CHP SERIES
FULLY INTEGRATED HEAT PUMP WATER HEATER

The CHP-120 heat pump water heater is an integrated system designed specifically for the commercial market.

FEATURES
ENERGY SAVING AND ENVIRONMENTALLY FRIENDLY
- Heat pump transfers heat from surrounding area into the tank
- Industry leading 4.2 COP
- Multiple operating modes maximizes efficiency while meeting specific hot water needs
- Large capacity tank enables heat pump to operate more frequently than electric elements, saving money for the end user
- Meets the standby loss requirements of U.S. Department of Energy and the current edition of ASHRAE 118.1
- Environmentally friendly R-134a refrigerant
- ENERGY STAR® Qualified

COMMERCIAL PERFORMANCE
- First hour delivery of 150 GPH
- Rated heat pump power of 3.15 HP (240Vac) or 3.05 (208Vac)
- Electric heating element capacity of 12 kW (240Vac) or 9 kW (208Vac)
- Max water temperature of 150°F in efficiency/Hybrid modes and 180°F in electric mode
- Operating ambient range of 40-110° F
- Low operating sound measured at 59 dB (A)
- Dual evaporator fans maximize performance and provide room cooling
- 3/4" NPT water inlet and outlet

EASE OF OPERATION
- Integrated design and pre-charged refrigeration system makes for quick and easy install
- Large touch screen LCD display allows for mode selection, provides run information and includes troubleshooting alerts and detail
- Choose from three operating modes: Efficiency, Hybrid or Electric

DEPENDABLE AND LONG LASTING DESIGN
- A. O. Smith-developed glass coated tank
- Tank rated at 160 PSI working pressure
- Commercial grade anode protects the tank and extends the service life
- Proven heat pump technology
- Electric elements have incoloy sheathing and provide excellent protection from oxidation and scaling

THREE YEAR LIMITED TANK WARRANTY
- Backed by 3-year tank and 1-year parts/compressor limited warranties
- For complete warranty information, consult written warranty or go to hotwater.com

MODEL CAHP 120
ROUGH-IN DIMENSIONS

<table>
<thead>
<tr>
<th>Physical Dimensions</th>
<th>Total Height (A)</th>
<th>Tank Diameter (B)</th>
<th>Maximum Depth (C)</th>
<th>Service Panel Width (D)</th>
<th>Relief Valve Height (E)</th>
<th>Water Outlet Height (F)</th>
<th>Water Inlet Height (G)</th>
<th>Relief Valve Angle α(°)</th>
<th>Maximum Width (H)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>69 11/16</td>
<td>28 1/32</td>
<td>39 11/64</td>
<td>23 5/8</td>
<td>58 7/64</td>
<td>57 51/64</td>
<td>6 1/32</td>
<td>22</td>
<td>30 29/32</td>
</tr>
</tbody>
</table>

MODEL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Nominal Capacity</th>
<th>COP</th>
<th>Number of Elements</th>
<th>Total Element Wattage (both elements at 240V)</th>
<th>First Hour Delivery in Hybrid Mode (Gallons)</th>
<th>Recovery in GPH at 100° Temperature Rise in Hybrid Mode</th>
<th>Depends on mode of operation per chart below:</th>
<th>Approx. Shipping Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAHP 120</td>
<td>119</td>
<td>4.2</td>
<td>2</td>
<td>12,000</td>
<td>150</td>
<td>90</td>
<td>Efficiency = 41 Hybrid = 90 Electric = 50</td>
<td>620</td>
</tr>
</tbody>
</table>
## RECOVERY CAPACITIES

### Recovery Rate In Gallons Per Hour

<table>
<thead>
<tr>
<th>Mode of Operation</th>
<th>Input</th>
<th>Temperature Rise °F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BTU/ Hour</td>
<td>kW</td>
</tr>
<tr>
<td>Efficiency</td>
<td>33,678</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hybrid</td>
<td>74,624</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric</td>
<td>40,946</td>
<td>12</td>
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</tbody>
</table>

### Technical Characteristics

- **Model Type**: Integrated Heat Pump Water Heater
- **COP**: 4.2
- **HP Rated Input Power**: 3.15 HP (2.35 kW)
- **HP Rated Heating Output Capacity**: 11.13 kW
- **Power Specification**: 208/240Vac – 60Hz 1Ph
- **Maximum Operation Current**: 67 A
- **Refrigerant**: R134a
- **Refrigerant Charge Quantity**: 3.3 Lbs (1.5 Kg)
- **Electrical Heating Capacity**: 12.0 kW
- **Measured Tank Capacity**: 111.76 Gal (423 L)
- **Operation Modes**: Efficiency, Hybrid, Electric
- **Max. Water Temperature**: Efficiency/Hybrid: 150°F (66°C), Electric: 180°F (82°C)
- **Operating Ambient Temperature**: 40 - 110°F (4.4 - 43.3°C)
- **Unit Operation Noise**: 59 dB (A)
- **Approx. Heater Weight**: 498 Lbs (226 Kg)
- **Approx. Shipping Weight**: 620 Lbs (281 Kg)
COMMERCIAL
HEAT PUMP WATER HEATERS

**SUGGESTED SPECIFICATION**

The heater(s) shall be Commercial Heat Pump Model Number CAHP 120 as manufactured by A. O. Smith Water Products Company or equivalent. Heater(s) shall be rated at (specify) 12 kW @ 240V or 9 kW @ 208V, single phase, 60 cycle AC as listed by Underwriters’ Laboratories. All models meet National Sanitation Foundation NSF-5 requirements. Water heater shall have LCD display with built-in diagnostic and troubleshooting information. Tank(s) shall be 119 gallon capacity with 160 psi working pressure and equipped with a commercial grade anode. All internal surfaces of the heater(s) exposed to water shall be glass-lined with an alkaline borosilicate composition that has been fused to steel by firing at a temperature range of 1400°F to 1600°F. Internal power circuit fusing shall be provided. The heat pump water heater shall be capable of operating in Efficiency, Hybrid or Electric only modes. 3/4” NPT inlet and outlet water connections shall be provided. The water heater tank shall have a three year limited warranty; the compressor, refrigeration components and all other parts shall have a one year limited warranty. Fully illustrated instruction manual to be included. Meets or exceeds the efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE 118.1.

<table>
<thead>
<tr>
<th>Installation Key Considerations</th>
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<tbody>
<tr>
<td><strong>Service clearances</strong></td>
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<tr>
<td><strong>Ambient air temperature</strong></td>
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<tr>
<td><strong>Room size requirement</strong></td>
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<tr>
<td><strong>Amperage/Overcurrent protection</strong></td>
</tr>
<tr>
<td><strong>Condensate draining</strong></td>
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<tr>
<td><strong>Ducting</strong></td>
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<tr>
<td><strong>Indoor/Outdoor</strong></td>
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</tbody>
</table>

This is a partial list. Please reference the Installation Manual for detailed installation considerations.

For technical information, call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.