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.

The heart of each LH Line Heater is the industry standard Cata-Dyne™ WX Gas Catalytic Heater. The Cata-Dyne™ WX Heater brings its trademark quality, durability and performance efficiency to provide the most consistently reliable and efficient low emission radiant heat source available.

The Cata-Dyne™ WX Heater is the first and only explosion-proof catalytic heater in North America to conform to the new ANSI Z83.20b-2011/CSA 2.34b-2011 standard for Gas-Fired Low Intensity Heaters.

The LH Line Heater is available in five standard sizes ranging from 40,000 to 160,000 Btu input (see Table 1). The Cata-Dyne™ LH Line Heater is certified for Class 1, Division 1 or 2, Group D hazardous locations. This certification allows the LH Line Heater to be installed directly in classified areas for a compact installation compared to traditional fired glycol water bath systems.

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Attention: Projects
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Line Heater 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.

Hybrid Design 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.

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.

Superior Technology

- The industry’s cleanest operating catalytic heater. The catalytic oxidation process is NOx free, producing only CO₂ and water as combustion byproducts.
- Maximized heat transfer surface area due to minimal coil spacing and the maximum number of series passes possible in a fixed vertical space.
- Vertically stacked heaters are the ideal configuration for effective thermal draft ventilation of heater faces and removal of CO₂ and water vapour byproduct of the catalytic oxidation process.
Cata-Dyne™ WX Gas Catalytic Heater

Infrared radiant energy provided by the silent Cata-Dyne™ WX Gas Catalytic Heater is NOx free providing the cleanest and quietest heating system available.

Only Cata-Dyne™ Explosion-proof 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.

Vertically positioned heaters produce the most effective thermal draft, ventilation of heater faces and removal of water vapour created by the catalytic oxidation process.

Heat Exchanger Coil

The flanged multi-pass coil heat exchanger is designed and built to the ASME B31.3 Code for Process Piping. Available ANSI 600 and 900 flange ratings.

High velocity turbulent flow through uniform diameter passage. Maximized heat transfer surface area due to minimal coil spacing and increased number of series passes possible in a fixed vertical space.

External Enclosures

Enclosures feature galvanized steel structures with stainless-steel cladding, limiting corrosion and maintenance.

Cata-Dyne™ WX Gas Catalytic Heater

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Electrical System

Electrical system designed and built in accordance with CSA/Can – C22.2 and NEC (NFPA 70). Available DC or AC startup.
Heating of gas and diluent streams in a variety of applications includes:

- Heating high pressure natural gas prior to pressure distribution, and power generation industries.

Applications in the oil & gas, pipeline, midstream, gas process applications.

Cata-Dyne™ Line Heaters are used for a variety of applications. A secondary electric gas circulation heater is used to augment the capabilities of the base catalytic line heater. The hybrid design provides enhanced temperature control.

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 temperature control.

Control Options

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.

High Temperature Shutdowns

Standard high temperature shutdowns, optional low flow shutdowns available.

Fuel System Design

Fuel gas system designed and built in accordance with CSA/Can – B149.1 and NFPA 54.

Integral Flo-Dri fuel gas filter ensures high quality fuel gas.
**TABLE 1: Cata-Dyne™ LH Series Standard Model Sizing**

<table>
<thead>
<tr>
<th>Model</th>
<th>Heater Input (Btu/hr)</th>
<th>External Dimensions, in (mm) Length x Width x Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH-40</td>
<td>Minimum: 10,000, Maximum: 40,000</td>
<td>56 x 48 x 84 (1420 x 1219 x 2286)</td>
</tr>
<tr>
<td>LH-60</td>
<td>Minimum: 15,000, Maximum: 60,000</td>
<td>56 x 48 x 84 (1420 x 1219 x 2286)</td>
</tr>
<tr>
<td>LH-80</td>
<td>Minimum: 20,000, Maximum: 80,000</td>
<td>78 x 68 x 90 (1980 x 1725 x 2286)</td>
</tr>
<tr>
<td>LH-100</td>
<td>Minimum: 25,000, Maximum: 100,000</td>
<td>78 x 68 x 90 (1980 x 1725 x 2286)</td>
</tr>
<tr>
<td>LH-160</td>
<td>Minimum: 40,000, Maximum: 160,000</td>
<td>78 x 68 x 90 (1980 x 1725 x 2286)</td>
</tr>
</tbody>
</table>

**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.
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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)

Temperature:
Heater Inlet: ______________ °F/°C
Regulator Temp. Limit: __________ °F/°C
Temp. After Regulation: __________ °F/°C

Pressure: (Maximum 4500 psig/31,026 kPag)
Inlet 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 Classification:
☐ Non-Hazardous
☐ Hazardous:
☐ Indoor ☐ Outdoor

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