Thermax Thermacast™ Electric Gas Trim Heaters are dependable, high quality, fully automatic, compact, low pressure drop units ideally suited for warming gas downstream of ambient vaporizers and other industrial gas heating applications. These units are designed to warm gas, at the rated capacity, by 100°F. The outlet temperature is automatically maintained by cycling the heaters on and off via a feedback loop using an adjustable temperature controller and temperature probe.

CONSTRUCTION:
Stainless steel heat transfer coils are cast into a solid aluminum block. Electric cartridge heaters, moisture sealed and replaceable, are inserted into precision-drilled heat sinks in the aluminum block. Controls are enclosed in a NEMA 4 rated weatherproof electrical enclosure.

**Standard features**
- Replaceable stainless steel cartridge heaters
- NEMA 4 Electrical Cabinet
- Adjustable outlet temperature from 40°F to 120°F
- Fully automatic operation
- Compact design
- Redundant high temperature switches for safety
- Stainless steel casting jacket with insulation for corrosion resistance, low maintenance, improved appearance, and safety
- Thermacast™ unit comes fully factory wired, tested and ready to install
- Quick delivery of standard units
- Built in conformance with ASME B31.3 Process Piping Code
- 300 series Stainless Steel wetted parts
- Design pressure of 500 PSIG
- Terminals to allow for emergency shutdown
- Dry contacts for main contractor ON and high block temperature limit
- Auxiliary 120V terminals (2 A max.)
- The components and electrical cabinet are all UL/cUL marked, and the heating elements are all UL recognized and CSA certified.
- All-Canada CRN

**Standard Options**
- Low Temperature Cut Off (LTCO) Kit featuring a temperature sensor and solenoid valve to prevent the flow of cold gas downstream of the trim heater, 500 PSIG MAWP (add on item to any unit)
- “All-Weather” Package including NEMA 4X main high-voltage cabinet and side 120V cabinet, and internal cabinet heater
- Junction box with remote cabinet for hazardous area installation

**Custom Options**
- Thermacast™ units for Carbon Dioxide, Carbon Monoxide, Ethanol, Ammonia, Chlorine, Ethylene, Methanol, SO₂, N₂O, etc.
- Gas outlet temperature from -40°F to 400°F
- Design pressure to 12,000 PSIG
- High Purity, electropolished units
- Monel, Hastelloy or 316 Stainless Steel wetted part construction materials
- Class 1, Division 2, Group B, C, or D Hazardous Area Purge Package
- Remote Cabinet Option
- Custom Inlet/Outlet Connections or Flanges
- Custom controls and contacts

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**Simplified Flow Diagram**

1. **Cryogenic Tank**
2. **Thermacast™ Gas Heater**
3. **Ambient Vaporizer**
4. Gas to use point, temperature set point is adjustable
5. Optional LTCO

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**Thermax.**
A Chart Industries Company
GAS TRIM HEATERS

**Thermacast™ Gas Trim Heaters**

<table>
<thead>
<tr>
<th>Model</th>
<th>Nominal Power (kW)</th>
<th>Voltage (Volts)</th>
<th>N₂/O₂ Capacity (SCFH)</th>
<th>Ar/He Capacity (SCFH)</th>
<th>Dimensions</th>
<th>Weight (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT3</td>
<td>3</td>
<td>120, 240, 480, 600</td>
<td>5,000</td>
<td>7,000</td>
<td>26x14x28</td>
<td>3/4&quot;</td>
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<tr>
<td>TT15</td>
<td>15</td>
<td>-</td>
<td>12.5</td>
<td>-</td>
<td>3/4&quot;</td>
<td>60</td>
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<td>30</td>
<td>-</td>
<td>25,000</td>
<td>30,000</td>
<td>26x14x56</td>
<td>1&quot;</td>
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<td>-</td>
<td>36, 18, 14</td>
<td>36, 14, 14</td>
<td>28x14x58</td>
<td>1-1/2&quot;</td>
</tr>
<tr>
<td>TT100</td>
<td>100</td>
<td>-</td>
<td>50,000</td>
<td>60,000</td>
<td>28x19x58</td>
<td>1-1/2&quot;</td>
</tr>
<tr>
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<td>-</td>
<td>83,000</td>
<td>100,000</td>
<td>28x19x58</td>
<td>2-1/2&quot;</td>
</tr>
</tbody>
</table>

* TT3 is a single phase, wall-mounted unit
* Nominal power and capacity based on standard heater tolerances: +5/-10%
* Thermacast™ Trim Heaters are designed to raise the temperature of gas, at the above rated capacity, by 100°F.

Note: If the actual voltage differs from the design voltage of the vaporizer, the power and capacity will be effected by the ratio of \((\frac{V_{actual}}{V_{design}})^2\).

All tables shown in this Datasheet are intended as a guide that reflect our experience on these models. Actual performance may vary. Please call Thermax Inc. for guidance on specific applications.

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**NEMA 4 Electrical Control Cabinet**

**High Temperature Insulated Leads**

**High Temperature Switches for Safety**

**Replaceable Cartridge Heaters**

**Temperature Controller**

**Pipe Connection:**
- Inlet
- Outlet

**Thermax Vortex Coil Flow Exchanger**

**Stainless Steel Jacket with Insulation**

**TT3 is a single phase wall mount unit:**
Standard Dimensions: 24" high x 20" wide x 12" deep