envelope compared to standard heat pump air-conditioners. This has been accomplished by a new axial compliance pressure balance combination designed especially for ZR scrolls. It also applies highly efficient, high power motor which can cater to extremes required by Heat Pump Water Heating (HPWH); to generate low internal losses at mild ambient cold tank heating and provide adequate power demanded at ambient tank reheating.



Copeland ZR Scroll Scores Over Traditional AC Scrolls

Innovation Criteria	Traditional AC Scroll	ZR Water Heating Scroll Design Innovations
Heating Capacity	Standard	15-20% Higher Than Standard
COP	Standard	15-20% More Than Standard
Highest Water Temperature	55 °C	60 C (Heating Optimized Valve Designed For High Compression Ratios)
Hot Water Reliability	Standard	Stronger & Robust Scroll Design, High Power Motor To Operate At Low Ambient & Higher Condensing Temperature Vs AC Compressors

Water heating Copeland Scroll ZR compressors are designed to meet different winter ambient regions in India. For tropical regions and moderate winter ambient regions, the compressor is designed without vapor injection.

Hot Water Reliability

Water heating is characterized by long operating hours at both high load and high compression ratios. Demand for hot water is at its highest when ambients are low and when conventional heat pump capacity falls off. ZR**KCE compressors are designed for reliable operation for heavier duty applications where the ambient temperature does not fall below 0°C; with significantly enhanced heating capacity, higher efficiency, and minimal requirement to reduce water outlet temperatures.

Environment Friendly Design

Low GWP refrigerants are utilized by the ZR compressor. Using ZR shows commitment in promoting green technology through the direct and indirect reduction of CO emissions.

