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 non-standard 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 favorable 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.
- 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 Z83.20b-2011/CSA 2.34b-2011 standard for Gas-Fired Low Intensity Heaters and are CSA and FM certified for use in Class 1, Division 1 or 2, Group D hazardous locations.

**TABLE 16 - Cata-Dyne™ Line Heater Models**

<table>
<thead>
<tr>
<th>Model</th>
<th>Heater Input (Btu/hr)</th>
<th>External Dimensions in (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>LH-40</td>
<td>10,000</td>
<td>40,000</td>
</tr>
<tr>
<td>LH-60</td>
<td>15,000</td>
<td>60,000</td>
</tr>
<tr>
<td>LH-80</td>
<td>20,000</td>
<td>80,000</td>
</tr>
<tr>
<td>LH-100</td>
<td>25,000</td>
<td>100,000</td>
</tr>
<tr>
<td>LH-160</td>
<td>40,000</td>
<td>160,000</td>
</tr>
</tbody>
</table>

**Hybrid Capabilities**
Only CCI Thermal 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>Prefix</th>
<th>Model</th>
<th>Start-up Type</th>
<th>Temp. Control</th>
<th>Start-up Voltage</th>
<th>Flange Size</th>
<th>Flange Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH</td>
<td>40</td>
<td>M</td>
<td>NT</td>
<td>12</td>
<td>1</td>
<td>600</td>
</tr>
</tbody>
</table>

- **NT** Fixed heat output, outlet temperature not controlled
- **T** Variable heat output, low/high, outlet temperature controlled

- **M** Manual
- **S** Sequential
- **A** Automatic (engineered option)

<table>
<thead>
<tr>
<th>Model</th>
<th>Temp. Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>40,000 Btu/hr</td>
</tr>
<tr>
<td>60</td>
<td>60,000 Btu/hr</td>
</tr>
<tr>
<td>80</td>
<td>80,000 Btu/hr</td>
</tr>
<tr>
<td>100</td>
<td>100,000 Btu/hr</td>
</tr>
<tr>
<td>160</td>
<td>160,000 Btu/hr</td>
</tr>
<tr>
<td>XXX</td>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flange Size</th>
<th>Flange Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 in</td>
<td>600 ANSI</td>
</tr>
<tr>
<td>2 in</td>
<td>900 ANSI</td>
</tr>
</tbody>
</table>

- 12 VDC
- 120 VAC
- 208 VAC
- 240 VAC
- 480 VAC
- 600 VAC

*CVariable control from 60% to 100% of heater output.*

**Cata-Dyne™ LH Line Heater**

![Diagram of Cata-Dyne™ LH Line Heater](image-url)
Cata-Dyne™ Custom Engineered Line Heater

- Exterior Stainless Steel Panels
- Cata-Dyne™ Gas Catalytic Heaters
- Manual or Automatic Gas Train Options
- Gas Inlet
- Gas Outlet

Cata-Dyne™ Tube Heat Exchanger

- Stainless Steel Tubing Frame
- Offset Serpentine Tube Heat Exchanger
# LH Line Heater Request For Quote Form

## Client Information:
- **Company Name:** ______________________________
- **Address:** ____________________________________
- **City, State (Prov):** ___________________________
- **Country, Zip (Postal Code):** ____________________
- **Contact Name:** ______________________________
- **Phone / Fax:** __________________________________
- **E-mail:** ______________________________________

## Proposal Type Required:
- [ ] Budgetary   [ ] Formal Quote
- **Other:** _______________________________________

## Required Date for Proposal:
- ____________________

## Anticipated Shipping Date for Project:
- ____________

## Project Name:
- ____________________

## Application Summary:
- ________________________________________________
- ________________________________________________
- ________________________________________________

## Piping:
- **Diameter:** ____________________ [ ] in/ [ ] mm
- **Flange Rating ANSI/ASME:** ________________
- **Design Temperature:** ________________ [ ]°F/[ ]°C
- **Design Pressure:** ________________ psig (kPag)

## Pressure Reduction:
- **Stage One:** ________________ psi (kPa)
- **Stage Two:** ________________ psi (kPa)
- **Stage Three:** ________________ psi (kPa)

## Gas Flow Rate:
- **Maximum:** ________________ SCFM
- **Minimum:** ________________ SCFM

## Electrical/Controls:
- **Supply Power:** ________________ volt/phase
  - [ ] Automated System   [ ] Manual System

## Area of Classification:
- [ ] Non-Hazardous
  - or
- [ ] Hazardous:
  - **Class:** ____   **Div:** ____   **Group:** ____   **“T” Code:** ____
    - [ ] Indoor
    - [ ] Outdoor

## Pressure:
- **(Maximum 4500 psig/31,026 kPag)**
  - **Inlet Pressure:** ________________ psig (kPag)

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To receive your quote, fax this page to: **905-829-4430**
Attention: Projects