ADVANCED HEATING AND HOT WATER SYSTEMS
High Efficiency Product
With a 95% maximum operating thermal efficiency, this product uses less energy to meet desired heating loads and significantly reduces energy costs.

The Alternative to Mid-Efficiency Products
With ample thermal mass and no primary/secondary piping required, this unit is a replacement for mid-efficiency units.

Hydronic Stabilization
Stored hot water, or “thermal mass”, in the stainless steel tank provides a buffer against cycling during low load conditions.

Low Maintenance Design
The advanced hybrid cupronickel/stainless steel heat exchanger eliminates scale buildup through rapid thermal expansion/contraction, and its “down fire” characteristics allow for rapid removal of acidic condensate.

Single Loop Installation
The heat exchanger, constantly surrounded by water, is protected against “flashing” due to low flow conditions, eliminating the need for a primary/secondary piping setup.
The Pioneer Heating Appliance meets or exceeds the competition in all 9 of the categories highlighted in the chart above. The cutting-edge features, technological advancements, ease of serviceability, and energy savings make this product a superior alternative to mid-efficiency cast iron and copper fin boilers.

The figures above are based on averages. Data was collected from various competitor sources. *The Pioneer qualifies as a condensing commercial water heater.

<table>
<thead>
<tr>
<th></th>
<th>Pioneer Heating Appliance</th>
<th>Atmospheric Cast Iron Boilers</th>
<th>Atmospheric Copper Fin Boilers</th>
<th>Power Vented Non-Condensing Cast Iron Boilers</th>
<th>Condensing Low Mass Boilers</th>
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</thead>
<tbody>
<tr>
<td>Thermal Efficiency</td>
<td>95%</td>
<td>≤ 85%</td>
<td>≤ 85%</td>
<td>≥ 87%</td>
<td>≥ 90%</td>
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<tr>
<td>Modulation</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
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<td>Vent Category</td>
<td>IV</td>
<td>I</td>
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<td>II or IV</td>
<td>IV</td>
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<td>Required Vent Materials</td>
<td>PVC or AL29-4C Stainless Steel</td>
<td>Type “B” Materials or lined chimneys</td>
<td>Type “B” Materials or lined chimneys</td>
<td>AL29-4C Stainless Steel</td>
<td>PVC or AL29-4C Stainless Steel</td>
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<tr>
<td>Controls</td>
<td>Modulating</td>
<td>On/Off</td>
<td>On/Off or Staged</td>
<td>On/Off or Staged</td>
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<tr>
<td>Piping Setup</td>
<td>Single Loop</td>
<td>Single Loop</td>
<td>Primary/Secondary</td>
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<tr>
<td>Built in Air/Dirt Separator</td>
<td>YES</td>
<td>NO</td>
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<td>Thermal Mass for System Stabilization</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
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<td>Eligible for Federal Tax Credit</td>
<td>YES*</td>
<td>NO</td>
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</table>
A Closer Look At HTP’s
Pioneer Heating Appliance

Maintenance and Service Made Easy

Low maintenance heat exchanger design: 5” diameter combustion tube which connects to 1-1/8” down firing spiral tubes.

The Pioneer’s entire combustion and control system can be accessed by removing a light, molded cover.

Easy access to control board, display and field connection board without the need for tools.

The gas valve/burner assembly is detached by removing 6 simple screws and one end of the flexible gas line to the valve.
EASE OF INSTALLATION

- Boiler and Buffer Tank in One
- No Boiler Loop Required
- Direct Connection to the Primary Heating Loop
- Low Pressure Drop

- PVC Venting Material
  - Easier Installation
  - Reduced Cost

- Simplified Retrofitting for Cast Iron Boilers
- Intake Combustion Air Pulled from Room

Advancing Hydronics Technology...
Pioneer Heating Appliance
Dimensions and Specifications

### Pioneer Dimensions and Specifications

<table>
<thead>
<tr>
<th>MODEL #</th>
<th>MODULATION RANGE</th>
<th>AIR INTAKE/EXHAUST VENT SIZE</th>
<th>SUPPLY/RETURN SIZE</th>
<th>AIR VENT</th>
<th>GAS CONN.</th>
<th>SHIPpping WT. (lbs.)</th>
<th>GALL.</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>J</th>
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<tr>
<td>PHR100-55</td>
<td>33,000-100,000</td>
<td>2”</td>
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<td>55</td>
<td>23”</td>
<td>53”</td>
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<td>22”</td>
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All standard Pioneers are built as natural with LP conversion kits included.

### Standard Features
- Up to 95% Thermal Efficiency
- Modulating Burner
- 3:1 Turndown Ratio
- Venting
- Room Air Intake
- Concentric
- Flexible Vent Pipe
- Single Loop Installation
- 12 Year Limited Warranty

### Included in the Box
- Pressure and Temperature Gauge
- 30 PSI Temperature and Pressure Relief Valve
- Intake PVC Tee w/ Screens
- Exhaust PVC Coupling w/ Screens
- Installation Manual
- Outdoor Sensor

### Optional Equipment
- System Sensor
- Indirect Tank Sensor
- 3”, 4", 6” Stainless Steel Outside Termination Vent Kit
- 3” PVC Concentric Vent Kit
- U.L. 353 Compliant Low Water Cutoff w/ Manual Reset
- Alarm System to Monitor Failures
- PC Connection Kit
- Condensate Neutralizer

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