Copeland™ Heat Pumps

Complete Hot Water Solutions for Commercial, Domestic and Swimming Pool applications
Heat Pumps: The answer to all our hot water needs

In today’s times of skyrocketing energy costs, Heat Pumps are just what you need for all your hot water needs. Traditional methods of heating water, such as electric water heaters and burning of fossil fuels, are proving to be increasingly expensive and aren’t eco-friendly too. So how cost effective are Heat Pumps for you? Heat Pumps save you up to 75% in energy costs and also drastically reduce environmental pollution. Just to give you an idea, the average heating cost, calculated in ₹/kW is by far the best for a Heat Pump. While Electric heating costs you approximately ₹8.8/kW, and LPG heating costs you ₹7/kW, Heat Pump costs you a mere ₹1.2/kW! Imagine the savings over an entire year.

Emerson has developed a range of commercial and residential Heat Pumps that utilize naturally available heat from air, ground and water. These are designed specifically for Indian conditions and deliver unmatched comfort and convenience. Emerson has also developed specialized Heat Pumps that are designed to heat swimming pool water to a precise temperature, so that you can enjoy swimming all year round, whatever the season. Whatever your requirement, Emerson Heat Pumps, with their reliability and versatility are the perfect choice.
Copeland offers several advantages over conventional water heating systems. Besides being more reliable and efficient, these contribute to a more sustainable environment by utilizing renewable energy sources. Combining renewable sources and applying vapor compression technology results in substantial cost savings and a more environmentally sustainable means of heating water. Reduced usage of fossil fuels also contributes to cleaner air quality.
Copeland Heat Pump Series

World Class Heating Product Built On Proven Scroll & Reciprocating Platforms

Copeland Heat Pump is a significantly 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.

Copeland has developed a full range (from 100 Liters/Hr To 1000 Liters/Hr) of water heating units; built on heating optimized Reciprocating and ZW scroll compressors to provide seasonal efficient heating capacity and effective domestic hot water production in residential, commercial and pool heating applications.

Copeland Heat Pumps are available for use with multiple refrigerants like R407C and R22 and are designed to deliver 60°C water temperature. They can operate from a wide ambient from 0°C to 43°C and fitted with Best-In-Class ‘Shell & Tube’ heat exchanger technology making them very easy to service and perfect for sites where the water quality is very poor. They also have a ‘Simple User Interface’ which makes troubleshooting easy and allows service teams to get advance warnings about field failures, reducing downtime and increasing the life of the system.

With all these benefits, the Copeland Heat Pump series is definitely the most reliable solution available on the market. Copeland also supports water heater contractors around the world by providing specifically designed units for heating water.

Heat pump water heating-Commercial

Heat pump water heating-Residential

Pool Heating System Diagram

Note: Drawing for demonstration only; Pipe layout is only for reference. For detailed Installation diagram, please refer to the product manual.
Emerson's diverse range of Reciprocating and ZW Scroll Compressors developed to provide a reliable water heating solution.

Significant Energy Savings; Upto 75-85% Vis-a-Vis Traditional Heating Systems

Environmentally Friendly Design; Zero ODP Refrigerant Options Available

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

Automatic Defrost Module for Low Ambient Operation

Adjustable Water Temperature & Accurate Temperature Control

Designed & Manufactured In India; Customized For Your Requirement

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

Reliable And Easy To Maintain; Designed For Safe Operation

Corrosion proof - galvanized powder coated steel chassis with polyester coating

Reliable Hydrophilic Evaporator Design For Coastal/Salty Conditions

Titanium tube in PVC shell condenser designed especially to handle chlorinated water in Swimming Pool Heat Pump

Anti corrosion special coating on copper tubing
What Makes Copeland Heat Pump Series Unique?

Copeland ZW Scroll: Dedicated Scroll for Commercial and Pool Heating requirements

60°C
HOT WATER ASSURED

HOT WATER RELIABILITY

HIGH EFFICIENCY DESIGN

LOW LIFECYCLE COSTS

LOW AMBIENT PERFORMANCE

The Copeland Scroll ZW compressor provides an energy efficient alternative for hot water heating and space heating - The perfect alternative to electric heaters or fuel-fired boilers. It is designed basis Copeland’s strong experience of manufacturing over 150 million scroll compressors, that are recognized globally as reliable and efficient products. On this strong base, ZW applies Scroll Heating™ technology and multiple new product design features. ZW scrolls hold a new patent on the above features and technological advancements.

High Efficiency

Copeland Scroll’s efficiency is primarily derived from its axial compliance design. ZW 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 ZW scrolls. It also applies a 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 ZW Scroll Scores Over Traditional AC Scrolls

<table>
<thead>
<tr>
<th>Innovation Criteria</th>
<th>Traditional AC Scroll</th>
<th>ZW Water Heating Scroll Design Innovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Capacity</td>
<td>Standard</td>
<td>15-20% Higher Than Standard</td>
</tr>
<tr>
<td>COP</td>
<td>Standard</td>
<td>15-20% More Than Standard</td>
</tr>
<tr>
<td>Highest Water Temperature</td>
<td>55°C</td>
<td>60°C (Heating Optimized Valve Designed For High Compression Ratios)</td>
</tr>
<tr>
<td>Hot Water Reliability</td>
<td>Standard</td>
<td>Stronger &amp; Robust Scroll Design, High Power Motor To Operate At Low Ambient &amp; Higher Condensing Temperature Vs AC Compressors</td>
</tr>
</tbody>
</table>

Water heating Copeland Scroll ZW 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 ambient are low and when conventional heat pump capacity falls off. ZW™ KA 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 ODP refrigerants are utilized by the ZW compressor. Using ZW shows commitment in promoting green technology through the direct and indirect reduction of CO₂ emissions.
Copeland Heat Pump Offers Best ROI & Lower Operating Costs
Sustainable, Energy Efficient & A Reliable Alternative To Existing Heating Technologies

Delivering up to 85% energy savings vs traditional heating systems

<table>
<thead>
<tr>
<th>Pool Size</th>
<th>Water IN Temp</th>
<th>Water OUT Temp</th>
<th>Heat Pump Approx Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>100,000 Litres</td>
<td>20°C</td>
<td>28°C</td>
<td>43 kW</td>
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</table>

Annual energy saving in ₹
Heat pumps vs other heating systems

<table>
<thead>
<tr>
<th>Heat Source</th>
<th>Heating Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel</td>
<td>0.8</td>
</tr>
<tr>
<td>LPG</td>
<td>0.8</td>
</tr>
<tr>
<td>Solar with Electric Back-up</td>
<td>0.95</td>
</tr>
<tr>
<td>Commercial Electric Heating</td>
<td>0.95</td>
</tr>
<tr>
<td>Copeland Heat Pump</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Delivering up to 75% energy savings vs traditional heating systems

<table>
<thead>
<tr>
<th>Hot water Qty/day</th>
<th>Water IN Temp</th>
<th>Water OUT Temp</th>
<th>Total Heat Energy</th>
<th>Number of Showers /day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,800 Litres</td>
<td>30°C</td>
<td>60°C</td>
<td>84,000 Kcal</td>
<td>70 Typical</td>
</tr>
</tbody>
</table>

Annual energy saving in %
Heat pumps vs other heating systems

<table>
<thead>
<tr>
<th>Heating Source</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Electric Heating</td>
<td>35%</td>
</tr>
<tr>
<td>Solar with Electric Back-up</td>
<td>56%</td>
</tr>
<tr>
<td>LPG</td>
<td>61%</td>
</tr>
<tr>
<td>Diesel</td>
<td>53%</td>
</tr>
</tbody>
</table>

Note: Results shown from above analysis are designed for comparative purposes only. The assumptions and data used for the analysis may change depending on the market conditions. Emerson cannot be held responsible for any errors, omissions, or misrepresentations in the data represented. If you need confirmation on the detailed analysis, please get in touch with your Emerson Representative.
Copeland heat pumps comparison versus competing technologies
Heat pump technology scores across all parameters

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Copeland Heat Pump Heating</th>
<th>Electric Heating</th>
<th>Solar</th>
<th>Diesel</th>
<th>LPG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Savings w.r.t Conventional</td>
<td>Up to 75%</td>
<td>N.A</td>
<td>60-75%</td>
<td>N.A</td>
<td>N.A</td>
</tr>
<tr>
<td>Space Requirement</td>
<td>5% Of Solar</td>
<td>5% Of Solar</td>
<td>N.A</td>
<td>5% Of Solar</td>
<td>5% Of Solar</td>
</tr>
<tr>
<td>Climate Independent</td>
<td>Yes</td>
<td>N.A</td>
<td>No</td>
<td>N.A</td>
<td>N.A</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Up to 400%</td>
<td>Up to 95%</td>
<td>Up to 95%</td>
<td>Up to 80%</td>
<td>Up to 80%</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Minimal</td>
<td>High</td>
<td>Panel Cleaning</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>Environment Friendly</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Safety</td>
<td>Yes</td>
<td>Moderate</td>
<td>Yes</td>
<td>Moderate</td>
<td>No</td>
</tr>
<tr>
<td>Depreciation</td>
<td>40% in 1° Year</td>
<td>No</td>
<td>40% in 1° Year</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Copeland Heat Pumps: Need Of The Hour
Solution to problems faced by traditional water heating methods

Lack of space
Costly real-estate
Poor radiation days
High fossil fuel usage
Rising electric bills
Safety/Fuel ducting & piping
Poor Water Quality Leads To Scaling Issues & Abnormal Operating Conditions

Many a time water quality can cause serious problems in hot water systems. The water should be tested for hardness, acidity and iron content before a heat pump is installed. Your contractor or equipment manufacturer can tell you what level of water is acceptable. Mineral deposits can build up inside the heat pump’s heat exchanger.

Some possible issues that can crop up are:
- Scale formation
- Pressure drops
- Efficiency loss
- High discharge pressure and can lead to system failure

Our Solution: Shell & Tube Condenser For Handling Poor Quality Of Water

Our units come fitted with best-in-class ‘Shell & Tube’ heat exchanger technology. These are easier to service compared to other available Heat exchangers like Tube-In-tube, Plate Type heat exchangers etc. Shell & Tube heat exchangers are the perfect solution for the Indian market where the water quality is very poor at site. All condenser models are simple to install and can be easily opened for inspection, cleaning and maintenance purposes.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Shell &amp; Tube</th>
<th>Tube In Tube</th>
<th>Plate Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Transfer Efficiency</td>
<td>Comparable</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Ability To Handle High Operating</td>
<td></td>
<td>Moderate</td>
<td>Limitation Due To Bonding Material</td>
</tr>
<tr>
<td>Pressures &amp; Temperature</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leakage Concerns</td>
<td>Easy To Locate Leaks</td>
<td>Difficult</td>
<td>Difficult To Locate Leaks</td>
</tr>
<tr>
<td>Corrosion</td>
<td>Moderate</td>
<td>Moderate</td>
<td>More Prone (Titanium)</td>
</tr>
<tr>
<td>Ability To Handle Impure Water/</td>
<td>Can Handle Any Water Quality</td>
<td>Needs Treated Water</td>
<td>Needs Treated Water</td>
</tr>
<tr>
<td>Scaling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>Easier To Clean/ Maintain Using Brush</td>
<td>Difficult</td>
<td>Difficult</td>
</tr>
</tbody>
</table>
Individual Components Easily Accessible In Field
Designed For Easy Maintenance In Field

- Multiple Compartment Design For Easy Access To Pump, Compressor & Components
- Service Panels Removable For Access
- Shell & Tube HX Slides Out After Disconnecting Valves
Simple To Use & Control; Complete Diagnostic Capability & Full Electrical Protection

Simple To Use Diagnostics Features

The Copeland Heat Pump series is designed for simple & easy operation in the field for end-users like apartments, bungalows, hotels, hostels, restaurants, swimming pools, 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.

Diagnostic Features For Easy Troubleshooting

1. Amp / Voltage Monitor key
   View Electrical Data Of Heat Pump
2. Tank Temp & Parameter Set key
   Control Tank Temperature & Other Parameters
3. Backward / Log Key
   View Alarms/Faults During Operation
4. UP / PROBE for Temp Monitoring Key
   Increase Pre-Set Temperature; Scroll Other Parameters
5. DOWN / Programming Key
   Decrease Pre-Set Temperature; Scroll Other Parameters
6. Forward / Real Time Clock key
   Set Real Time Clock, Date, Time etc.
7. Reset key
   Exit Any Mode
8. Power On / Off key
   Switch On/Off The Heat Pump & Controller
9. Power LED
   Visual Indication Of Power On/Off
10. Alarm Signal LED
    Visual Indication Of Alarms/Faults
**Complete Electrical Protection For Field Issues**

- Under/ Low Voltage Protection
- Single Phasing/ Phase Missing & Reversal Protection
- Compressor Overload Protector
- Pump Overload Protector
- MCB/Fuse As Standard
- Auto defrost feature for low ambient weather

**System Protector/End User**

1. No Incoming Water Flow
2. High Discharge Pressure Cut Off (Manual Reset only)
3. Low Pressure Cut Off
4. Water Tank Temperature
5. Any Part / Sensor Failure
6. Fuse Failure Display
7. Controller Communication Error
8. Daily Usage Programming Capability
9. Communication Port - To Connect To Laptop (RS485)
10. Installer Password lock
11. Master Password lock
12. Memory For Last 30 Errors Occurred

**Component Protection**

**Compressor**

1. Single Phase, Phase Missing/Reversal
2. Under/Over Voltage & Current
3. High Discharge Temperature

**Water Pump**

1. Dry Run Protection
2. High Current Protection

**Fan Motors**

1. Healthy Status
2. High Current
3. One Fan Fails

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![Image of electrical components and wiring]

- Line Voltage Monitor (Under Voltage/ Over Voltage/Phase Reversal/Phase Missing Protection)
- Contactors For Compressor
- Contactors For Fan
- Contactors For Pump
- Sensor Inputs For Control

MCB
<table>
<thead>
<tr>
<th>Model Name</th>
<th>EHP-Z030X-TEA-XXX</th>
<th>EHP-Z050X-TEA-XXX</th>
<th>EHP-Z100X-TEA-XXX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal Capacity</strong></td>
<td>HP 3</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Hot Water Capacity</strong></td>
<td>LPH 300</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>380V/50Hz/3Ph</td>
<td>380V/50Hz/3Ph</td>
<td>380V/50Hz/3Ph</td>
</tr>
<tr>
<td><strong>Operating Ambient Range</strong></td>
<td>°C 10 to 43</td>
<td>10 to 43</td>
<td>10 to 43</td>
</tr>
<tr>
<td><strong>Max. Water Temperature</strong></td>
<td>°C 60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>kW 11</td>
<td>17.4</td>
<td>36</td>
</tr>
<tr>
<td><strong>Input Power</strong></td>
<td>kW 3.3</td>
<td>4.8</td>
<td>9.4</td>
</tr>
<tr>
<td><strong>COP</strong></td>
<td>3.3</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>A 5.6</td>
<td>9.7</td>
<td>21.5</td>
</tr>
<tr>
<td><strong>Refrigerant Gas</strong></td>
<td>R22/R407C</td>
<td>R22/R407C</td>
<td>R22/R407C</td>
</tr>
<tr>
<td><strong>Compressor Type</strong></td>
<td>ZW Scroll</td>
<td>ZW Scroll</td>
<td>ZW Scroll</td>
</tr>
<tr>
<td><strong>Fan Motor Quantity</strong></td>
<td>pcs 1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
</tr>
<tr>
<td><strong>Water Pump Power Supply</strong></td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
</tr>
<tr>
<td><strong>Heat Exchanger Type</strong></td>
<td>Shell &amp; Tube</td>
<td>Shell &amp; Tube</td>
<td>Shell &amp; Tube</td>
</tr>
<tr>
<td><strong>Water Piping Inlet Pipe Size</strong></td>
<td>Inch 1&quot; BSP</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
</tr>
<tr>
<td><strong>Outlet Pipe Size</strong></td>
<td>Inch 1&quot; BSP</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
</tr>
<tr>
<td>Min. Water Flow (Recommended)</td>
<td>LPH 1400</td>
<td>2800</td>
<td>5000</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>mm 505 x 1145 x 810</td>
<td>710 x 1235 x 1060</td>
<td>710 x 1270 x 1380</td>
</tr>
<tr>
<td><strong>Approx. Weight</strong></td>
<td>Kg 190</td>
<td>230</td>
<td>400</td>
</tr>
</tbody>
</table>

* Rating Condition - At Ambient of 25°C & Inlet Water of 25°C; Final Water Temperature of 55°C,
## Technical Specifications - Low Ambient Models

<table>
<thead>
<tr>
<th>Model Name</th>
<th>EHP-Z030X-TEB-XXX</th>
<th>EHP-Z050X-TEB-XXX</th>
<th>EHP-Z100X-TEB-XXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Capacity</td>
<td>HP</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Hot Water Capacity</td>
<td>LPH</td>
<td>300</td>
<td>500</td>
</tr>
<tr>
<td><strong>Heat Pump</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>380V/50Hz/3Ph</td>
<td>380V/50Hz/3Ph</td>
<td>380V/50Hz/3Ph</td>
</tr>
<tr>
<td>Operating Ambient Range</td>
<td>0 to 43</td>
<td>0 to 43</td>
<td>0 to 43</td>
</tr>
<tr>
<td>Max. Water Temperature</td>
<td>°C</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Capacity kW</td>
<td>11</td>
<td>17.4</td>
<td>36</td>
</tr>
<tr>
<td>Input Power kW</td>
<td>3.3</td>
<td>4.8</td>
<td>9.4</td>
</tr>
<tr>
<td>COP</td>
<td>3.3</td>
<td>3.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Current A</td>
<td>5.6</td>
<td>9.7</td>
<td>21.5</td>
</tr>
<tr>
<td>Refrigerant Gas</td>
<td>R22/R407C</td>
<td>R22/R407C</td>
<td>R22/R407C</td>
</tr>
<tr>
<td><strong>Compressor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>ZW Scroll</td>
<td>ZW Scroll</td>
<td>ZW Scroll</td>
</tr>
<tr>
<td><strong>Fan Motor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity pcs</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Power Supply</td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
</tr>
<tr>
<td><strong>Water Pump</strong></td>
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<td></td>
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</tr>
<tr>
<td>Power Supply</td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
<td>230V/1Ph</td>
</tr>
<tr>
<td><strong>Heat Exchanger</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Shell &amp; Tube</td>
<td>Shell &amp; Tube</td>
<td>Shell &amp; Tube</td>
</tr>
<tr>
<td><strong>Water Piping</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Inlet Pipe Size</td>
<td>Inch</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
</tr>
<tr>
<td>Outlet Pipe Size</td>
<td>Inch</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
</tr>
<tr>
<td>Min. Water Flow</td>
<td>LPH</td>
<td>1400</td>
<td>2800</td>
</tr>
<tr>
<td>(Recommended)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension (DxWxH)</td>
<td>mm</td>
<td>505 x 1145 x 810</td>
<td>710 x 1235 x 1060</td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>Kg</td>
<td>192</td>
<td>235</td>
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# Rating Condition - At Ambient of 25°C & Inlet Water of 25°C; Final Water Temperature of 55°C
Technical Specifications - Standard Models

<table>
<thead>
<tr>
<th>Model Name</th>
<th>EHP-R010X-PGA-XXX</th>
<th>EHP-R015X-PGA-XXX</th>
<th>EHP-R020X-PGA-XXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Capacity HP</td>
<td>1</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td>Nominal Capacity LPH</td>
<td>100</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>Heat Pump</td>
<td></td>
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<tr>
<td>Power Supply</td>
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<tr>
<td>Ambient Range °C</td>
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<td>10 to 43</td>
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<tr>
<td>Max. Water Temperature °C</td>
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<td>55</td>
<td>55</td>
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<tr>
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<td>1.2</td>
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<td>2.1</td>
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<tr>
<td>COP</td>
<td></td>
<td></td>
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<tr>
<td>Current A</td>
<td>2.9</td>
<td>3.3</td>
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<tr>
<td>Refrigerant Gas</td>
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<td></td>
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</tr>
<tr>
<td>Compressor</td>
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<td></td>
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<tr>
<td>Type</td>
<td>Reciprocating</td>
<td>Reciprocating</td>
<td>Reciprocating</td>
</tr>
<tr>
<td>Current A</td>
<td>7.7</td>
<td>9</td>
<td>13</td>
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<tr>
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<tr>
<td>Quantity pcs</td>
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<td>1</td>
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<tr>
<td>Supply A</td>
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<tr>
<td>Water Pump</td>
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</tr>
<tr>
<td>Head Feet</td>
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<td>10</td>
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<td>0.36</td>
<td>0.36</td>
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<tr>
<td>Heat Exchanger Type / Model</td>
<td>Tube in Tube</td>
<td>Tube in Tube</td>
<td>Tube in Tube</td>
</tr>
<tr>
<td>Water Piping</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Inlet Pipe Size Inch</td>
<td>1” BSP</td>
<td>1” BSP</td>
<td>1” BSP</td>
</tr>
<tr>
<td>Outlet Pipe Size Inch</td>
<td>1” BSP</td>
<td>1” BSP</td>
<td>1” BSP</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension (DxWxH) mm</td>
<td>355x905x625</td>
<td>355x905x625</td>
<td>355x905x625</td>
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<tr>
<td>Approx weight Kgs</td>
<td>72</td>
<td>82</td>
<td>84</td>
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# Rating Condition - At Ambient of 25°C & Inlet Water of 20°C; Final Water Temperature Of 55°C
### Technical Specifications - Low Ambient Models

<table>
<thead>
<tr>
<th>Model Name</th>
<th>EHP-R010X-PGB-XXX</th>
<th>EHP-R015X-PGB-XXX</th>
<th>EHP-R020X-PGB-XXX</th>
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<tr>
<td>Nominal Capacity</td>
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<td>Hot Water Capacity</td>
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<tr>
<td>Power Supply</td>
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<tr>
<td>Ambient Range °C</td>
<td>0 to 40</td>
<td>0 to 43</td>
<td>0 to 43</td>
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<tr>
<td>Max. Water Temperature °C</td>
<td>55</td>
<td>55</td>
<td>55</td>
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<tr>
<td>Capacity kW</td>
<td>3.5</td>
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<td>7.0</td>
</tr>
<tr>
<td>Input Power kW</td>
<td>1.2</td>
<td>1.6</td>
<td>2.1</td>
</tr>
<tr>
<td>COP</td>
<td>2.9</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Current A</td>
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<td>9</td>
<td>13</td>
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<tr>
<td>Refrigerant Gas</td>
<td>R134a</td>
<td>R134a</td>
<td>R134a</td>
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<td>Compressor</td>
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</tr>
<tr>
<td>Type</td>
<td>-</td>
<td>Reciprocating</td>
<td>Reciprocating</td>
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<tr>
<td>Current A</td>
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<td>7.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Fan Motor</td>
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<td></td>
</tr>
<tr>
<td>Quantity pcs</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Supply A</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Water Pump</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Head Feet</td>
<td>8</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Rating Current A</td>
<td>0.36</td>
<td>0.36</td>
<td>0.36</td>
</tr>
<tr>
<td>Heat Exchanger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type / Model</td>
<td>-</td>
<td>Tube in Tube</td>
<td>Tube in Tube</td>
</tr>
<tr>
<td>Water Piping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet Pipe Size Inch</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
</tr>
<tr>
<td>Outlet Pipe Size Inch</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
<td>1&quot; BSP</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension (DxWxH) mm</td>
<td>355x905x625</td>
<td>355x905x625</td>
<td>355x905x625</td>
</tr>
<tr>
<td>Approx weight Kg</td>
<td>74</td>
<td>84</td>
<td>86</td>
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# Rating Condition - At Ambient of 25°C & Inlet Water of 20°C; Final Water Temperature Of 55°C
# Technical Specifications - Swimming Pool Heat Pump

<table>
<thead>
<tr>
<th>Model Name</th>
<th>EHP-Z004K-TEP/TBP-001</th>
<th>EHP-Z008K-TEP/TBP-001</th>
<th>EHP-Z017K-TEP/TBP-001</th>
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<tbody>
<tr>
<td>Pool Size</td>
<td>30m³</td>
<td>50m³</td>
<td>100m³</td>
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<tr>
<td>Power Supply</td>
<td>380V/50Hz/3Ph</td>
<td>380V/50Hz/3Ph</td>
<td>380V/50Hz/3Ph</td>
</tr>
<tr>
<td>Operating Ambient Temp. °C</td>
<td>0 to 43</td>
<td>0 to 43</td>
<td>0 to 43</td>
</tr>
<tr>
<td>Max. Water Temperature °C</td>
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<td>35</td>
<td>35</td>
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<tr>
<td>Water Heating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>kW</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>Total Power</td>
<td>kW</td>
<td>2.3</td>
<td>3</td>
</tr>
<tr>
<td>COP</td>
<td>-</td>
<td>5.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Max. Input Current</td>
<td>A</td>
<td>5</td>
<td>7.6</td>
</tr>
<tr>
<td>Refrigerant Gas</td>
<td>-</td>
<td>R22 / R407C</td>
<td>R22 / R407C</td>
</tr>
<tr>
<td>Compressor</td>
<td>Type</td>
<td>ZW Scroll</td>
<td>ZW Scroll</td>
</tr>
<tr>
<td>Fan Motor</td>
<td>Quantity</td>
<td>pcs</td>
<td>1</td>
</tr>
<tr>
<td>Power Supply</td>
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<td>230V/50Hz/1Ph</td>
<td>230V/50Hz/1Ph</td>
</tr>
<tr>
<td>Heat Exchanger</td>
<td>Type / Model</td>
<td>Titanium Tube</td>
<td>Titanium Tube</td>
</tr>
<tr>
<td>Water Piping</td>
<td>Inlet Pipe Size</td>
<td>Inch</td>
<td>1.5’</td>
</tr>
<tr>
<td></td>
<td>Outlet Pipe Size</td>
<td>Inch</td>
<td>1.5’</td>
</tr>
<tr>
<td></td>
<td>Min. Water Flow</td>
<td>LPH</td>
<td>3800</td>
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<tr>
<td></td>
<td>Max. Water Flow</td>
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<td>4600</td>
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<tr>
<td>Dimensions</td>
<td>Dimension (DxWxH) mm</td>
<td>505 x 1135 x 810</td>
<td>710 x 1220 x 1060</td>
</tr>
<tr>
<td></td>
<td>Approx. Weight</td>
<td>Kg</td>
<td>110</td>
</tr>
</tbody>
</table>

# Copeland Heat Pumps: Tested At In-House Laboratory For Performance & Reliability

- Dedicated test lab for heat pump reliability & performance. Built at Karad test lab
- Controlled room ambient from 0° to 46°C
- Monitoring of various parameters upto a measurement accuracy of +/-0.5%
- Real field issues simulation & system correction
- Capability to measure water flow, temperature, pressures, electrical and system
- All instruments calibration performed by NABL accredited labs only
- Certifications of facility
  - QMS - ISO 9000
  - EMS - ISO 14000
  - UL / IEC Stage - 3 / Intertek
- Compliant with Emerson Inc International Guidelines
The consistent and efficient performance of Copeland Heat Pumps has been recognized and appreciated by the industry. Copeland Heat Pump was awarded the coveted National Energy Management Award for the year 2019 in view of the outstanding energy savings vis-à-vis its competition.

Copeland Heat Pumps have been awarded the prestigious GreenPro Green Product Certification by CII (Confederation of Indian Industry) making it the only heat pump certified as GreenPro.

Emerson has an extensive nationwide service network with trained technical experts to take care of your Heat Pump after sales needs. Wherever you may be in the country, you can expect an Emerson Technician to look into your servicing needs swiftly, and efficiently.
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COLD CHAIN CENTERS

Chakan
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Taluka : Khed. Dist : Pune - 410 501

Gurgaon
Emerson Climate Technologies (India) Pvt. Ltd.
Plot No. 127,
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Gurgaon - 122 015, Haryana

PLANT
Plot No. G-8/3, Block M.I.D.C. Chakan Industrial Area, Phase - III,
Taluka : Khed. Dist : Pune - 410 501

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