FORCE™ 90+
MODELS SHE75 AND SHE50 100NE
96% THERMAL EFFICIENCY VERSATILE POWER DIRECT VENT

The Force™ 90+ is a light-duty, power direct vent, fully condensing commercial gas water heater with an internal helical heat exchanger. This helical heat exchanger helps Force™ 90+ achieve 96% thermal efficiency and deliver outstanding hot water output.

ENERGY STAR® QUALIFIED
ADVANCED ELECTRONIC CONTROL
• Exclusive State designed touch display control system.
• Temperature control up to 181°F.
• Built-in diagnostics and operational information.

CONDENSING DESIGN
• Operates at 96% thermal efficiency, which saves money on operating costs compared to a standard 80% efficient gas water heater.
• Equipped with condensate drain tee.

HELICAL INTERNAL HEAT EXCHANGER
• Spiral heat exchanger keeps hot combustion gases in the tank longer to lengthen the heat transfer cycle.
• Positioned in the center of the tank for more even heat distribution.
• Spiral design reduces lime scale formation on the heat exchanger to maintain high efficiency operation over time.

POWER DIRECT VENT DESIGN
• Combined vertical and horizontal runs terminating through the roof or an outside wall. Vents using PVC, CPVC or polypropylene piping. Canadian installations require ULC S636 approved pipe for venting.
• 2” pipe, vents up to 45 equivalent feet.
• 3” pipe, vents up to 125 equivalent feet.

SIDE-MOUNTED HOT AND COLD RECIRCULATING TAPS
• Allows Force™ 90 to be installed as part of combination space heating/water heating applications.

AVAILABLE IN NATURAL GAS OR PROPANE
TOP FIRED ULTRA-LOW NOx GAS BURNER
• Enhanced Ultra-low NOx burner complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for NOx emissions of less than 14 ng/J or 20 ppm.

BLUE DIAMOND® GLASS COATING
• Provides superior corrosion resistance compared to industry-standard glasslining.

COREGARD™ ANODE ROD
• Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

MAXIMUM HYDROSTATIC WORKING PRESSURE: 150 PSI
STANDARDS AND CERTIFICATIONS
• Design-certified by Underwriters Laboratories according to ANSI Z21.10.3 - CSA 4.3 Standards.
• These models meet the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition ASHRAE/IES 90.1.
• CSA certified and ASME rated T&P relief valve.
• Approved for Canada.

3-YEAR LIMITED TANK AND 1 YEAR LIMITED PARTS WARRANTY
• For complete warranty information, consult written warranty or statewaterheaters.com.

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www.statewaterheaters.com | 800-365-0024 Toll-Free USA | State Water Heaters | 500 Tennessee Waltz Parkway | Ashland City, TN 37015

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SC65501713
### ROUGH-IN DIMENSIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Approximate Capacity</th>
<th>Approximate Capacity</th>
<th>U.S. Gals.</th>
<th>Liters</th>
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<tbody>
<tr>
<td>SHE50 100NE</td>
<td>50</td>
<td>189</td>
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<table>
<thead>
<tr>
<th>Units</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
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<tr>
<td>Inches</td>
<td>66.75</td>
<td>49.25</td>
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<td>15.75</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>62</td>
<td>65</td>
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<td>cm</td>
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<td>7.62</td>
<td>20.32</td>
<td>20.32</td>
<td>157.48</td>
<td>165.1</td>
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</table>

Specify when ordering propane (LP) gas. Change NE to PE for propane (LP).

Standard model certified from sea level to 10,100 ft. elevation.

Optional Concentric Vent Kit (100111100) and Condensate Neutralization Kit (100112380).

Top Inlet and Outlet: 3/4” NPT

Side Inlet and Outlet: 3/4” NPT

Gas Inlet: 1/2” NPT

Condensate drain outlet: 1/2” NPT

120V 60Hz <5 amps

* The manifold pressure is the factory setting and is not adjustable. A negative pressure will be seen with just the blower running without the Gas Control Valve open.

All models – Maximum Supply Pressure: 14 inches W.C. (3.48kPa)

Minimum Supply Pressure for Natural Gas: 3.50” (.87kPa)

Minimum Supply Pressure for Propane Gas: 8.00” (1.99kPa)

Minimum pressure must be maintained under both load and no load (dynamic and static) conditions.
DIMENSIONS FOR 75 GALLON UNIT

ROUGH-IN DIMENSIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Approximate Capacity</th>
<th>Units</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
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</thead>
<tbody>
<tr>
<td>SHE75 100NE</td>
<td>75 284</td>
<td>Inches</td>
<td>65.25</td>
<td>45.64</td>
<td>27.75</td>
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<td>3.71</td>
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<td>cm</td>
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<td>145.7</td>
<td>149.8</td>
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</table>

Specify when ordering propane (LP) gas. Change NE to PE for propane (LP).
Standard model certified from sea level to 10,100 ft. elevation.
Optional Concentric Vent Kit (100111100) and Condensate Neutralization Kit (100112380).
Top Inlet and Outlet: 1” NPT
Side Inlet and Outlet: 1” NPT
Gas Inlet: 1/2” NPT
Condensate drain outlet: 1/2” NPT
120V 60Hz <5 amps
* The manifold pressure is the factory setting and is not adjustable. A negative pressure will be seen with just the blower running without the Gas Control Valve open.
Minimum Supply Pressure for Natural Gas: 3.50” (8.79kPa)
Minimum Supply Pressure for Propane Gas: 8.00” (19.99kPa)
Minimum pressure must be maintained under both load and no load (dynamic and static) conditions.
**RECOVERY CAPACITIES - SHE50 100NE AND SHE75 100NE**

<table>
<thead>
<tr>
<th>Rating (Btu/hr)</th>
<th>Rating (Kw)</th>
<th>Temp Rise</th>
<th>F</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
<th>110</th>
<th>120</th>
<th>130</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>17</td>
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<td>33</td>
<td>39</td>
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<td>56</td>
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<tr>
<td>100,000</td>
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<td>LPH</td>
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<td>1465</td>
<td>1102</td>
<td>882</td>
<td>734</td>
<td>628</td>
<td>549</td>
<td>488</td>
<td>439</td>
<td>401</td>
<td>367</td>
<td>341</td>
<td>314</td>
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**MAXIMUM VENTING DISTANCES - SHE50 100NE AND SHE75 100NE**

<table>
<thead>
<tr>
<th>Number of 90° Elbows</th>
<th>2&quot; Maximum Pipe-ft. (m)</th>
<th>3&quot; Maximum Pipe-ft. (m)</th>
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<tbody>
<tr>
<td>1</td>
<td>40 (12.19)</td>
<td>120 (36.57)</td>
</tr>
<tr>
<td>2</td>
<td>35 (10.66)</td>
<td>115 (35.05)</td>
</tr>
<tr>
<td>3</td>
<td>30 (9.14)</td>
<td>110 (33.52)</td>
</tr>
<tr>
<td>4</td>
<td>25 (7.62)</td>
<td>105 (32)</td>
</tr>
<tr>
<td>5</td>
<td>20 (6.09)</td>
<td>100 (30.48)</td>
</tr>
<tr>
<td>6</td>
<td>15 (4.57)</td>
<td>95 (29.95)</td>
</tr>
</tbody>
</table>

Note: See the Instruction Manual for the most current and detailed venting information.

**SUGGESTED SPECIFICATION**

(Natural or Propane) gas water heater(s) shall be Force™ 90+ model with 96% thermal efficiency with storage capacity _________; an input rating of 100,000 BTUs per hour, a recovery rating of 116 gallons per hour at 100°F rise and a maximum hydrostatic working pressure of 150 psi. Water heater(s) shall be of power direct vent design, using 2" or 3" PVC, CPVC, or polypropylene pipe for horizontal and/or vertical vent runs. Water heater(s) shall have: 1: Steel tank construction with seamless glass lining and a spiral-shaped heat exchanger placed entirely inside the tank, which shall be glasslined on the flue gas side to protect against acidic condensate. 2: Advanced electronic control with LCD touchscreen display and integral diagnostics. 3: A 3-year limited warranty against tank leaks. Water heater(s) shall meet the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1 and be design-certified by UL (Underwriters Laboratories) according to ANSI Z21.10.3-CSA 4.3 standards governing storage tank water heaters.