**RATINGS AND CAPACITIES**

| APEX MODEL | INPUT [BTU/HR] | GROSS OUTPUT [BTU/HR] | HORSEPOWER (BHP) | THERMAL EFFICIENCY (%) | HEATING SURFACE (SQ.FT.) | WATER CONTENT (GALLONS) | BURNER MODULATION | FUEL [1] | FLOW AND PRESSURE DROPS | FLOW (GPM) | Δ P (FT.HD.) | FLOW (GPM) | Δ P (FT.HD.) | FLOW (GPM) | Δ P (FT.HD.) | FLOW (GPM) | Δ P (FT.HD.) | Δ P (LBS) |
|------------|----------------|------------------------|------------------|-------------------------|-------------------------|-------------------------|-----------------------|----------|--------------------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|
| APX425C   | 80,000         | 399,000                | 375,000          | 11.2                    | 84.1%                    | 42                       | 3.4                   | 5:1      | 4" WC                    | 38.2       | 15.9          | 30.2       | 10.8          | 25.1       | 7.9           | 21.5       | 6.1           | 304        |

[1] Product is built for Natural Gas firing, but can be converted over to Propane firing with field adjustments.

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (A)</td>
<td>31-3/16&quot;</td>
</tr>
<tr>
<td>Height (B)</td>
<td>43-1/2&quot;</td>
</tr>
<tr>
<td>Width</td>
<td>16-7/8&quot;</td>
</tr>
<tr>
<td>Vent Connection (C)</td>
<td>4&quot; CPVC/PP/SS</td>
</tr>
<tr>
<td>Air Intake Connection (D)</td>
<td>4&quot; PVC</td>
</tr>
<tr>
<td>Condensate Drain Connection (E)</td>
<td>3/4&quot;</td>
</tr>
<tr>
<td>Gas Valve Inlet Connection (F)</td>
<td>3/4&quot; FPT</td>
</tr>
<tr>
<td>Relief Valve/Boiler Drain Connection</td>
<td>3/4&quot; FPT</td>
</tr>
</tbody>
</table>

* Dimension is to the Centerline of the Connection

**FLOW AND PRESSURE DROPS**

- **20°F Δ T (Max)**
  - Natural Gas: 37.7 GPM
  - Propane: 15.9 GPM

- **25°F Δ T**
  - Natural Gas: 38.2 GPM
  - Propane: 10.8 GPM

- **30°F Δ T**
  - Natural Gas: 25.1 GPM
  - Propane: 7.9 GPM

- **35°F Δ T (Min)**
  - Natural Gas: 21.5 GPM
  - Propane: 6.1 GPM

**Shipping Weight**

- **GPM**
  - 304 LBS

**INNOVATIVE EQUIPMENT FOR HOT WATER SYSTEMS**

WWW.THERMALSOLUTIONS.COM
## STANDARD EQUIPMENT - MODEL APX425C

### PRESSURE VESSEL DESIGN
- ASME Stainless Steel Heat Exchanger
- ASME Section IV Certified, "H" Stamp
- MAWP 160 PSIG & Max Temp 210°F
- Ten Year Limited Heat Exchanger Warranty

### COMBUSTION DESIGN
- Stainless Steel Mesh Pre-Mix Burner
- Low NOx Emissions (<20 ppm)
- Full Modulation, 1:1 Turndown
- Natural or LP Gas
- 4" wc to 14" wc inlet gas pressure
- Direct Spark Ignition System
- Zero governor gas valve
- Variable Speed Combustion Blower
- Air Proving Switch

### BOILER EQUIPMENT
- Peer-to-Peer Boiler Communications
- System Control
- 24VAC Contacts for Enable/Disable Sensor, DHW Priority
- Water Flow Switch
- Supply & Return Water Temperature Sensors
- Flue Gas Temperature Sensor
- Air Vent Valve
- Boiler Drain Valve
- Condensate trap
- Stacking boiler brackets
- Pressure & Temperature Gauge
- ASME Safety Relief Valve, 50 Psig

### OPTIONAL EQUIPMENT
- Hydronic Kit (Boiler Circulation Pump - Constant Speed or Eco Propell™, Pump Flange Kit, Low Water Cutoff with Manual Reset and Condensate Neutralizer)
- Condensate Neutralizer
- 80 psig Relief Valve
- 100 psig Relief Valve

### ELECTRICAL DESIGN
- Variable Speed Combustion Blower 120VAC/60HZ/1 PH - High Voltage PCB
- Pump Overrun for Heat Dissipation
- Historical Trends - Collects Up to 4 months Data
- Air Proving Switch - Amp Draw (< 7)
- Pump Exercise
- Event History - Up to 3000 Alarms, Lockouts and Cycle & Run Times
- 3 Sets of Pump Contacts (Boiler, DHW, Steam)
- 24VAC Contacts for Enable/Disable Sensor, DHW Priority
- Water Flow Switch
- Supply & Return Water Temperature Sensors
- Flue Gas Temperature Sensor
- Air Vent Valve
- Boiler Drain Valve
- Condensate trap
- Stacking boiler brackets
- Pressure & Temperature Gauge
- ASME Safety Relief Valve, 50 Psig

### VENTING
- 3-in-1 Vent Connector
- CPVC, Polypropylene or Stainless Steel
- Ventilation Test Port
- PVC Vent Kit
- 30" CPVC Pipe, Schedule 40
- 90° elbow, Schedule 80
- (2 qty) vent terminals w/ rodent screens
- Vent - Horizontal or Vertical (Cat. IV)
- Up to 100 Equivalent Feet

### CONCERT BOILER CONTROL
- Dashboard - Color Touchscreen Display, 4.3"
  - Intuitive Icon Navigation
  - "Quick" Setup Menus
  - "Real Time BTU/H Display"
- Two (2) Temperature Demand Inputs
  - Outdoor Air Reset Curve for Each Input
  - Time of Day Setback Capability
  - Ramp Delay
- Three (3) Pump Control
  - Boiler Pump With On/Off or Variable Speed Control
  - Domestic Hot Water (DHW) Pump
  - System Pump
  - Alternative Control to Isolation Valve, Combustion
  - Air Damper or Standby Loss Damper
- Energy Efficiency Enhancer
  - Anti-Cycling Technology
  - Multiplier boiler base load common rate
  - Outdoor Air Temperature Reset Curve
  - Warm Weather Shutdown
- Unmatched Archives
  - Identifies Fault
  - Describes Possible Problems
  - Provides Corrective Actions
  - Time/Date Stamp on Alarms and Lockouts

### Other Features
- Factory Default Settings
- Three Level Password Security
- Frost Protection
- Contractor Contacts (Up to 3)
- Low Water Flow Safety Control & Indication
- Central Heat, DHW, Sequencer and Fan
- Built-in Brown-Out Protection

### Unmatched Archives

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* Unique to Thermal Solutions