VERTEX™ 96% THERMAL EFFICIENCY
CONTINUOUS HOT WATER
VERSATILE POWER DIRECT VENT

Today's homes demand more hot water than ever before, and the 96% efficient Vertex power direct vent gas water heater offers unprecedented levels of performance to meet the need. The 50-gallon Vertex delivers hot water output that exceeds a 75-gallon atmospheric gas water heater. In fact, the fully condensing Vertex design is so advanced, it can deliver “continuous hot water for shower after shower” ... a constant flow of over 4 gallons per minute.* Yet Vertex is easy to install, with height, diameter and installation requirements similar to standard power direct vent units.

HELICAL INTERNAL HEAT EXCHANGER
- Spiral heat exchanger keeps hot combustion gases in the tank longer lengthen the heat transfer cycle
- Positioned in the center of the tank for more even heat distribution
- Operates at 96% thermal efficiency, which saves money on operating costs compared to a standard 78% efficient gas water heater

POWER DIRECT VENT DESIGN
- Uses inexpensive PVC, CPVC or ABS pipe for intake and exhaust. Canadian installations require ULC S636 listed PVC or CPVC pipe for venting
- Can be vented vertically thru-the-roof or horizontally thru-the-wall
- 2” pipe, vents up to 45 equivalent feet
- 3” pipe, vents up to 128 equivalent feet
- Optional concentric vent kit available
- 120v 3-prong power chord

CONDENSING DESIGN
- 96% efficient condensing design
- Equipped with condensate drain tee

SIDE-MOUNTED HOT AND COLD RECIRCULATING TAPS
- Allows Vertex to be installed as part of combination space heating/water heating applications or any system requiring a recirculating hot water loop, including radiant floor heating

ADVANCED ELECTRONIC CONTROL
- Large LCD display
- Precise temperature control
- Advanced diagnostics
- iCOMM™ Compatible and can be monitored from remote locations.
  Call 1.888.WATER02 for more information.

COMMERCIAL GRADE GLASS LINING
- A. O. Smith PermaGlas® Ultra Coat™ process provides superior protection against corrosion
- Protects all interior tank surfaces including inside and outside of helical heat exchanger

TWO HEAVY-DUTY ANODE RODS
- Provides even more protection against corrosion

TOP FIRED LOW NOx GREEN CHOICE® GAS BURNER
- “Eco-Friendly” design reduces NOx emissions and complies with ultra-low NOx emission standards

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

AVAILABLE IN NATURAL GAS OR PROPANE

MAXIMUM HYDROSTATIC WORKING PRESSURE: 150 PSI

* 4.31 GPM continuous flow, based on 65°F inlet water temperature, 110°F outlet temperature.

Revised April 2013
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CODES AND STANDARDS
- Design-certified by UL (Underwriters Laboratories) according to ANSI Z21.10.3 - 4.3 CSA Standards
- This model meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition ASHRAE/IESNA 90.1.
- ☑ Approved for Canada

SIX-YEAR LIMITED TANK AND PARTS WARRANTY
- For complete warranty details, consult written warranty shipped with heater or contact A. O. Smith

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>BTU INPUT PER HOUR</th>
<th>GALLONS or LITRES</th>
<th>FIRST HOUR DELIVERY GALLONS or LITRES</th>
<th>RECOVERY GALLONS or LITRES 90°F / 50°C RISE</th>
<th>SHIPPING WEIGHT LBS / Kg</th>
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<tbody>
<tr>
<td>GDHE-50</td>
<td>100,000</td>
<td>50</td>
<td>164</td>
<td>129</td>
<td>255</td>
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<tr>
<td></td>
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<td>189</td>
<td>621</td>
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DIMENSIONS IN INCHES

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<tr>
<th>GDHE-50</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td>INCHES</td>
<td>66-3/4</td>
<td>49-1/4</td>
<td>22</td>
<td>15-3/4</td>
<td>3</td>
<td>8</td>
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<tr>
<td>CM</td>
<td>169.5</td>
<td>125.09</td>
<td>55.88</td>
<td>40</td>
<td>7.62</td>
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Inlet and outlet connections: 3/4" male
Circulation loop connections: 3/4" female
Gas inlet:1/2"
Maximum Supply Pressure: 14 inches W.C. (3.48kPa)
Minimum Supply Pressure for Natural Gas: 3.50 inches W.C. (.87kPa)
Minimum Supply Pressure for Propane Gas: 8.00 inches W.C. (1.99kPa)
Minimum pressure must be maintained under both load and no load (dynamic and static) conditions.
Electrical Characteristics - 120V, 60Hz, Amperes <5

For Technical Information and Automated Fax Service, call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.

Revised April 2013
www.hotwater.com