The Cata-Dyne™ LH Line Heater prevents equipment freezing and possible hydrate formation during pressure reduction at natural gas regulating sites. The LH Line Heater heats the gas stream using infrared radiant heat transfer, eliminating the use of burners, glycol fluid and high maintenance heat exchange systems. It is also used to condition fuel gas for natural gas fired turbines or engines, and for heating gas and diluent streams in a variety of process applications. Custom engineered units for nonstandard applications are available.

The Cata-Dyne™ LH Line Heater’s use of direct infrared heat transfer eliminates the need for traditional gas fired glycol bath systems. The elimination of glycol based heat transfer systems results in a more environmentally favourable installation. High field maintenance and operating costs are all eliminated by the Cata-Dyne™ LH Line Heater.

Applications

Cata-Dyne™ Line Heaters are used for a variety of applications in the oil & gas, pipeline, midstream, gas distribution, and power generation industries. Common applications include:

- Heating high pressure natural gas prior to pressure reduction to prevent equipment freezing and the formation of hydrates.
- Conditioning fuel gas for natural gas fired turbines and engines.
- Heating of gas and diluent streams in a variety of process applications.

Features

- Infrared radiant energy provided by the silent Cata-Dyne™ WX Gas Catalytic Heater is NOx free providing the cleanest and quietest heating system available.
- The flanged multi-pass coil heat exchanger is designed and built to the ASME B31.3 Code for Process Piping with Canadian Registration Number.
- Enclosures feature galvanized steel structures with stainless-steel cladding, limiting corrosion and maintenance.
- Control options from manual stop/start with and without temperature control to remote start/stop and automated feedback pneumatic or electric temperature control.
- Automatic units feature engineered control panels with PLC control systems.
- Infrared heat is accurately controlled to meet process temperature requirements while economizing operating costs.
- Standard high temperature shutdowns, optional low flow shutdowns available.
- Fuel gas system designed and built in accordance with CSA/Can – B149.1 and NFPA 54.
- Electrical system designed and built in accordance with CSA/Can – C22.2 and NEC (NFPA 70).
- Catalytic heaters conform to ANSI Z83.20a-2010/ CSA 2.34a-2010 standard for Gas-Fired Low Intensity Heaters and are CSA and FM certified for use in Class I, Division 1 or 2, Group D hazardous locations.

Table 15 – Line Heaters

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Heater Input (Btu/hr)</th>
<th>External Dimensions (in mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH-40</td>
<td>10,000</td>
<td>56 x 48 x 84</td>
</tr>
<tr>
<td>LH-60</td>
<td>15,000</td>
<td>56 x 48 x 84</td>
</tr>
<tr>
<td>LH-80</td>
<td>20,000</td>
<td>60 x 60 x 80</td>
</tr>
<tr>
<td>LH-100</td>
<td>25,000</td>
<td>78 x 68 x 90</td>
</tr>
<tr>
<td>LH-160</td>
<td>40,000</td>
<td>160 x 160 x 160</td>
</tr>
</tbody>
</table>

Hybrid Capabilities

Only Thermon Heating Systems, Inc. offers the optional Catalytic/Electric Hybrid Line Heater. A secondary electric gas circulation heater is used to augment the capabilities of the base catalytic line heater. The hybrid design provides enhanced responsiveness to gas flow transients and deeper turn-down capabilities.

Note:
1. Custom designs and Btu ratings are available upon request.
2. Heater output between minimum and maximum values is manually selected on manual and sequential models.
3. Automatic zone control is only available with the automatic model.
## Model Coding

<table>
<thead>
<tr>
<th>LH</th>
<th>40</th>
<th>M</th>
<th>NT</th>
<th>12</th>
<th>1</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Series</td>
<td></td>
<td>Start-up Type</td>
<td></td>
<td>Start-up Voltage</td>
<td></td>
<td>Flange Rating</td>
</tr>
<tr>
<td>LH – Line Heater</td>
<td></td>
<td>M - Manual</td>
<td></td>
<td>(VAC) 12, 120, 208, 240, 480, 600</td>
<td></td>
<td>600 - 600 ANSI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S - Sequential</td>
<td></td>
<td></td>
<td></td>
<td>900 - 900 ANSI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A - Automatic (engineered option)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Heater Input
- 40 - 40,000 Btu/hr
- 60 - 60,000 Btu/hr
- 80 - 80,000 Btu/hr
- 100 - 100,000 Btu/hr
- 160 - 160,000 Btu/hr

### Temperature Control
- NT - Fixed heat output, outlet temperature not controlled
- T* - Variable heat output, low/high, outlet temperature controlled.
  
  *Variable control from 40% to 100% of heater output.

### Start-up Type
- M - Manual
- S - Sequential
- A - Automatic (engineered option)

### Start-up Voltage (VAC)
- 12, 120, 208, 240, 480, 600

### Flange Size
- 1 - 1”
- 2 - 2”
- 3 - 3”

### Flange Rating
- 600 - 600 ANSI
- 900 - 900 ANSI

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**Figure 8 – Cata-Dyne™ Line Heater**
Figure 9 – Cata-Dyne™ Custom Engineered Line Heater