Helix VX

- Gas-Fired, Wall Hung Modulating Condensing Boiler
  - 95% AFUE
  - 5:1 Turn Down Ratio
  - VX Vertical Heat Exchanger
    - Patent Pending
    - Low Maintenance, Self-Cleaning
    - Designed in the U.S., for the U.S.
    - 150 psi MAWP
  - Approved for PVC, CPVC and Polypropylene venting
  - Warranty Coverage
    - 15-Year Limited Heat Exchanger
    - FREE 2-Year Parts & Labor Limited Warranty*
  - Innovative American Manufacturing

*Unit must be registered within 60 days from the date of original installation. All terms of Trinity Extended Service Agreement apply.

Innovative.

The heat exchanger is the critical component of any boiler and is primarily responsible for efficiency and durability. At the heart of the 95% efficient VX is the Helix family’s innovative, vertically mounted helical fin tube heat exchanger, made of 316L/444 stainless steel. The fins are laser welded onto the stainless tube resulting in greater strength and heat transfer capabilities.

Efficient.

The Helix VX is 95% AFUE (Annual Fuel Utilization Efficiency) and has been awarded Energy Star Most Efficient status. The VX’s advanced control automatically regulates boiler operation to ensure you are using the least amount of fuel possible.

The VX’s control adjusts both the amount of gas being burned (modulation) as well as the boiler water temperature (outdoor reset). Gas burner modulation reduces your fuel cost by adjusting the fuel burned to meet the actual demands of your heating system. Rarely will your home require the full capacity of the VX and burning more gas than needed is bad for your budget and the environment. Outdoor Temperature Reset adjusts the boiler water temperature based on outdoor conditions. During cold periods, water temperature is increased. As it gets warmer, water temperature is lowered. Varying the water temperature reduces your fuel costs.

Dependable.

Dunkirk’s Stainless Steel Heat Exchanger
- ASME certified to operate in applications up to 150 psi – though the typical residential application is around 15 psi
- Every heat exchanger is tested up to 375 psi; this is 25 times the typical residential boiler system operating pressure
- Proven reliability with tens of thousands of successful U.S. boiler installations

Helix Quality
- Every boiler is test-fired at the factory
- Complete combustion test is performed and a computer printout of the results are shipped with every boiler to ensure proper commissioning

15 year Limited Manufacturer’s Warranty
The VX heat exchanger is simply the finest ever designed and as such we provide the strongest factory warranty available. An additional first year leak-free heat exchanger coverage provides the original purchaser the right to select a new replacement VX boiler or heat exchanger at their choice, and receive a labor allowance of $500.00 for the servicing contractor.

The increased efficiency of the Dunkirk Helix VX could save up to 40% on heating bills annually.*

The 95% AFUE efficiency of the Helix VX allows it to qualify for State, Federal and local Utility company rebates.**

The average water heater is rated at .59 EF - Energy Factor, measure of the useful energy coming out of your water heater divided by the amount of energy consumed to heat domestic water. The typical water heater accounts for 18% of your fuel bill. One of the conveniences of heating with a boiler is the ability to use it to generate your domestic hot water. By pairing your 95% efficient VX with an H2O indirect water heater tank you will reduce your fuel consumption for heating hot water, increase the amount of hot water available and be protected with a lifetime tank warranty. Ask your heating contractor to replace your inefficient standalone hot water tank with an H2O.

*Individual savings may vary. ** Visit our website at www.dunkirk.com for rebate information and qualification details. These valuable rebates help offset the installation costs.
"The Helix VX wall hung, modulating condensing boiler is the latest addition to Dunkirk’s Helix boiler family.”

Key Features

Gas Supply
- Top Pipe connection with built in drip leg saves material & time

Heat Exchanger
- Patent Pending
- 316L/444 stainless steel fin tube
- Vertically mounted
- Self-cleaning
- 150 psi MAWP
- Designed in the U.S., for the U.S.

Electrical Wiring
- Easy Access / Protected Terminal Strip

Polypropylene Flue Collector
- Corrosion resistant

H2O Indirect Water Heater

- All 316 L Stainless Construction - no dissimilar metals to corrode
- Top Piping Connection saves material/time
- Stainless Dip Tube
- Extruded Stainless Steel Wall
- Coil Stand Off eliminates shipping damage
- Equipped with T&P and Relief Valves
- Less than 1/2 F degree loss per hour
- Smooth coil design eliminates sediment collection
- Limited Lifetime Warranty

Advanced Controls

- 5:1 turn down ratio
- Easy to understand English text display
- Outdoor reset maximizes fuel economy
- Priority domestic hot water meets changing demands
- Connections for Primary pump, CH pump, and DHW pump
- Automatically manages up to 16 units in Multiple Boiler System

Factory Tested

- Certified to ASME standards in ECR’s factory

*Optional stand
### Table: Boiler Input Rate, Heating Capacity, Net AHRI Rating, and AFUE %

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Heating Capacity</th>
<th>Net AHRI Rating, Water</th>
<th>AFUE %</th>
</tr>
</thead>
<tbody>
<tr>
<td>VX-050</td>
<td>50</td>
<td>10</td>
<td>47</td>
<td>41</td>
<td>95</td>
</tr>
<tr>
<td>VX-075</td>
<td>75</td>
<td>15</td>
<td>69</td>
<td>60</td>
<td>95</td>
</tr>
<tr>
<td>VX-100</td>
<td>100</td>
<td>20</td>
<td>92</td>
<td>80</td>
<td>95</td>
</tr>
<tr>
<td>VX-150</td>
<td>150</td>
<td>30</td>
<td>140</td>
<td>122</td>
<td>95</td>
</tr>
<tr>
<td>VX-200</td>
<td>200</td>
<td>40</td>
<td>186</td>
<td>162</td>
<td>95</td>
</tr>
</tbody>
</table>

(1) 1000 Btu/hr (British Thermal Units Per Hour)

(2) Heating Capacity and AFUE (Annual Fuel Utilization Efficiency) are based on DOE (Department of Energy) test procedures.

(3) Net AHRI Ratings based on piping and pickup allowance of 1.15. Contact Technical Support before selecting boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.

### General Information

- **Clearances**
  - (4) Required distances measured from boiler jacket.
  - (5) Service, proper operation clearance recommendation.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Combustible Materials (Required)</th>
<th>Service (Required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>0&quot; (0 cm)</td>
<td>14&quot; (36 cm)</td>
</tr>
<tr>
<td>Left Side</td>
<td>0&quot; (0 cm)</td>
<td>0&quot; (0 cm)</td>
</tr>
<tr>
<td>Right Side</td>
<td>0&quot; (0 cm)</td>
<td>0&quot; (0 cm)</td>
</tr>
<tr>
<td>Front</td>
<td>0&quot; (0 cm)</td>
<td>6&quot; (16 cm)</td>
</tr>
<tr>
<td>Back</td>
<td>0&quot; (0 cm)</td>
<td>0&quot; (0 cm)</td>
</tr>
<tr>
<td>Bottom</td>
<td>0&quot; (0 cm)</td>
<td>12&quot; (32 cm)</td>
</tr>
<tr>
<td>Combustion</td>
<td>0&quot; (0 cm)</td>
<td>6&quot; (16 cm)</td>
</tr>
<tr>
<td>Hot Water Piping</td>
<td>See Local Code</td>
<td></td>
</tr>
</tbody>
</table>

### Combustion Air & Vent Pipe Equivalent Length

<table>
<thead>
<tr>
<th>(Schedule 40 PVC)</th>
<th>2&quot; Pipe</th>
<th>3&quot; Pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Length</td>
<td>6 Ft.</td>
<td>6 Ft.</td>
</tr>
<tr>
<td>Maximum Length</td>
<td>100 Ft.</td>
<td>100 Ft.</td>
</tr>
</tbody>
</table>

Note: Refer to IOM and vent pipe manufacturer's instructions for equivalent vent lengths and alternate venting materials.

### Connections

<table>
<thead>
<tr>
<th>Connections</th>
<th>Return/Supply Water</th>
<th>Gas In</th>
<th>Condensate Drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>050/075/100</td>
<td>3/4&quot; Copper stub</td>
<td>1/2&quot; NPT</td>
<td>3/4&quot; NPT</td>
</tr>
<tr>
<td>150/200</td>
<td>1&quot; Copper stub</td>
<td>3/4&quot; NPT</td>
<td>3/4&quot; NPT</td>
</tr>
</tbody>
</table>

### Gas Pressure

- Natural Gas – Min: 3.0” w.c. (0.7 kPa), Max: 13.5” w.c. (3.3 kPa)
- Propane – Min: 5.0” w.c. (1.2 kPa), Max: 13.5” w.c. (3.4 kPa)

### Water Content

- 050/075/100 - 1.1 Gallons, 150/200 - 1.8 Gallons

### Dimensions

<table>
<thead>
<tr>
<th>Models</th>
<th>050</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>075</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Width &quot;A&quot;</td>
<td>20&quot;</td>
<td>23&quot;</td>
</tr>
<tr>
<td>Height &quot;B&quot;</td>
<td>508 mm</td>
<td>584 mm</td>
</tr>
<tr>
<td>Depth &quot;C&quot;</td>
<td>705 mm</td>
<td>959 mm</td>
</tr>
<tr>
<td>Bracket &quot;D&quot;</td>
<td>14.75&quot;</td>
<td>16.3&quot;</td>
</tr>
<tr>
<td>Bracket &quot;E&quot;</td>
<td>357 mm</td>
<td>414 mm</td>
</tr>
<tr>
<td>Ht. w/Piping</td>
<td>24.41&quot;</td>
<td>35.6&quot;</td>
</tr>
<tr>
<td>Spot</td>
<td>620 mm</td>
<td>904 mm</td>
</tr>
</tbody>
</table>

### Standard Equipment

- Wall Mounted: Bracket included.
- Boiler Control Module: Automatic Low Voltage/Intermittent Direct Spark Ignition/Modulating with a 5:1 combustion turn down ratio. For multiple boiler applications - the control module can stage up to 16 boilers.
- User Display interface: Easy programming with text display, Outdoor Temperature Sensor included.
- Combustion: Gas Valve with Premix Venturi and Blower, Durable Stainless Steel Mesh Modulating Burner with 5:1 turn down ratio, Direct Spark Igniter and Flame Sensor.
- Electrical: Low Voltage Terminal Strip, High Voltage Junction Box and Transformer.
- Other: 30 PSI Safety Relief Valve, Boiler Drain Valve and Condensate Drain with built in trap.

### Options

- LP Convent Kit, Concentric Vent Kit (2” and 3”). System Sensor (For Multiple Boiler Applications)

### Certifications

- AHRI CERTIFIED
- UL Listed
- CSA Certified
- ASME

ECR International Inc. 2201 Dwyer Avenue, Utica, NY 13501
Tel. 800 253 7900
www.ecrinternational.com

All specifications subject to change without notice.
©2017 ECR International, Inc.
PN 240010711 Rev. 1/18