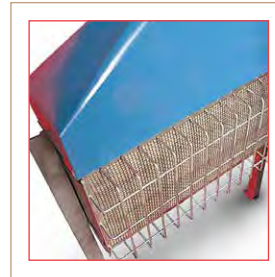
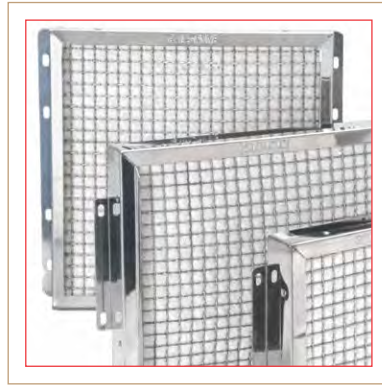
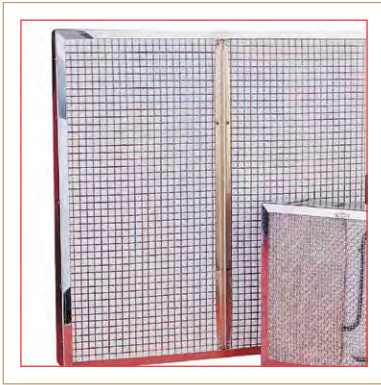




CCI Thermal
Technologies INC.
Heating and Filtration Solutions



Cata-DyneTM

Explosion-Proof Gas Catalytic Heaters

Explosion-Proof

Gas Catalytic Heaters

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Edmonton, Alberta



Houston, Texas



Orillia, Ontario



Oakville, Ontario



Denver, Colorado

As a leader in heating and filtration solutions, CCI Thermal Technologies Inc. is committed to ongoing research, product development and above all, excellence in customer service. With facilities across North America, CCI Thermal manufactures seven of the top brands in industrial heating in addition to a comprehensive line of engineered industrial filtration products including:

Cata-Dyne™ [Explosion-Proof Gas Catalytic Heaters](#)

Ruffneck™ [Heaters for the Harshest Environments](#)

Caloritech™ [Engineered Electric Heat](#)

3L Filters™ [Engineered Filtration Systems](#)

Norseman™ [Electric Explosion-Proof Heaters](#)

DriQuik™ [Infrared Oven Components](#)

Fastrax® [Track and Switch Heaters](#)

Cata-Dyne™ gas catalytic explosion-proof heaters are available in various models with Btu ratings ranging from 1,000 to 48,000 Btu/hr (0.3 kW to 14.0 kW). In addition, these heaters can be banked together to obtain any Btu (kW) rating desired. CCI Thermal's Cata-Dyne™ heaters are competitively priced, simple to install and operate, and require minimal maintenance under normal operating conditions. These heaters are economical to operate and highly efficient.

We invite you to visit www.ccithermal.com to view the broad range of innovative industrial heating products manufactured by CCI Thermal Technologies Inc.

Locations

Caloritech™ Catalog: Section A
Elements and Specialty Heaters

Calvane™ heaters, tubular heaters, bolt heaters, tubular band heaters, mitosis heaters, finned tubular heaters, cartridge heaters, strip and finned strip heaters, hot plate/drum heaters, cast-in heaters, transit heaters.



Caloritech™ Catalog: Section D
Engineered Products

circulation heaters, heat transfer systems, custom engineered products, panel heaters, control panels, technical data.



Caloritech™ Catalog: Section B
Immersion Heaters

screwplug heaters, domestic immersion heaters, urn heaters, flange heaters, over-the-side heaters, pipe insert heaters, gate and gain heaters.



Caloritech™ Catalog: Section E
Boilers

hot water boilers, steam boilers, condensate receiver packages, blow off tanks, packaged circulation heaters, calorifiers.



Caloritech™ Catalog: Section C
Air and Space Heaters

infrared radiant heaters, panel heaters, convection heaters, commercial and explosion-proof duct heaters, unit heaters, gate and gain heaters.



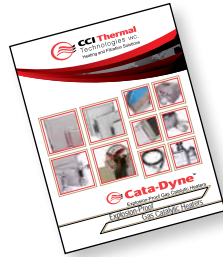
Caloritech™ Catalog: Section F
Controls

electronic controls, industrial thermostats, explosion-proof thermostats, thermostats, thermocouples and thermowells, x-Max® explosion-proof housings.



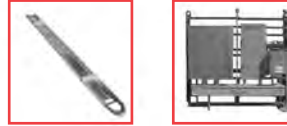
Cata-Dyne™ Catalog

explosion-proof infrared gas catalytic heaters, high temperature industrial infrared heaters, infrared gas catalytic heating systems, accessories.



Fastrax® Catalog

track and switch heaters, custom designed automated control systems, accessories.



Ruffneck™ Catalog

explosion-proof electric air heaters, heat-exchanger unit heaters, corrosion-resistant washdown unit heaters, convection heaters, thermostats.



DriQuik™ Catalog

long, medium and short wavelength infrared oven components and control panels.



3L Filters™ Catalog

filters, strainers, separators, dehydrators, fuel monitors, clay treaters, head lifts, closures, pressure vessels, engineered products, nuclear, aviation general industrial products.



Norseman™ Catalog

natural convection explosion-proof heaters, forced air explosion-proof heaters, thermostats.



CCI Thermal Technologies Inc.

Putting Safety First

CCI Thermal Technologies Inc. has always been committed to the safety and well being of our customers. We are familiar with the safety regulations of heating products in a wide variety of environments and ensure that our products meet or exceed the requirements for their applications. CCI Thermal Technologies Inc. takes great pride in its lines of certified products.

Visit us at www.ccithermal.com

Our website offers on-line PDF catalogs, product specifications, installation manuals, and technical documentation 24 hours a day. Additionally, you will find easy access to anyone of our factory representatives, regional sales managers or customer service personnel.

Quality

All our business processes are steered by the principles of ISO 9001 and ASME, providing an operational framework that places emphasis on continual improvement and customer satisfaction.

Cata-Dyne™ Explosion-Proof Gas Catalytic Heaters

The Industry Standard

Cata-Dyne™ heaters boast the most efficient conversion of hydrocarbon fuels to infrared energy compared to any competitive brand on the market today, with over a quarter of a million units in service during our 40-year history and an exceptional safety record.

Designed for both hazardous and non-hazardous applications, Cata-Dyne™ is the benchmark in innovation for space or spot heating.

Customer Care

CCI Thermal's state of the art, 105,000 square foot, Edmonton manufacturing facility is designed to ensure our worldwide customer base of the most efficient explosion-proof and general purpose infrared gas catalytic heaters and heating systems for use in industrial heating. We are the only fully integrated infrared gas catalytic manufacturing plant in the world, sharing our unique technology and manufacturing techniques with three other manufacturing facilities. This enables us to exert greater quality control over our product lines and allows us to respond quickly to our customer's special heating application needs.

CCI Thermal has set the industry standard for total quality customer service by offering same or next day product delivery. We also refurbish "well used" heaters into "like new" condition in our repair service center.

Every heater manufactured or repaired by CCI Thermal undergoes stringent safety and performance testing in accordance with all applicable Safety Certification standards including CSA and FM. Our ongoing commitment to the safety and well being of our customers includes free product safety instruction sessions by our field sales professionals covering everything from an overview of basic infrared technology to detailed explanations on how our unique Cata-Dyne™ catalytic technology works.

Infrared Technology

- Infrared is smart. it heats only what needs to be heated: personnel or equipment within a facility, not the surrounding air
- Infrared is direct. it takes less time and energy to do the job
- Infrared is versatile. it handles a large variety of process and space heating applications
- Infrared is environmentally friendly. it helps surpass today's ever-tightening standards

Infrared radiation is a form of electromagnetic energy that is generated by the vibration and rotation of atoms and molecules within all objects with temperatures above absolute zero (0°Kelvin; -273°C; or -459°F).

Electromagnetic energy, which travels at the speed of light, is comprised of waves that can be measured both electrically and magnetically.

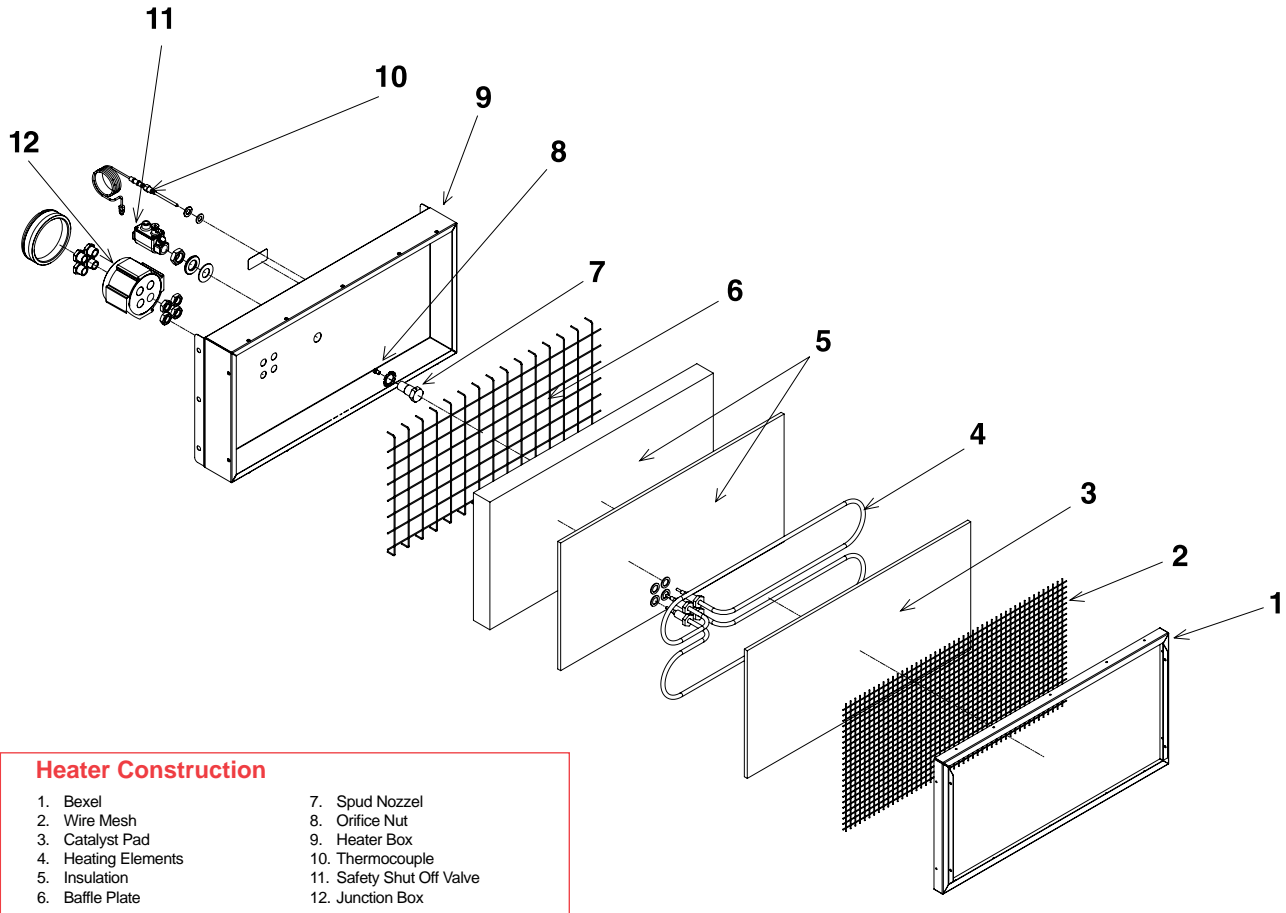
Infrared (literally meaning below or beyond the red) is located between the visible and microwave portions of the electromagnetic spectrum and shares many of the same properties of visible light, except it has a longer wavelength. When infrared waves encounter a solid object they can be reflected (bounced off), diffracted (scattered), refracted (bent), transmitted (pass through), or absorbed by the object. Several of these effects can take place at the same time.



Infrared Technology

How Our Cata-Dyne™ Operates

- Power is applied to the electrical elements which provide the required 120°C (250°F) preheat temperature for the catalyst pad
- Fuel enters the rear of the heater through an orifice and a gas distribution system
- The baffle plate prevents the insulation from choking off the fuel entry points
- The first layer of insulation allows the fuel to build up enough pressure to provide even gas distribution throughout the heater
- The fuel passes through the heater insulation and comes in contact with the under side of the catalyst
- With the catalyst pad at the preheat temperature, the fuel is converted into infrared energy

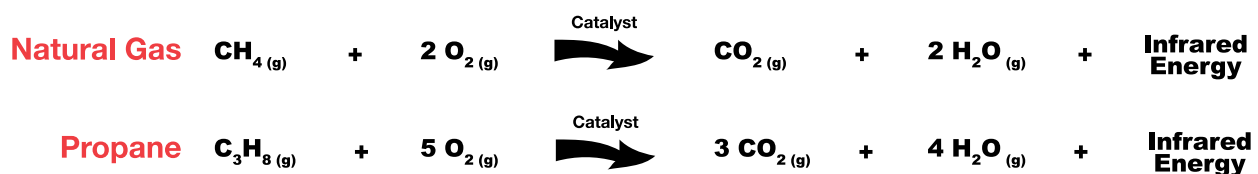


Heater Construction

- | | |
|---------------------|---------------------------|
| 1. Bexel | 7. Spud Nozzel |
| 2. Wire Mesh | 8. Orifice Nut |
| 3. Catalyst Pad | 9. Heater Box |
| 4. Heating Elements | 10. Thermocouple |
| 5. Insulation | 11. Safety Shut Off Valve |
| 6. Baffle Plate | 12. Junction Box |

How the Catalyst Works

- Once the catalyst pad has reached the activation temperature of 120°C (250°F) the pad is ready to emit infrared energy
- Natural gas or propane and atmospheric oxygen chemically react with the proprietary catalyst in the pad
- The reaction creates infrared energy with water and carbon dioxide as by-products
- The fuel should be clean dry gas; contaminants such as hydrogen sulphide, oil and moisture will affect the longevity of the pad



How Our Cata-Dyne™ Operates

Model Coding

W 1224 - 1 1 1 1 1 1

MODEL SERIES
 W - WX SERIES
 MK - MK SERIES
 H - BX SERIES
 WXS - WXS SERIES

HEATER SIZE

HEATER VOLTAGE
 0 - NO ELEMENTS
 1 - 12 VOLT
 2 - 115 VOLT
 3 - 208 VOLT
 4 - 240 VOLT
 5 - 480 VOLT
 6 - 600 VOLT
 7 - 24 VOLT
 8 - 280 VOLT
 9 - 12 VOLT/375W

THERMAL SENSOR
 0 - NONE
 1 - THMCPL & SSOV
 2 - SINGLE POLE THMCPL
 3 - SNAPSWITCH (CLOSE ON RISE)
 4 - SNAPSWITCH (OPEN ON RISE)
 5 - THERMOSWITCH (CLOSE ON RISE)
 6 - THERMOSWITCH (OPEN ON RISE)
 7 - THMCPL & MERTIK VALVE
 8 - THMCPL & TAMPER RESISTANT SSOV

CATALYST PAD

X Series Pad	G Series Pad
1 - WX PAD	2 - "G" SERIES (6K)
4 - BX PAD (6K)	3 - "G" SERIES (8K)
5 - BX PAD (7K)	
6 - WX PAD (4K) CHS	

BOX BRACKET STYLE
 0 - NONE
 1 - SHORT SIDE
 2 - LONG SIDE
 3 - PERIMETER SIDE FLANGE
 4 - PERIMETER BACK FLANGE
 5 - FACE TABS
 6 - FLAT BRACKETS
 7 - ANGLE SIDE BRACKETS
 8 - OLD STYLE "L" BRACKETS
 9 - PERIMETER FLANGE, BACK LOADING

CERTIFICATION
 0 - NONE
 1 - CSA
 2 - FM
 3 - POLISH
 4 - CE
 6 - EAC

FUEL RATING
 1 - NATURAL (7" W.C.)
 2 - PROPANE (11" W.C.)
 3 - NATURAL (3.5" W.C.)
 4 - NATURAL (4.5" W.C.)

Note:
 Please call factory for the WXS.

WX Series Explosion-Proof Catalytic Heater

The Cata-Dyne™ WX Series infrared gas catalytic explosion-proof heaters are the industry standard for hazardous location heating needs. They are available in over twenty, three-inch depth cabinet sizes, with gas, electrical and accessory connections on the back side of the heater. These are the heaters of choice for many of our customers who have come to trust their reliability.

Applications

WX Series heaters are used in many different applications that involve spot or space heating where hazardous materials may be present.

These include:

- Comfort heating for industrial buildings and installations
- Freeze protection for equipment or components
- Drying or curing processes

Features

- Heater box constructed of 300 series stainless steel for corrosion protection
- Cata-Dyne™ proprietary explosion-proof catalyst pad.
- Standard 3/8" NPT gas connections
- Explosion-proof electrical junction box with standard 3/4" NPT connections
- Cata-Dyne™ heaters are designed to operate on either natural gas or propane
- Cata-Dyne™ heaters do not require electrical power to operate once they have been started
- Our explosion-proof catalytic technology is the most efficient in the industrial heating market
- Heater contains no moving parts and is designed to operate indefinitely when supplied with air and clean fuel
- Internal heater components such as our proprietary catalyst pad and preheat Caloritech™ tubular element are manufactured in-house

Certifications

The WX Series Cata-Dyne™ explosion-proof catalytic heaters are approved for the following:

- Canadian Standards Association (CSA) for use in Class I, Division 1 & 2, Group D hazardous locations
- Factory Mutual (FM) for use in Class I, Division 1, Group D hazardous locations. Temperature code T2C at an ambient temperature of 40°C (104°F)

See TABLE 1 on page 13 for fuel & electrical ratings.



WX

MKII Series Explosion-Proof Catalytic Heater

Our Cata-Dyne™ MKII Series explosion-proof catalytic heater has sleek side mount controls ideal for customers seeking to reduce costs with easier and quicker heater installation.

Applications

The Cata-Dyne™ MKII Series heaters are used in many different applications that involve spot or space heating where hazardous materials may be present.

These include:

- comfort heating for industrial buildings and installations
- freeze protection for equipment or components
- drying or curing processes

Features

- heater box constructed of 300 series stainless steel for corrosion protection
- Cata-Dyne™ proprietary explosion-proof catalyst pad.
- standard 3/8" NPT gas connections
- Cata-Dyne™ heaters are designed to operate on either natural gas or propane
- Cata-Dyne™ heaters do not require electrical power to operate once they have been started
- our QuikSTART heater technology reaches the catalytic threshold faster, bringing the heater to full operating temperature in half the time
- shorter thermocouple is nickel plated with an added polymer sleeve to enhance the corrosion protection for a stronger electromagnetic connection to the safety shut-off valve (SSOV)
- all gas control components as well as all electrical connections are side mounted for easy installation and access
- side mounted rating plate for easy visibility
- single start up element with the same power and wattage rating as used in the standard WX heaters dual elements
- heater contains no moving parts and is designed to operate indefinitely when supplied with air and clean fuel
- internal heater components such as our proprietary catalyst pad and preheat Caloritech™ tubular element are manufactured in-house



Certifications

The Cata-Dyne™ MKII Series explosion-proof catalytic heater is approved for the following:

- Canadian Standards Association (CSA) for use in Class I, Division 1 & 2, Group D hazardous locations
- Factory Mutual (FM) for use in Class I, Division 1, Group D hazardous locations. Temperature code T2C at an ambient temperature of 40°C (104°F)

See TABLE 3 on page 14 for fuel & electrical ratings

MKII

WXS Series Explosion-Proof Catalytic Heater

Thinner Space Saving Unit

The Cata-Dyne™ WXS Series "Slim Line" explosion-proof catalytic heater is everything our WX Series heater has become renowned for with the added feature of a more compact 1 ½" (38 mm) thick stainless steel cabinet. This design versatility allows it to be used in both traditional installations and in compact enclosures for valves, regulators and instrumentation.

Applications

Slim Line heaters are used in many different applications that involve spot or space heating where hazardous materials may be present.

These include:

- Comfort heating for industrial buildings and installations
- Freeze protection for equipment or components



Features

- These units are designed to run on either clean natural gas or propane
- All standard Cata-Dyne™ accessories can be used with the Slim Line models
- 1 ½" (38 mm) thinner than the standard Cata-Dyne™ heater
- Equipped with universal mounting brackets, the heater can easily be mounted into existing facilities or enclosures
- Heater boxes are constructed of 300 series stainless steel for maximum corrosion protection
- Units are fitted with standard 3/8" NPT gas connections.
- No power is needed to operate the heaters or their controls once the heater has started and the catalytic reaction has been established
- Our QuikSTART heater technology reaches the catalytic threshold faster bringing the heater to full operating temperature in half the time
- Our explosion-proof catalytic technology is the most efficient in the industrial heating market
- Heater contains no moving parts and is designed to operate indefinitely when supplied with air and clean fuel
- Internal heater components such as our proprietary catalyst pad and preheat Caloritech™ tubular element are manufactured in-house

Certifications

- FM, Class I, Division 1, Group D explosion-proof ratings

See TABLE 5 on page 15 for fuel & electrical ratings.

WXS

BX Series Catalytic Heater

'G' Series Catalytic Pad - Non-Hazardous Areas

The Cata-Dyne™ BX Series infrared gas catalytic heater with 'G' Series catalytic pad is designed for use in non-hazardous heating applications such as infrared drying and curing ovens. It is fitted with a patented high temperature catalyst pad, operates on either natural or propane fuel and is available in a wide variety of cabinet sizes.

Applications

The large surface area of the Cata-Dyne™ heater allows for efficient transfer of infrared heat that can be used in a variety of applications including:

- facility space heating
- process heating
- freeze protection
- comfort heating for personnel
- ovens

Features

- Internal heater components such as our proprietary catalyst pad and preheat Caloritech™ tubular element are manufactured in-house
- Multiple Btu input ratings and a variety of standard heater sizes available
- Offered in a variety of preheat voltages
- natural gas (NG) or propane (LPG) configurations
- Choice of manual control or electronic control options
- Multiple heater mounting bracket configurations available
- Heater contains no moving parts and is designed to operate indefinitely when supplied with air and clean fuel

Certifications

- **G Series** catalytic pad is certified by Canadian Standards Association (CSA) and Factory Mutual (FM) and (European standards) for non-hazardous area applications.

See TABLE 4 on page 14 for fuel & electrical ratings.

'X' Series Catalytic Pad - Hazardous Areas (Only sold in the USA)

BX Series heaters are used in many different applications that involve spot or space heating where hazardous materials may be present.

Applications

- Comfort heating for industrial buildings and installations
- Freeze protection for equipment or components
- Drying or curing processes

Features

- Heater box constructed of 300 series stainless steel for corrosion protection
- Standard 3/8" NPT gas connections
- Explosion-proof electrical junction box with standard 3/4" NPT connections
- Cata-Dyne™ heaters are designed to operate on either natural gas or propane
- Cata-Dyne™ heaters do not require electrical power to operate once they have been started
- Our explosion-proof catalytic technology is the most efficient in the industrial heating market
- Heater contains no moving parts and is designed to operate indefinitely when supplied with air and clean fuel
- Internal heater components such as our proprietary catalyst pad and preheat Caloritech™ tubular element are manufactured in-house

Certifications

- **X Series** catalytic pad is the industry standard for hazardous location heating needs.
- Factory Mutual (FM) for use in Class I, Division 1, Group D hazardous locations. Temperature code T2C at an ambient temperature of 40°C (104°F) This style heater is only sold in the USA.

See TABLE 2 on page 13 for fuel & electrical ratings.



BX

**TABLE 1 - Fuel and Electrical Rating Data
WX Series - CSA and FM**

Model No.	Maximum Gas Input		Minimum Gas Input				Maximum Gas Flow				Start-Up Amperage						
	Btu/hr (kW)		Btu/hr (kW)				CFH		m ³ /hr		12V	120V	208V	240V	380V	480V	600V
	Natural Gas & Propane		Natural Gas	Propane		Natural Gas	Propane	Natural Gas	Propane	12V	120V	208V	240V	380V	480V	600V	
W6x6	1,250	(0.366)	500	(0.147)	375	(0.110)	1.25	0.5	0.0354	0.0142	7.1	0.7	~	0.4	~	~	
W6x12	2,500	(0.733)	1,000	(0.293)	750	(0.220)	2.5	1.0	0.0708	0.0283	7.1	0.7	~	0.4	~	~	
W6x24	5,000	(1.465)	2,000	(0.586)	1,500	(0.440)	5.0	2.0	0.1416	0.0566	15.0	2.1	1.2	1.0	~	~	
W6x60	12,500	(3.663)	5,000	(1.465)	3,750	(1.099)	12.5	5.0	0.3540	0.1416	~	~	~	~	~	1.3	
W8x8	2,222	(0.651)	900	(0.264)	700	(0.205)	2.2	0.9	0.0629	0.0252	7.1	0.7	~	0.4	~	~	
W10x12	4,167	(1.221)	1,700	(0.498)	1,250	(0.366)	4.2	1.7	0.1180	0.0472	15.0	2.1	1.2	1.0	~	~	
W12x12	5,000	(1.465)	2,000	(0.586)	1,500	(0.440)	5.0	2.0	0.1416	0.0566	15.0	2.1	1.2	1.0	~	~	
W12x24	10,000	(2.931)	4,000	(1.172)	3,000	(0.879)	10.0	4.0	0.2832	0.1133	30.0	4.2	2.4	2.1	~	1.5	
W12x36	15,000	(4.396)	6,000	(1.758)	4,500	(1.319)	15.0	6.0	0.4248	0.1699	30.0	5.0	2.9	2.5	1.6	1.3	
W12x48	20,000	(5.861)	8,000	(2.345)	6,000	(1.758)	20.0	8.0	0.5663	0.2265	30.0	6.7	3.9	3.3	2.1	1.7	
W12x60	25,000	(7.327)	10,000	(2.931)	7,500	(2.198)	25.0	10.0	0.7079	0.2832	45.0	10.4	6.0	5.2	3.3	2.6	
W12x72	30,000	(8.792)	12,000	(3.517)	9,000	(2.638)	30.0	12.0	0.8495	0.3398	~	12.1	7.0	6.0	3.8	3.0	
W18x24	15,000	(4.396)	6,000	(1.758)	4,500	(1.319)	15.0	6.0	0.4248	0.1699	30.0	4.2	2.4	2.1	~	1.5	
W18x30	18,750	(5.495)	7,500	(2.198)	5,625	(1.649)	18.75	7.5	0.5309	0.2124	~	~	~	~	~	1.5	
W18x36	22,500	(6.594)	9,000	(2.638)	6,750	(1.978)	22.5	9.0	0.6371	0.2549	~	10.0	5.8	5.0	3.2	2.5	
W18x48	30,000	(8.792)	12,000	(3.517)	9,000	(2.638)	30.0	12.0	0.8495	0.3398	~	13.3	7.7	6.7	4.2	3.3	
W18x60	37,500	(10.990)	15,000	(4.396)	11,250	(3.297)	37.5	15.0	1.0619	0.4248	~	20.8	12.0	10.4	6.6	5.2	
W18x72	45,000	(13.188)	18,000	(5.275)	13,500	(3.956)	45.0	18.0	1.2743	0.5097	~	24.2	14.0	12.1	7.6	6.0	
W24x24	20,000	(5.861)	8,000	(2.345)	6,000	(1.758)	20.0	8.0	0.5663	0.2265	30.0	4.2	2.4	2.1	~	1.5	
W24x30	25,000	(7.327)	10,000	(2.931)	7,500	(2.198)	25.0	10.0	0.7079	0.2832	30.0	4.2	2.4	2.1	~	1.5	
W24x36	30,000	(8.792)	12,000	(3.517)	9,000	(2.638)	30.0	12.0	0.8495	0.3398	~	10.0	5.8	5.0	3.2	2.5	
W24x48	40,000	(11.723)	16,000	(4.689)	12,000	(3.517)	40.0	16.0	1.1327	0.4531	~	13.3	7.7	6.7	4.2	3.3	
W24x60	50,000	(14.654)	20,000	(5.861)	15,000	(4.396)	50.0	20.0	1.4159	0.5663	~	20.8	12.0	10.4	6.6	5.2	
W24x72	60,000	(17.584)	24,000	(7.034)	18,000	(5.275)	60.0	24.0	1.6990	0.6796	~	24.2	14.0	12.1	7.6	6.0	

**TABLE 2 - Fuel and Electrical Rating Data
BX Series - FM Only (Available only in the USA)**

MODEL NO.	Maximum Gas Input		Minimum Gas Input				Maximum Gas Flow				Start-Up Amperage						
	Btu/hr (kW)		Btu/hr (kW)				CFH		m ³ /hr		12V	120V	208V	240V	380V	480V	600V
	Natural Gas & Propane		Natural Gas	Propane		Natural Gas	Propane	Natural Gas	Propane	12V	120V	208V	240V	380V	480V	600V	
H6x6	1,500	(0.440)	500	(0.147)	375	(0.110)	1.5	0.6	0.0425	0.0170	7.1	0.7	~	0.4	~	~	
H6x12	3,000	(0.879)	1,000	(0.293)	750	(0.220)	3.0	1.2	0.0850	0.0340	7.1	0.7	~	0.4	~	~	
H6x24	6,000	(1.758)	2,000	(0.586)	1,500	(0.440)	6.0	2.4	0.1699	0.0680	15.0	2.1	1.2	1.0	~	~	
H8x8	2,667	(0.782)	900	(0.264)	700	(0.205)	2.7	1.1	0.0755	0.0302	7.1	0.7	~	0.4	~	~	
H10x12	5,000	(1.465)	1,700	(0.498)	1,250	(0.366)	5.0	2.0	0.1416	0.0566	15.0	2.1	1.2	1.0	~	~	
H12x12	6,000	(1.758)	2,000	(0.586)	1,500	(0.440)	6.0	2.4	0.1699	0.0680	15.0	2.1	1.2	1.0	~	~	
H12x24	12,000	(3.517)	4,000	(1.172)	3,000	(0.879)	12.0	4.8	0.3398	0.1359	30.0	4.2	2.4	2.1	~	1.5	
H12x36	18,000	(5.275)	6,000	(1.758)	4,500	(1.319)	18.0	7.2	0.5097	0.2039	~	5.0	2.9	2.5	1.6	1.3	
H12x48	24,000	(7.034)	8,000	(2.345)	6,000	(1.758)	24.0	9.6	0.6796	0.2718	30.0	6.7	3.9	3.3	2.1	1.7	
H12x60	30,000	(8.792)	10,000	(2.931)	7,500	(2.198)	30.0	12.0	0.8495	0.3398	45.0	10.4	6.0	5.2	3.3	2.6	
H12x72	36,000	(10.551)	12,000	(3.517)	9,000	(2.638)	36.0	14.4	1.0194	0.4078	~	12.1	7.0	6.0	3.8	3.0	
H18x24	18,000	(5.275)	6,000	(1.758)	4,500	(1.319)	18.0	7.2	0.5097	0.2039	30.0	4.2	2.4	2.1	~	1.5	
H18x30	22,500	(6.594)	7,500	(2.198)	5,625	(1.649)	22.5	9.0	0.6371	0.2549	~	~	~	~	~	1.5	
H18x36	27,000	(7.913)	9,000	(2.638)	6,750	(1.978)	27.0	10.8	0.7646	0.3058	~	10.0	5.8	5.0	3.2	2.5	
H18x48	36,000	(10.551)	12,000	(3.517)	9,000	(2.638)	36.0	14.4	1.0194	0.4078	~	13.3	7.7	6.7	4.2	3.3	
H18x60	45,000	(13.188)	15,000	(4.396)	11,250	(3.297)	45.0	18.0	1.2743	0.5097	~	20.8	12.0	10.4	6.6	5.2	
H18x72	54,000	(15.826)	18,000	(5.275)	13,500	(3.956)	54.0	21.6	1.5291	0.6116	~	24.2	14.0	12.1	7.6	6.0	
H24x24	24,000	(7.034)	8,000	(2.345)	6,000	(1.758)	24.0	9.6	0.6796	0.2718	30.0	4.2	2.4	2.1	~	1.5	
H24x30	30,000	(8.792)	10,000	(2.931)	7,500	(2.198)	30.0	12.0	0.8495	0.3398	30.0	4.2	2.4	2.1	~	1.5	
H24x36	36,000	(10.551)	12,000	(3.517)	9,000	(2.638)	36.0	14.4	1.0194	0.4078	~	10.0	5.8	5.0	3.2	2.5	
H24x48	48,000	(14.067)	16,000	(4.689)	12,000	(3.517)	48.0	19.2	1.3592	0.5437	~	13.3	7.7	6.7	4.2	3.3	
H24x60	60,000	(17.584)	20,000	(5.861)	15,000	(4.396)	60.0	24.0	1.6990	0.6796	~	20.8	12.0	10.4	6.6	5.2	
H24x72	72,000	(21.101)	24,000	(7.034)	18,000	(5.275)	72.0	28.8	2.0388	0.8155	~	24.2	14.0	12.1	7.6	6.0	

TABLE 3 - MKII Series - CSA and FM

Model No.	Maximum Gas Input		Minimum Gas Input			Maximum Gas Flow				Start-Up Amperage		
	Btu/hr (kW)		Btu/hr (kW)			CFH		m ³ /hr		12V	120V	
	Natural Gas & Propane		Natural Gas	Propane		Natural Gas	Propane	Natural Gas	Propane			
MK12x12	5,000	(1.464)	2,000	(0.586)	1,500	(0.440)	5.0	2.0	0.1416	0.0566	15.0	2.1
MK12x24	10,000	(2.929)	4,000	(1.172)	3,000	(0.879)	10.0	4.0	0.2832	0.1133	30.0	4.2
MK18x24	15,000	(4.393)	6,000	(1.758)	4,500	(1.319)	15.0	6.0	0.4248	0.1699	30.0	4.2
MK18x48	30,000	(8.787)	12,000	(3.517)	9,000	(2.638)	30.0	12.0	0.8495	0.3398	~	13.3
MK24x24	20,000	(5.858)	8,000	(2.345)	6,000	(1.758)	20.0	8.0	0.5663	0.2265	30.0	4.2
MK24x48	40,000	(11.716)	16,000	(4.689)	12,000	(3.517)	40.0	16.0	1.1327	0.4531	~	13.3

TABLE 4 - Fuel and Electrical Rating Data G Series - CSA and FM (Non-Hazardous)

MODEL NO.	Maximum Gas Input		Minimum Gas Input		Maximum Gas Flow				Start-Up Amperage								
	Btu/hr (kW)		Btu/hr (kW)		CFH		m ³ /hr		12V	120V	208V	240V	380V	480V	600V		
	Natural Gas & Propane		Natural Gas	Propane	Natural Gas	Propane	Natural Gas	Propane									
H6x6	1,500	(0.440)	500	(0.147)	375	(0.110)	1.5	0.6	0.0425	0.0170	7.1	0.7	~	0.4	~	~	~
H6x12	3,000	(0.879)	1,000	(0.293)	750	(0.220)	3.0	1.2	0.0850	0.0340	7.1	0.7	~	0.4	~	~	~
H6x24	6,000	(1.758)	2,000	(0.586)	1,500	(0.440)	6.0	2.4	0.1699	0.0680	15.0	2.1	1.2	1.0	~	~	~
H8x8	2,667	(0.782)	900	(0.264)	700	(0.205)	2.7	1.1	0.0755	0.0302	7.1	0.7	~	0.4	~	~	~
H10x12	5,000	(1.465)	1,700	(0.498)	1,250	(0.366)	5.0	2.0	0.1416	0.0566	15.0	2.1	1.2	1.0	~	~	~
H12x12	6,000	(1.758)	2,000	(0.586)	1,500	(0.440)	6.0	2.4	0.1699	0.0680	15.0	2.1	1.2	1.0	~	~	~
H12x24	12,000	(3.517)	4,000	(1.172)	3,000	(0.879)	12.0	4.8	0.3398	0.1359	30.0	4.2	2.4	2.1	~	1.5	0.9
H12x36	18,000	(5.275)	6,000	(1.758)	4,500	(1.319)	18.0	7.2	0.5097	0.2039	~	5.0	2.9	2.5	1.6	1.3	1.0
H12x48	24,000	(7.034)	8,000	(2.345)	6,000	(1.758)	24.0	9.6	0.6796	0.2718	30.0	6.7	3.9	3.3	2.1	1.7	1.3
H12x60	30,000	(8.792)	10,000	(2.931)	7,500	(2.198)	30.0	12.0	0.8495	0.3398	45.0	10.4	6.0	5.2	3.3	2.6	2.1
H12x72	36,000	(10.551)	12,000	(3.517)	9,000	(2.638)	36.0	14.4	1.0194	0.4078	~	12.1	7.0	6.0	3.8	3.0	2.4
H18x24	18,000	(5.275)	6,000	(1.758)	4,500	(1.319)	18.0	7.2	0.5097	0.2039	30.0	4.2	2.4	2.1	~	1.5	~
H18x30	22,500	(6.594)	7,500	(2.198)	5,625	(1.649)	22.5	9.0	0.6371	0.2549	~	~	~	~	~	1.5	~
H18x36	27,000	(7.913)	9,000	(2.638)	6,750	(1.978)	27.0	10.8	0.7646	0.3058	~	10.0	5.8	5.0	3.2	2.5	2.0
H18x48	36,000	(10.551)	12,000	(3.517)	9,000	(2.638)	36.0	14.4	1.0194	0.4078	~	13.3	7.7	6.7	4.2	3.3	2.7
H18x60	45,000	(13.188)	15,000	(4.396)	11,250	(3.297)	45.0	18.0	1.2743	0.5097	~	20.8	12.0	10.4	6.6	5.2	4.2
H18x72	54,000	(15.826)	18,000	(5.275)	13,500	(3.956)	54.0	21.6	1.5291	0.6116	~	24.2	14.0	12.1	7.6	6.0	4.8
H24x24	24,000	(7.034)	8,000	(2.345)	6,000	(1.758)	24.0	9.6	0.6796	0.2718	30.0	4.2	2.4	2.1	~	1.5	~
H24x30	30,000	(8.792)	10,000	(2.931)	7,500	(2.198)	30.0	12.0	0.8495	0.3398	30.0	4.2	2.4	2.1	~	1.5	~
H24x36	36,000	(10.551)	12,000	(3.517)	9,000	(2.638)	36.0	14.4	1.0194	0.4078	~	10.0	5.8	5.0	3.2	2.5	2.0
H24x48	48,000	(14.067)	16,000	(4.689)	12,000	(3.517)	48.0	19.2	1.3592	0.5437	~	13.3	7.7	6.7	4.2	3.3	2.7
H24x60	60,000	(17.584)	20,000	(5.861)	15,000	(4.396)	60.0	24.0	1.6990	0.6796	~	20.8	12.0	10.4	6.6	5.2	4.2
H24x72	72,000	(21.101)	24,000	(7.034)	18,000	(5.275)	72.0	28.8	2.0388	0.8155	~	24.2	14.0	12.1	7.6	6.0	4.8

TABLE 5 - Fuel and Electrical Rating Data WXS Slim Line Series - FM Only

MODEL NO.	Maximum Gas Input		Minimum Gas Input		Maximum Gas Flow				Start-Up Amperage				
	Btu/hr (kW)		Btu/hr (kW)		CFH		m ³ /hr		12V	120V	240V		
	Natural Gas & Propane		Natural Gas	Propane	Natural Gas	Propane	Natural Gas	Propane					
WXS6x6	1,750	(0.513)	583	(0.171)	438	(0.128)	1.8	0.7	0.0496	0.0198	7.1	0.7	0.4
WXS6x12	3,500	(1.025)	1,167	(0.342)	875	(0.256)	3.5	1.4	0.0991	0.0396	7.1	0.7	0.4
WXS6x24	7,000	(2.050)	2,333	(0.684)	1,750	(0.513)	7.0	2.8	0.1982	0.0793	15.0	2.1	1.0
WXS8x8	3,111	(0.911)	1,037	(0.304)	778	(0.228)	3.1	1.2	0.0881	0.0352	7.1	0.7	0.4
WXS10x12	5,833	(1.709)	1,944	(0.570)	1,458	(0.427)	5.8	2.3	0.1652	0.0661	15.0	2.1	1.0
WXS12x12	7,000	(2.050)	2,333	(0.684)	1,750	(0.513)	7.0	2.8	0.1982	0.0793	15.0	2.1	1.0
WXS12x24	14,000	(4.101)	4,667	(1.368)	3,500	(1.026)	14.0	5.6	0.3964	0.1586	30.0	4.2	2.0
WXS12x36	21,000	(6.151)	7,000	(2.051)	5,250	(1.539)	21.0	8.4	0.5947	0.2379	30.0	5.0	2.5
WXS12x48	28,000	(8.201)	9,333	(2.735)	7,000	(2.051)	28.0	11.2	0.7929	0.3172	30.0	6.7	3.3
WXS24x24	28,000	(8.201)	9,333	(2.735)	7,000	(2.051)	28.0	11.2	0.7929	0.3172	30.0	4.2	2.0
WXS24x36	42,000	(12.302)	14,000	(4.103)	10,500	(3.077)	42.0	16.8	1.1893	0.4757	~	10.0	5.0
WXS24x48	56,000	(16.402)	18,667	(5.471)	14,000	(4.103)	56.0	22.4	1.5858	0.6343	~	13.3	6.7

Fuel and Electrical Rating Data

Gas Catalytic Heater Request For Quote

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: _____

Services:

Natural Gas: 3.5" w.c. 4.5" w.c. 7.0" w.c.
Propane: 11" w.c.
Voltage:
 12V 120V 208V
 240V 380V 480V
 600V

Note: Refer to TABLES 1 - 3 on page 10 & 11 for available voltages.

Heater Selection:

Please include quantity in space provided:

WX Series - Rear Mounted Controls: 6 x 6 _____
6 x 12 _____ 6 x 24 _____ 8 x 8 _____ 10 x 12 _____
12 x 12 _____ 12 x 24 _____ 12 x 14 _____ 12 x 60 _____
12 x 72 _____ 18 x 24 _____ 18 x 36 _____ 18 x 48 _____
18 x 60 _____ 18 x 72 _____ 24 x 24 _____ 24 x 30 _____
24 x 36 _____ 24 x 48 _____ 24 x 60 _____ 24 x 72 _____

MKII Series - Side Mounted Controls: 12 x 12 _____
12 x 24 _____ 18 x 24 _____ 18 x 48 _____ 24 x 24 _____
24 x 36* _____ 24 x 48° _____

Note:

* Only Available in 12V.
° Available in 12V and 24V.

WXS Slim Line Series - Thinner Design:

6 x 6 _____ 6 x 12 _____ 6 x 24 _____ 8 x 8 _____
10 x 12 _____ 12 x 12 _____ 12 x 24 _____ 12 x 36 _____
12 x 48 _____ 24 x 24 _____ 24 x 36 _____ 12 x 48 _____

Note:

For information on the G Series - Non-Hazardous Industrial Heater contact the factory for a quote.

Accessories:

Please include quantity in space provided:

Safety Controls:

ASV375 _____ ASV375-NT _____ Mertik* _____

Scrubbers:

NGS-4 _____ NGS-12 _____

Regulators:

Low Pressure 912 _____ High Pressure 130 _____

12V Start-up Leads:

25' _____ 30' _____ 40' _____

Propane Hoses:

5' _____ 10' _____

Other:

Battery Cable Cabinet _____ Vent Hood _____
Wall Mount Bracket _____ Floor Stand _____
45° Wall Mount Bracket _____ Thermostat _____
Manual Shut-Off Ball Valve _____ Protection Grill _____
Gas Pressure Test Kit _____ POL Adaptor _____

Note:

* Includes Thermostat.

To receive your enclosure quote,
fax these pages to: **(780) 468-5904**
Attention: Projects

Regulator Enclosures



Features

- Enclosure comes fully assembled
- Stainless steel enclosures provide added longevity for the harshest environments
- Cata-Dyne™ heaters are CSA or FM certified, available in both natural gas or propane
- Optional thermostats and regulators are available
- Designed to clamp directly to the pipeline, spring clamps make installation easy
- Custom designed enclosure packages available upon request

The Regulator Enclosure is specifically designed to provide freeze protection for a wide variety of natural gas pipeline regulators. Enclosures are designed for specific regulators and generic applications.

Model Coding

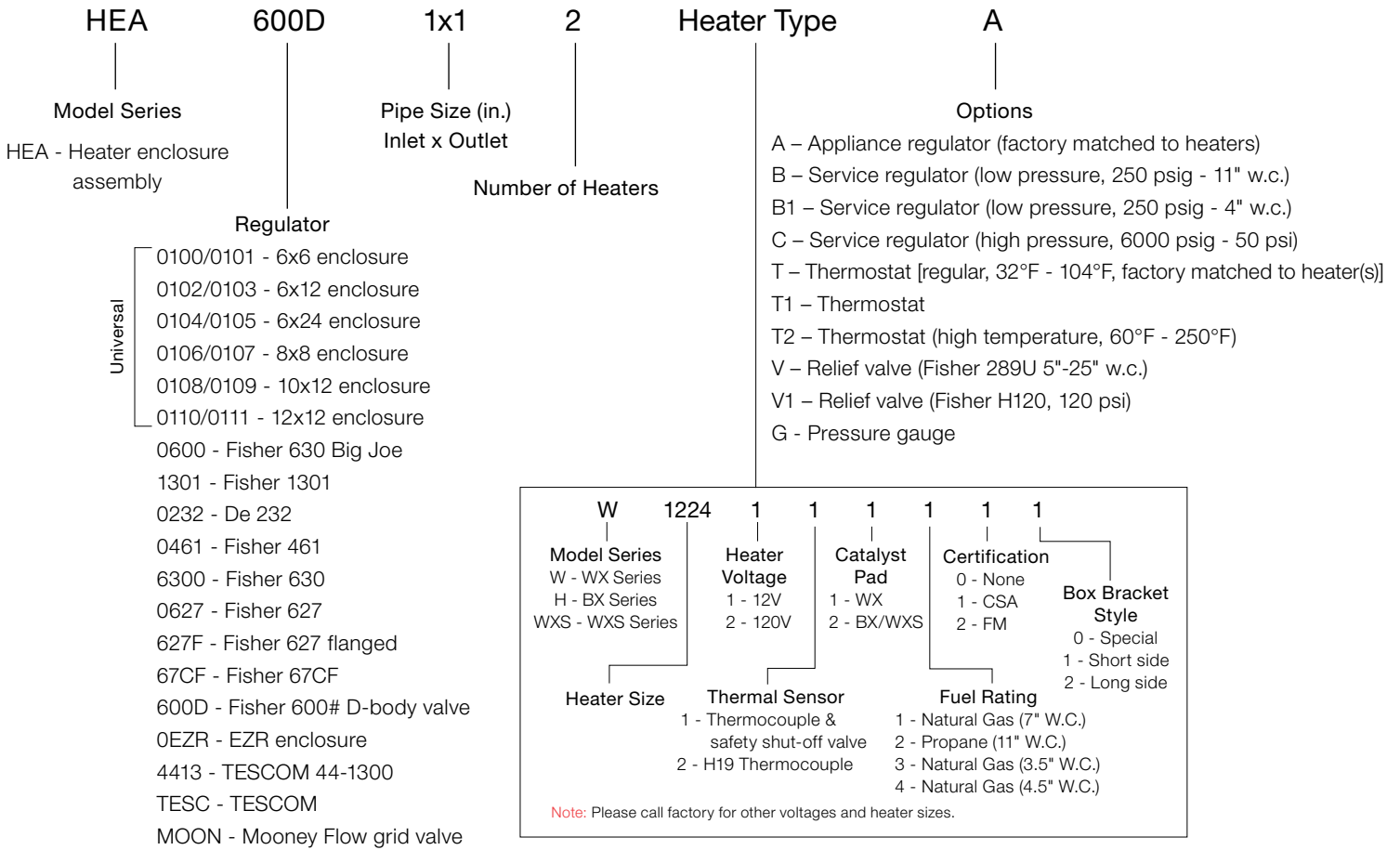


TABLE 5 - Regulator Enclosures

Model # *	Description	Dimensions		
		L	W	H
		in (mm)	in (mm)	in (mm)
HEA0100-1X1-1-___0606	Enclosure, Universal 1 and 2" inlet pipe	10.125 (257)	8.375 (213)	8.563 (218)
HEA0101-1X1-2-___0606	Enclosure, Universal 1 and 2" inlet pipe	10.125 (257)	8.375 (213)	8.563 (218)
HEA0102-1X1-1-___0612	Enclosure, Universal 1 and 2" inlet pipe	12.250 (311)	11.000 (279)	8.250 (210)
HEA0103-1X1-2-___0612	Enclosure, Universal 1 and 2" inlet pipe	12.250 (311)	11.000 (279)	8.250 (210)
HEA0104-1X1-1-___0624	Enclosure, Universal 1 and 2" inlet pipe	24.500 (622)	11.000 (279)	8.250 (210)
HEA0105-1X1-1-___0624	Enclosure, Universal 1 and 2" inlet pipe	24.500 (622)	11.000 (279)	8.250 (210)
HEA0106-1X1-2-___0808	Enclosure, Universal 1 and 2" inlet pipe	12.125 (308)	14.125 (359)	10.188 (259)
HEA0107-1X1-2-___0808	Enclosure, Universal 1 and 2" inlet pipe	12.125 (308)	14.125 (359)	10.188 (259)
HEA0108-1X1-1-___1012	Enclosure, Universal 1 and 2" inlet pipe	14.000 (356)	16.000 (406)	14.000 (356)
HEA0109-1X1-2-___1012	Enclosure, Universal 1 and 2" inlet pipe	14.000 (356)	16.000 (406)	14.000 (356)
HEA0110-1X1-1-___1212	Enclosure, Universal 1 and 2" inlet pipe	14.000 (356)	16.000 (406)	14.000 (356)
HEA0111-1X1-2-___1212	Enclosure, Universal 1 and 2" inlet pipe	14.000 (356)	16.000 (406)	14.000 (356)
HEA-1301-1X1-1-___0606	Enclosure, 1301 Regulator	6.375 (162)	9.000 (229)	8.375 (213)
HEA-0232-1X1-1-___0606	Enclosure, DE 232 Regulator, Basic	10.125 (257)	8.375 (213)	8.563 (218)
HEA-0461-1X1-2-___0808	Enclosure, Fisher 461-S Regulator Flanged	17.625 (448)	19.183 (487)	11.750 (298)
HEA-0461-3X3-1-___0808	Enclosure, Fisher 461-X57 Regulator, High Pressure	8.250 (210)	19.183 (487)	10.313 (262)
HEA-0600-1X1-2-___0808	Enclosure, 600 Series Reg, "BIG JOE"	12.125 (308)	14.125 (359)	10.188 (259)
HEA-0600-1X1-2-___0612	Enclosure, 600 Series Reg, "BIG JOE"	12.250 (311)	11.000 (279)	8.250 (210)
HEA-0600-1X1-2-___0612	Enclosure, 600 Series Reg, "BIG JOE", Flanged	12.250 (311)	11.000 (279)	8.250 (210)
HEA-0600-1X1-2-___1212	Enclosure, Fisher 630 Regulator	12.125 (308)	15.188 (386)	14.188 (360)
HEA-0627-1X1-2-___0808	Enclosure, Fisher 627 Regulator	12.125 (308)	12.500 (318)	7.500 (191)
HEA-627F-1X1-1-___1212	Enclosure, Fisher 627 Regulator Flanged	16.250 (413)	20.438 (519)	14.063 (357)
HEA-627F-1X1-1-___0808	Enclosure, Fisher 627 Regulator Flanged	16.250 (413)	20.438 (519)	14.063 (357)
HEA-0627-2X2-1-___0808	Enclosure, Fisher 627 Regulator	15.063 (383)	15.125 (384)	13.000 (330)
HEA-0627-1X1-1-___0808	Enclosure, Fisher 627 Regulator	15.063 (383)	15.125 (384)	13.000 (330)
HEA-0627-2X2-1-___1012	Enclosure, Fisher 627 Regulator	12.125 (308)	12.833 (326)	10.500 (267)
HEA-67CF-1X1-1-___0606	Enclosure, 67CF Regulator	6.438 (164)	9.000 (229)	8.375 (213)
HEA-600D-3X3-2-___1012	Enclosure, Similar to 600# Fisher D-Body Valve	21.625 (549)	15.625 (397)	12.500 (318)
HEA-0EZR-2X2-2-___1212	Enclosure, Fisher 2" EZR Regulator	20.625 (524)	28.125 (714)	23.125 (587)
HEA-0EZR-1X1-2-___1212	Enclosure, Fisher 1" EZR Regulator	20.625 (524)	28.125 (714)	23.125 (587)
HEA-0EZR-3X3-2-___1212	Enclosure, Fisher 3" EZR Regulator	20.625 (524)	28.125 (714)	23.125 (587)
HEA-0EZR-4X4-2-___1212	Enclosure, Fisher 4" EZR Regulator	20.625 (524)	28.125 (714)	23.125 (587)
HEA-0EZR-6X6-2-___1212	Enclosure, Fisher 6" EZR Valve, CL 600	20.625 (524)	28.125 (714)	23.125 (587)
HEA-0EZR-8X8-2-___1212	Enclosure, Fisher 6" EZR Valve 8" x 6" Pipe Size	20.625 (524)	28.125 (714)	23.125 (587)
HEA-MOON-2X2-2-___1212	Enclosure, Mooney Flowgrid Valve	14.750 (375)	14.125 (359)	14.125 (359)
HEA-TESC-2X2-1-___0612	Enclosure, Tescom Regulator	12.000 (305)	10.000 (254)	7.000 (178)
HEA-4413-1X1-1-___0606	Enclosure, Tescom 44-1300 Reg	11.125 (283)	10.313 (262)	8.750 (222)

*Note: ___ = WX, BX or WXS.

Pipe Preheater Enclosure

The Pipe Preheater Enclosure is designed to heat gas upstream of valves, chokes, orifice fittings and regulators. Commonly installed in locations where the valves, chokes, orifice fittings and regulators are not easily accessible.

Features

- Enclosure comes fully assembled
- Stainless steel enclosures provide added longevity for the harshest environments
- Cata-Dyne™ heaters are CSA or FM certified, available in both natural gas or propane
- Optional thermostats and regulators are available
- Designed to clamp directly to the pipeline, spring clamps make installation easy
- Custom designed enclosure packages available upon request

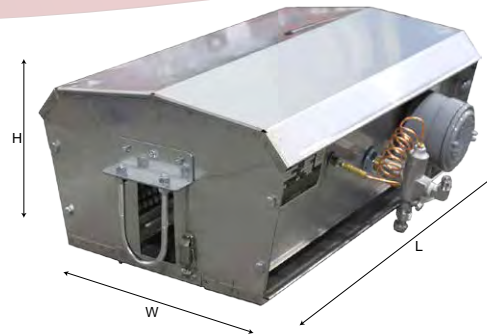
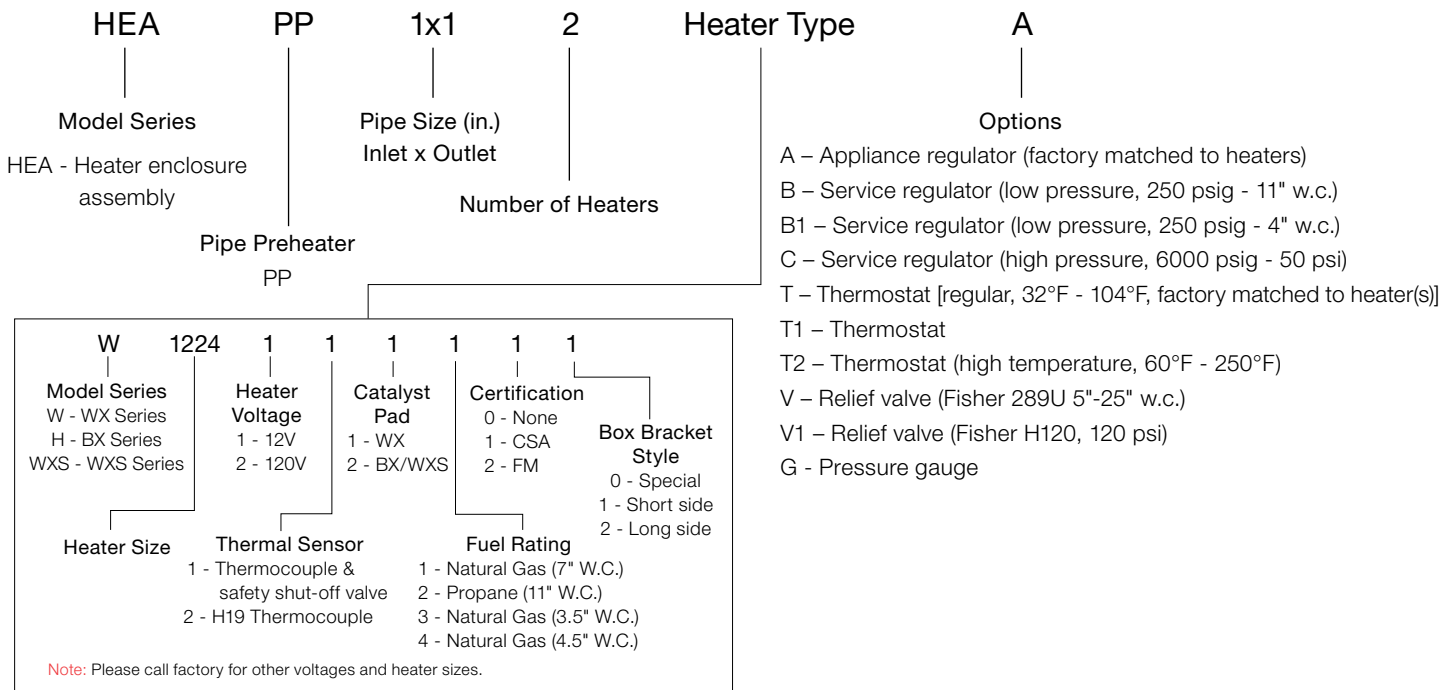


TABLE 6 - Pipe Preheater Enclosures

Model #	Description	Dimensions		
		L	W	H
		in (mm)	in (mm)	in (mm)
HEA-PP-2X2-2-WX0624	Enclosure, 2" Pipe Preheater	24.000 (610)	12.000 (305)	9.000 (229)
HEA-PP-3X3-2-WX1224	Enclosure, 3" Pipe Preheater	24.000 (610)	20.000 (508)	15.500 (394)
HEA-PP-4X4-2-WX1224	Enclosure, 4" Pipe Preheater Peeked Top	25.000 (635)	12.000 (305)	15.000 (381)
HEA-PP-2X2-2-WX12X24	Enclosure, 2" Pipe Preheater	24.000 (610)	20.000 (508)	16.000 (406)
HEA-PP-2X2-2-WX0612	Enclosure, 2" Pipe Preheater	16.375 (416)	9.250 (235)	12.250 (311)
HEA-PP-4X4-2-WX1224	Enclosure, 4" Pipe Preheater	12.625 (321)	20.000 (508)	36.0625 (916)
HEA-PP-1X1-2-WX1224	Enclosure, 1" Pipe Preheater Rectangular	36.000 (914)	13.000 (330)	20.000 (508)
HEA-PP-2X2-2-WX0624	Enclosure, 2" Pipe Preheater c/w Dual Gas Trains	24.000 (610)	13.000 (330)	9.000 (229)
HEA-PP-4X4-2-WX1248	Enclosure, 4" Pipe Preheater	51.000 (1294)	20.000 (508)	20.000 (508)
HEA-PP-3X3-2-WX1248	Enclosure, 3" Pipe Preheater	51.000 (1294)	21.000 (533)	15.000 (381)
HEA-PP-1X1-2-WX1248	Enclosure, 1" Pipe Preheater	51.000 (1294)	21.000 (533)	15.000 (381)
HEA-PP-2X2-2-WX1248	Enclosure, 2" Pipe Preheater, c/w 12x48	48.000 (1219)	28.000 (711)	15.000 (381)

Model Coding



Pipe Preheater Enclosure

Rotary Meter Enclosure

The Rotary Meter Enclosure is designed to prevent freezing of wet gas and creation of hydrates that can cause meters to fail or provide inaccurate readings.

Features

- Designed to suit many different rotary meter valves
- Enclosure comes fully assembled
- Stainless steel enclosures provide added longevity for the harshest environments
- Cata-Dyne™ heaters are CSA or FM certified, available in both natural gas or propane
- Optional thermostats and regulators are available
- Designed to clamp directly to the pipeline, spring clamps make installation easy
- Custom designed enclosure packages available upon request

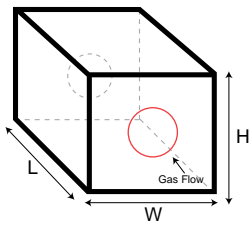
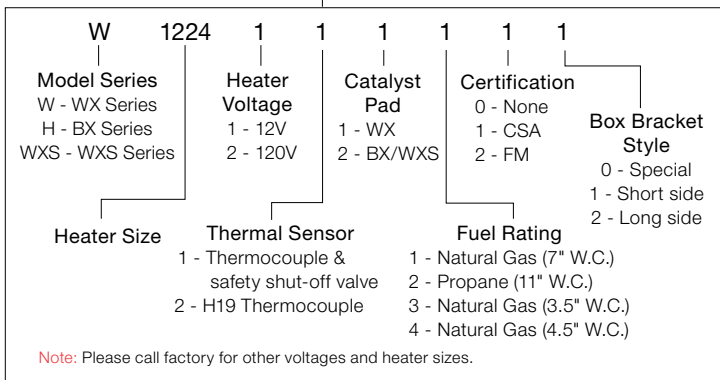
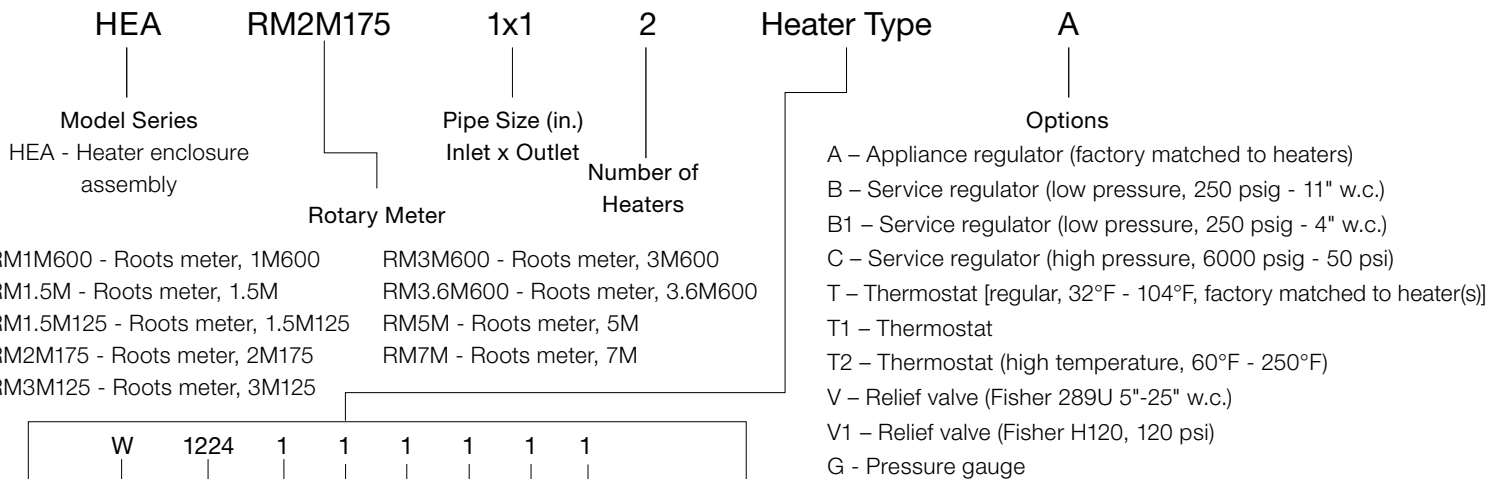


TABLE 7 - Rotary Meter Enclosures

Model #	Description	Dimensions		
		L	W	H
		in (mm)	in (mm)	in (mm)
HEA-RM1M600-2X2-1-WX0808	Enclosure, Roots 1M600 Meter	15.00 (381)	14.50 (368)	15.00 (381)
HEA-RM1.5M-2X2-1-WX0808	Enclosure, Roots 1.5M Meter	10.00 (254)	11.00 (279)	10.00 (254)
HEA-RM2M175-2X2-1-WX0808	Enclosure, 2M175 Meter	12.00 (305)	12.00 (305)	10.00 (254)
HEA-RM3M125-2X2-1-WX0808	Enclosure, 3M125 Meter	12.00 (305)	12.00 (305)	10.00 (254)
HEA-RM3.6M600-2X2-1-WX0808	Enclosure, Roots 3.6M600 Meter	15.00 (381)	16.00 (406)	14.00 (356)
HEA-RM1.5M-3X3-1-WX0612	Enclosure, Roots 1.5M Meter	14.00 (356)	10.00 (254)	10.00 (254)
HEA-RM1M600-3X3-1-WX0612	Enclosure, Roots 1M600 Meter	16.00 (406)	14.00 (356)	14.00 (356)
HEA-RM3M125-2X2-1-WX0612	Enclosure, Roots 3M125 Meter	11.00 (279)	16.00 (406)	15.00 (381)
HEA-RM3M600-3X3-1-WX0612	Enclosure, Roots 3M600 Meter	15.00 (381)	15.00 (381)	14.00 (356)
HEA-RM5M-3X3-1-WX0808	Enclosure, Roots 5M	11.00 (279)	16.00 (406)	11.00 (279)
HEA-RM5M-3X3-1-WX0612	Enclosure, Roots 5M	11.00 (279)	16.00 (406)	11.00 (279)
HEA-RM7M-3X3-1-WX1012	Enclosure, Roots 7M	15.00 (381)	15.00 (381)	16.00 (406)

Model Coding



Motor Valve Enclosure

The Motor Valve Enclosure heats the critical portions of the motor valve to prevent freezing.



Features

- Designed to ensure that all the sensitive portions of the valve are outside of the heated zone
- Enclosure comes fully assembled
- Stainless steel enclosures provide added longevity for the harshest environments
- Cata-Dyne™ heaters are CSA or FM certified, available in both natural gas or propane
- Optional thermostats and regulators are available
- Designed to clamp directly to the pipeline, spring clamps make installation easy
- Custom designed enclosure packages available upon request.

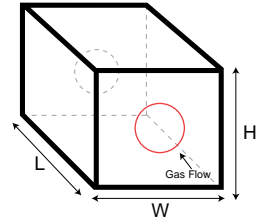
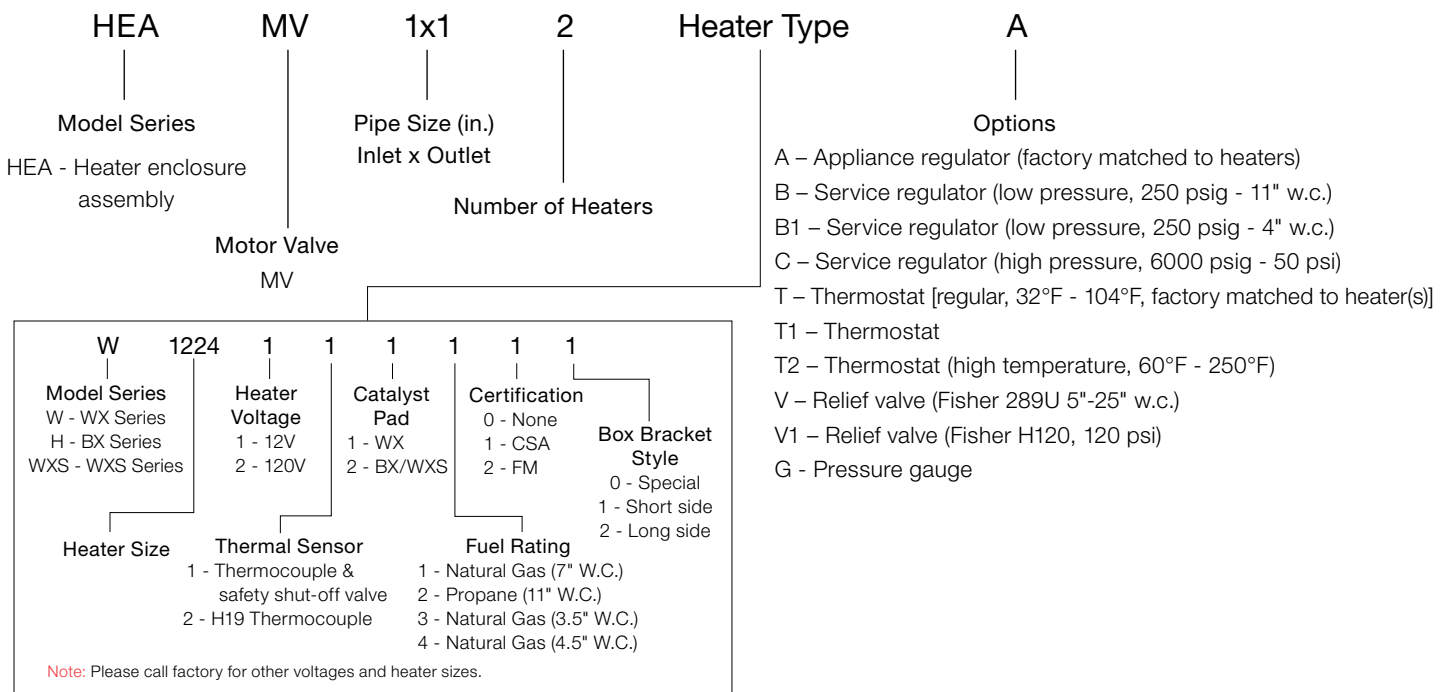


TABLE 8 - Motor Valve Enclosures

Model #	Description	Dimensions		
		L	W	H
		in (mm)	in (mm)	in (mm)
HEA-MV1-1X1-1-WX10X12	Enclosure, 1" Motor Valve	9.625 (244)	12.000 (305)	14.125 (359)
HEA-MV2-2X2-2-WX10X12	Enclosure, 2" Motor Valve	14.000 (356)	9.500 (241)	12.000 (305)
HEA-MV1-1X1-2-WX0808	Enclosure, 1" Motor Valve	10.000 (254)	8.000 (203)	10.563 (268)

Model Coding



Motor Valve Enclosure

Orifice Fitting Meter Enclosure

The Orifice Fitting Meter Enclosure heats an orifice fitting directly. The enclosure has an easily accessible entry for the orifice fitting adjustment. The assembly is designed to heat natural gas passing through the orifice to prevent icing and the dropout of liquids.

Features

- Designed to heat the orifice fitting directly
- Enclosure comes fully assembled
- Stainless steel enclosures provide added longevity for the harshest environments
- Cata-Dyne™ heaters are CSA or FM certified, available in both natural gas or propane
- Optional thermostats and regulators are available
- Custom designed enclosure packages available upon request
- Designed to clamp directly to the pipeline, spring clamps make installation easy
- Custom designed enclosure packages available upon request

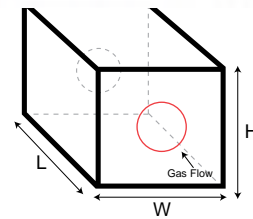
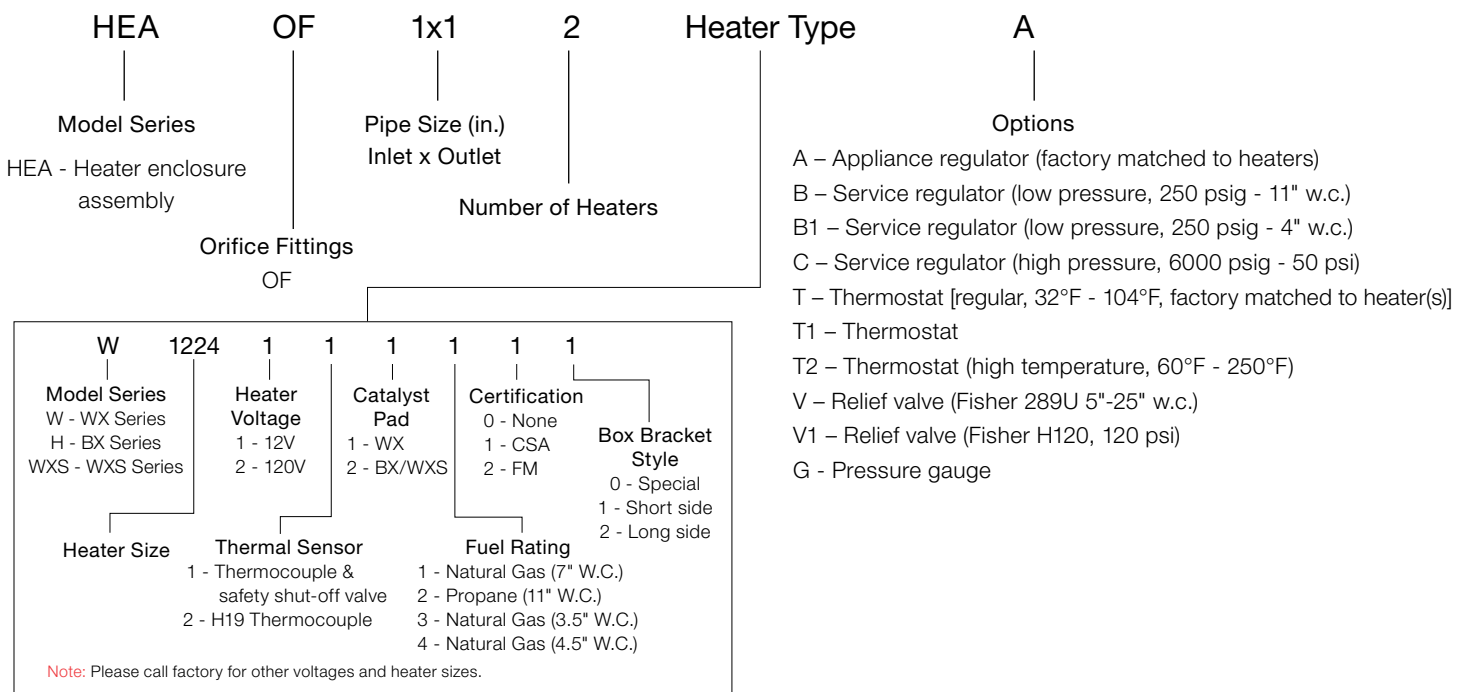


TABLE 9 - Orifice Fitting Meter Enclosures

Model #	Description	Dimensions		
		L	W	H
		in (mm)	in (mm)	in (mm)
HEA-OF-2X2-1-WX1012	Orifice Fitting	14 (356)	16 (406)	14 (356)
HEA-OF-3X3-1-WX1012	Orifice Fitting	14 (356)	16 (406)	14 (356)
HEA-OF-4X4-1-WX1012	Orifice Fitting	14 (356)	16 (406)	14 (356)

Model Coding



Orifice Fitting Meter Enclosure

Sure Seal™ Pipeline System

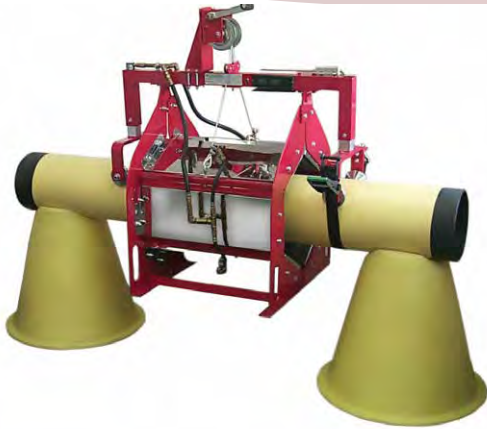


TABLE 10 - Product Dimensions & Data

Part #	Pipe Dimensions				Wt.	Approx. Propane Consump.
	Diameter	L	W	H		
	in (mm)	in (mm)	in (mm)	in (mm)	lbs (kg)	(lb/hr)
SS2-4/24	2 - 4 (51 - 102)	40 (1016)	30 (762)	15 (381)	78 (35)	2.2
SS6-8/24	6 - 8 (152 - 203)	40 (1016)	32 (813)	19 (483)	85 (39)	2.2
SS10-12/24	10 - 12 (254 - 305)	40 (1016)	34 (864)	23 (584)	93 (42)	2.2
SS16-18/24	16 - 18 (406 - 457)	40 (1016)	40 (1016)	28 (711)	122 (55)	3.8
SS20-24/36	20 - 24 (508 - 610)	52 (1321)	52 (1321)	40 (1016)	205 (93)	5.5

The Cata-Dyne™ Sure Seal™ pipeline system is a unique infrared heating system consisting of a number of Cata-Dyne™ heaters mounted in a clamshell frame configuration to provide a safe and fast method of applying heat to the construction and maintenance of various sizes of pipeline systems.

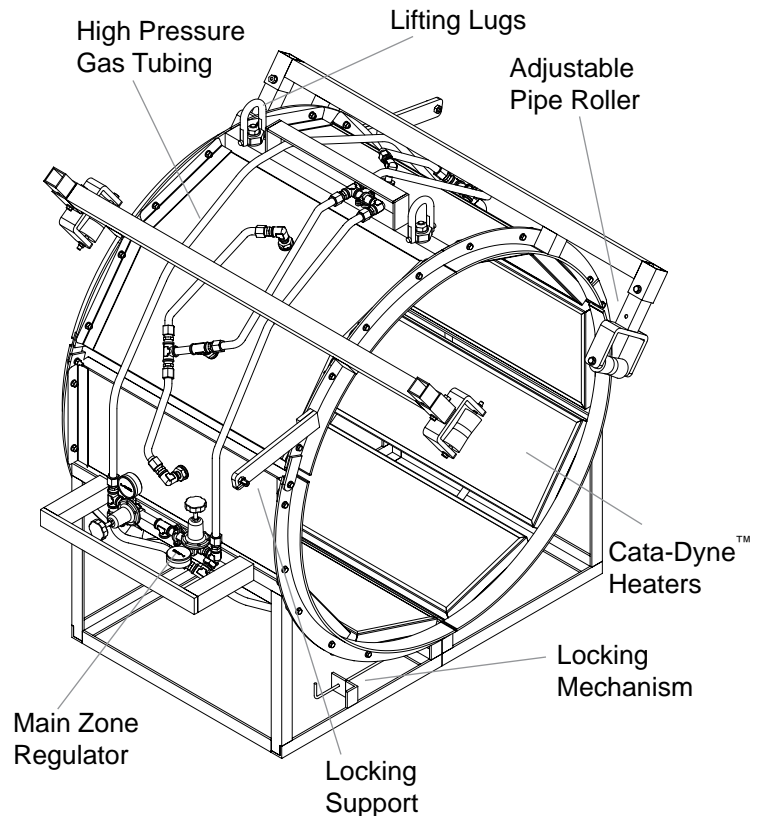
Applications

Large surface area of the Cata-Dyne™ heater allows for efficient transfer of infrared heat that can be utilized in a variety of pipeline applications.

- Suitable for preformed or wrap around sleeves
- Ideal for both preheat and shrink sleeve processes
- Can be used for baking to remove hydrogen induced cracking
- Appropriate for a variety of manufacturers' sleeves
- Can be used in windy or poor weather

Features

- Utilizes the Cata-Dyne™ heater for high temperature applications
- Models available for 2" (51 mm) diameter or greater pipelines
- Requires no water, electricity or compressed air to operate
- Faster than tiger torch methods and uses less propane
- Portable and easily operated by one person, depending on pipeline sizes
- Custom built equipment and other options are available upon special request
- Utilizes the hottest catalytic gas heater on the market



Super Conductor



Features

- Designed to keep instrumentation at an operable temperature
- Electrical power is not required to maintain operation after start-up
- Designed to operate for extended periods of time without maintenance
- Cata-Dyne™ heaters are CSA and FM certified, available in both natural gas and propane
- Custom sizes and designs available

The Super Conductor Enclosure's innovative design transfers heat using heat conducting rods, creating a moisture free heat source. The super conductor provides dry penetrating heat for small enclosures housing batteries, radio controls and other moisture sensitive equipment.

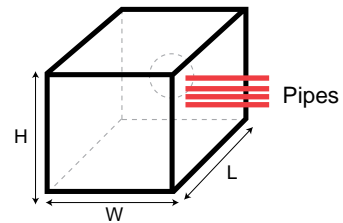
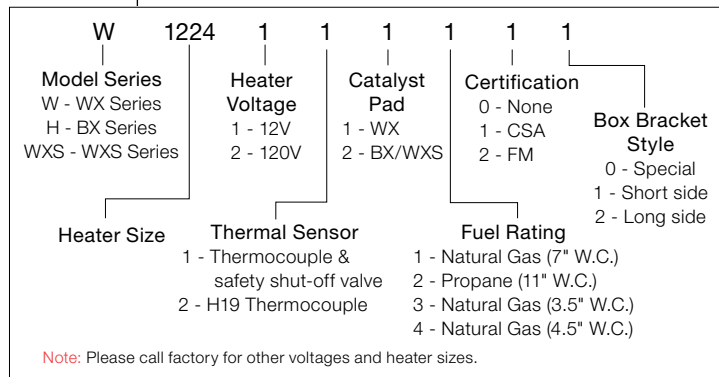
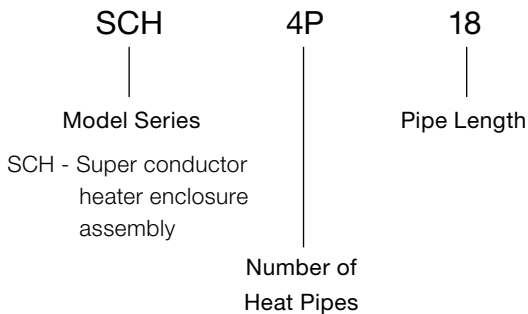


TABLE 11 - Super Conductor Enclosures

Part #	Pipe Qty	Pipe Length in (mm)	Heater Size in	Length in (mm)	Width in (mm)	Height in (mm)	Pipe Length in (mm)
SCH-4P-18-0808	4	18 (457)	8 x 8	17.30 (439)	17.20 (437)	10.40 (264)	8.50 (216)
SCH-4P-24-0808	4	24 (610)	8 x 8	17.30 (439)	17.20 (437)	10.40 (264)	14.50 (368)
SCH-4P-33-1212	4	33 (838)	12 x 12	17.30 (439)	19.00 (478)	14.75 (375)	19.50 (495)

Model Coding



Super Conductor

Instrument Gas Preheater

The Instrument Gas Preheater is the preferred solution for the natural gas industry, providing freeze protection for instrument supply gas, pilot actuated regulators and related applications.

Features

- Stainless steel enclosure with both single & dual coil models
- Cata-Dyne™ heaters are CSA and FM certified, available in both natural gas and propane
- Operates for extended periods, without maintenance
- The compact unit helps eliminate the need for a separate facility to keep gas temperatures optimal
- Often used for gas chromatographs, valves, pilots and other low flow instruments
- Custom sizes and designs available

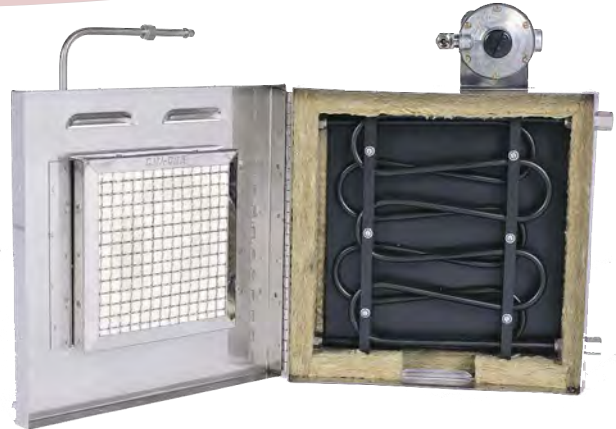
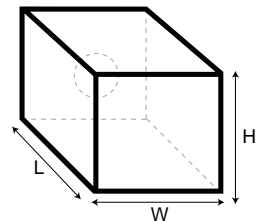
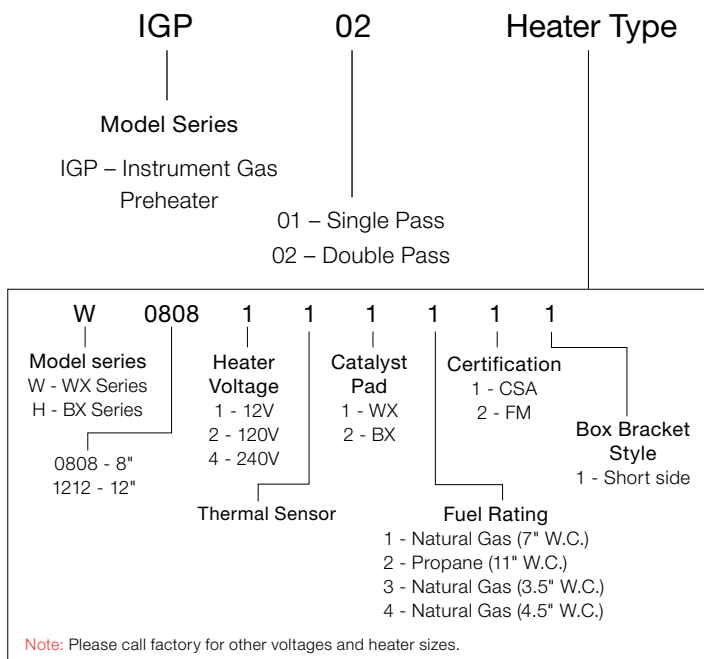


TABLE 12 - Instrument Gas Preheater

Part Number	Coils	Heater Size in	Length in (mm)	Width in (mm)	Height in (mm)
IGP-01-__0808	Single Pass	8 x 8	6 (152)	14 (356)	14 (356)
IGP-02-__0808	Double Pass	8 x 8	6 (152)	14 (356)	18 (457)
IGP-01-__1212	Single Pass	12 x 12	5 (127)	18 (457)	18 (457)
IGP-02-__1212	Double Pass	12 x 12	5 (127)	18 (457)	18 (457)



Model Coding



A

Options

- A – Appliance regulator (factory matched to heaters)
- B – Service regulator (low pressure, 250 psig - 11" w.c.)
- B1 – Service regulator (low pressure, 250 psig - 4" w.c.)
- C – Service regulator (high pressure, 6000 psig - 50 psi)
- M – Wall mount bracket (not applicable to HEA)
- M1 – Pipe mount bracket (2" pipe size, U-Bolt mount)
- T – Thermostat [regular, 32°F - 104°F, factory matched to heater(s)]
- T1 – Thermostat
- T2 – Thermostat (high temperature, 60°F - 250°F)
- V – Relief valve (Fisher 289U 5"-25" w.c.)
- V1 – Relief valve (Fisher H120, 120 psi)

Enclosure Request for Quote Form

Enclosure Type

- Regulator
- Pipe preheater
- Rotary meter
- Motor valve
- Orifice fitting
- Super conductor
- Instrument gas preheater
- Other (description): _____

Device to be Enclosed

Type or manufacturer, size, model: _____

Temperature

Gas inlet before device: _____ °F / °C
 Temp. limit of enclosed device: _____ °F / °C
 Gas outlet after device: _____ °F / °C

Piping

Diameter: Inlet _____ in. Outlet _____ in
 Design temperature: _____ °F / °C
 Design pressure: _____ psig

Pressure

Gas inlet before regulator or enclosure: _____ psig
 Gas outlet after regulator of enclosure: _____ psig

Gas Flow

Maximum: _____ SCFM Minimum: _____ SCFM

Type of Gas Being Heated

- Natural Gas
- LPG
- Other: _____

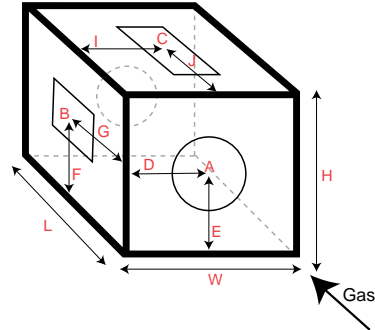
Electrical/Controls

Supply Power: _____ V

Hazardous Physical Dimensions Restrictions

	Maximum	Minimum
L		
W		
H		

Dimension Size:



- A: _____ F: _____
- B: _____ G: _____
- C: _____ H: _____
- D: _____ I: _____
- E: _____ J: _____

Other Field Restrictions (please specify): _____

Available Drawings/Sketches: Yes (please attach) / No

Available Photos: Yes (please attach) / No

Options

- Manual shut-off ball valve
- Filter: H₂S / Water / Oil / Particles
- Filter Bypass Line

Thermostat Control

- High temperature controller: 60°F to 250°F (15°C to 121°C)
- Temperature controller: 32°F to 110°F (0°C to 43°C)

FLO-DRI Compressed Gas Scrubbing System

The FLO-DRI gas scrubber removes gas contaminants including H₂S, moisture, hydrocarbon, aerosols and particulate solids at point of use. All FLO-DRI filters are engineered for low cost and long life, featuring easy cartridge change out, low pressure drop and low maintenance.

Applications

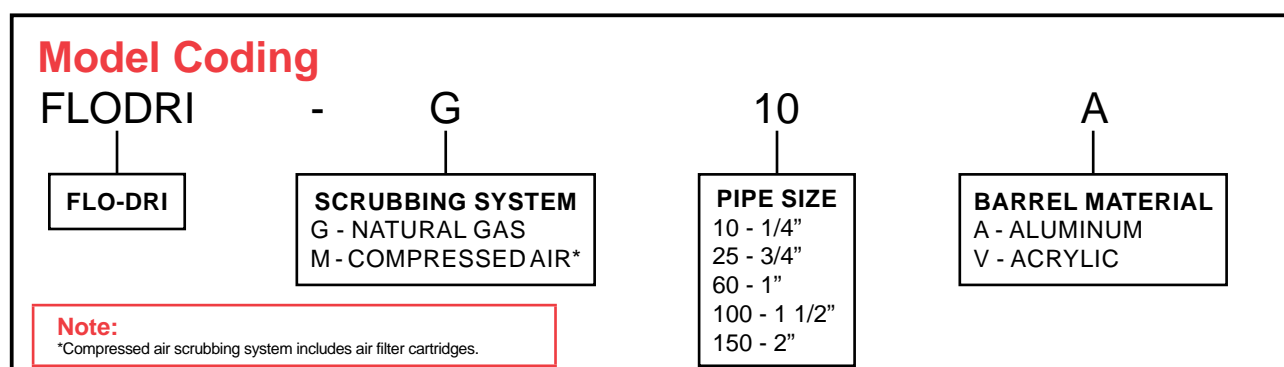
FLO-DRI gas scrubbers employ various media cartridges to remove moisture oil, H₂S and particulate down to 0.5 micron in size, providing clean, dry gas for critical applications.

Standard Features

- Removes particulate down to 0.5 microns in size
- O-ring closure seal
- Working pressures up to 250 psig
- Variable flow rates with low pressure drop
- Drain cock
- Patented “quick change” filters
- Variety of filtration media available, including activated carbon, activated aluminum and molecular sieve.



Scrubbing System	Model Number	PSIG	Number of Cartridges	Overall Length in (mm)	Overall Diameter in (mm)	Port to Port in (mm)	Pipe Size NPT	Bed Cubic in ³	Cartridge Media Part Number
Natural Gas	FLODRI-G10A	150	1	8.50 (216)	4.00 (102)	5.00 (1270)	1/4"	12.56	FLODRI-10AA
									FLODRI-10AC
									FLODRI-10MS
	FLODRI-G25A	250	2	12.88 (327)	5.12 (130)	8.13 (206)	3/4"	30.78	FLODRI-25AA
									FLODRI-25AC
									FLODRI-25MS
	FLODRI-G60A	250	3	18.25 (464)	6.25 (159)	12.38 (314)	1"	84.47	FLODRI-60AA
									FLODRI-60AC
									FLODRI-60MS
	FLODRI-G100A	250	4	23.31 (592)	7.75 (197)	17.00 (432)	1 1/2"	199.06	FLODRI-100A
FLODRI-100AC									
FLODRI-100MS									
FLODRI-G150A	250	2	26.00 (660)	9.25 (241)	18.19 (462)	2"	376.52	FLODRI-150AA	
								FLODRI-150AC	
								FLODRI-150MS	
Compressed Air	FLODRI-M10A	150	1	8.50 (216)	4.00 (102)	5.00 (1270)	1/4"	12.56	FLODRI-10R
	FLODRI-M25V	125	2	12.88 (327)	5.12 (133)	8.13 (206)	3/4"	30.78	FLODRI-25R
	FLODRI-M25A	250	2	12.88 (327)	5.12 (133)	8.13 (206)	3/4"	30.78	
	FLODRI-M60A	250	3	18.25 (464)	6.25 (159)	12.38 (314)	1"	84.47	FLODRI-60R
	FLODRI-M100A	250	4	23.31 (592)	7.75 (197)	17.00 (432)	1 1/2"	199.06	FLODRI-100R
	FLODRI-M150A	250	2	26.00 (660)	9.25 (241)	18.19 (462)	2"	376.52	FLODRI-150R



FLO-DRI

G-10/M-10

- 150 psig maximum allowable pressure
- 1/4" NPT pipe size



G-100/M-100

- 250 psig maximum allowable pressure
- 1 1/2" NPT pipe size



G-25

- 250 psig maximum allowable pressure
- 3/4" NPT pipe size



G-150/M-150

- 250 psig maximum allowable pressure
- 2" NPT pipe size



G-60/M-60

- 250 psig maximum allowable pressure
- 1" NPT pipe size

M-25

- 125 psig maximum allowable pressure
- 3/4" NPT pipe size
- For compressed air applications



Replacement Cartridge Model Coding

FLODRI - 10 - AA

FLO-DRI

PIPE SIZE
 10 - 1/4"
 25 - 3/4"
 60 - 1"
 100 - 1 1/2"
 150 - 2"

NATURAL GAS CARTRIDGE MEDIA
 AA - MOISTURE REMOVAL
 AC - ODOR REMOVAL
 MS - H₂S & MOISTURE REMOVAL

COMPRESSED AIR CARTRIDGE MEDIA
 R - MOISTURE REMOVAL, AIR PURIFIER

Note:
 To order specify model number and cartridge media part number.

FLO-DRI

Cata-Dyne™ Natural Gas Line Heaters



Custom Engineered Line Heater (above)

Standard LH Series Line Heater (right)

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 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 Z83.20b-2011/ CSA 2.34b-2011 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 16 - Cata-Dyne™ Line Heater Models

Model	Heater Input (Btu/hr)		External Dimensions in (mm)
	Minimum	Maximum	Length x Width x Height
LH-40	10,000	40,000	56 x 48 x 84 (1420 x 1219 x 2130)
LH-60	15,000	60,000	
LH-80	20,000	80,000	
LH-100	25,000	100,000	78 x 68 x 90 (1980 x 1725 x 2286)
LH-160	40,000	160,000	

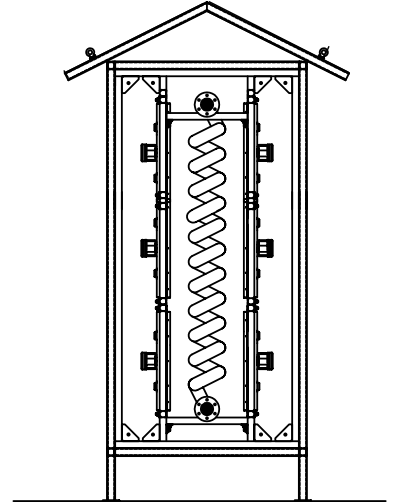
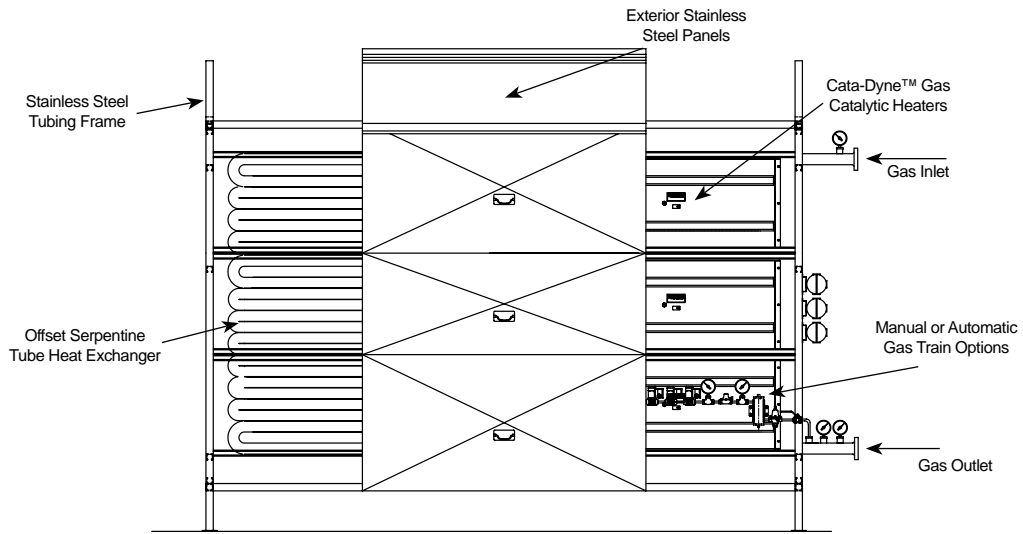
Hybrid Capabilities

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.

Cata-Dyne™ Custom Engineered Line Heater



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: _____

Dutg required (If available) _____ Btu/hr

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:

Total Step Down Pressure: _____ psi (kPa)

Gas Flow Rate:

Maximum: _____ lb/hr

Minimum: _____ lb/hr

Electrical/Controls:

Supply Power: _____ volt/phase

Automated System Manual System

Area of Classification:

Non-Hazardous

or

Hazardous:

Class: _____ Div: _____ Group: _____ "T" Code: _____

Indoor Outdoor

Gas Properties:

Pipeline grade natural gas

or

Other

*Molecular wight: _____

Complete if selected "Other"

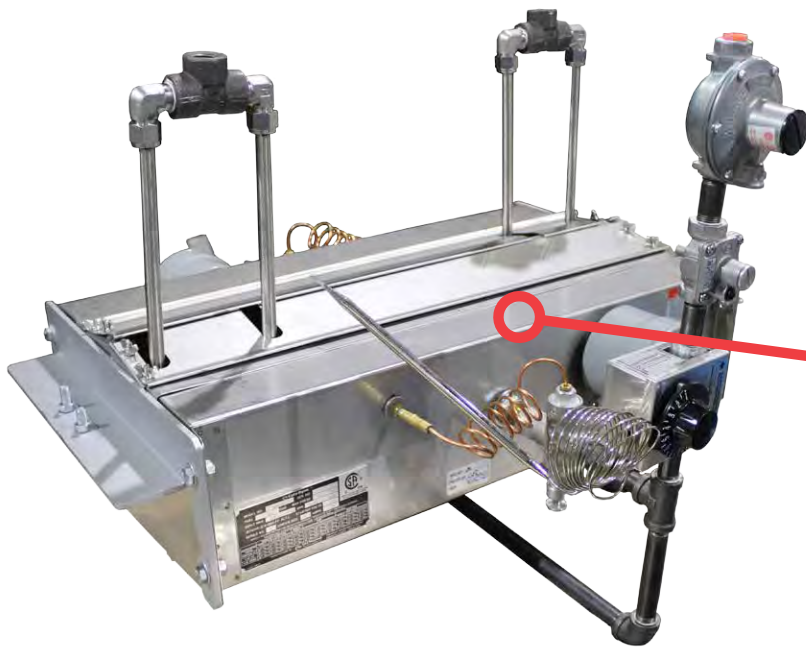
	IN	OUT	
Density	_____	_____	lb/ft ²
Heat Capacity	_____	_____	btu/lb•°F
Termal Contro	_____	_____	Btu/hr/(H°R)
Viscosity	_____	_____	lb/(ft•hr)
Enthalpy	_____	_____	btu/lb

*Please include gas composition if available.

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

Line Heater Request For Quote Form

Cata-Dyne™ Micro Line Heaters



The heart of each Micro Line Heater is the standard Cata-Dyne™ WX Heater. 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 Cata-Dyne™ Micro Line Heater prevents equipment freezing and possible hydrate formation during pressure reduction at natural gas regulating sites. The Micro Line Heater heats the gas stream using infrared radiant heat transfer, eliminating the use of burners, glycol fluid and high maintenance heat exchange systems. Custom engineered units for non-standard applications are available.

Features

- Allows for installation in existing facility by mounting onto 1" and 2" piping reducing installation costs
- Certified for use in Class I, Division 1 & 2, Group D locations
- Conforms to CSA B149.1 & B149.3
- Meets the new ANSI Z83.20b-2011/CSA 2.34b-2011
Sizes available from 10,000 to 40,000 Btu
- Handles between 40 to 130 Mcf/D of Natural Gas
- With pressure reductions as high as 1200 psi down to 50 psi without freeze-offs
- Simple thermostat controls allowing for easy adjustment

The Cata-Dyne™ Micro 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™ Micro Line Heater.

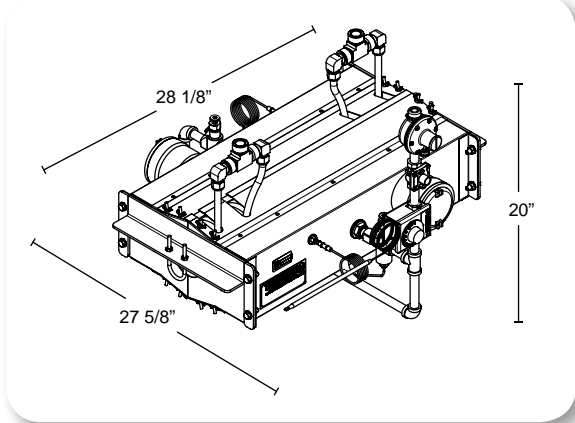
Benefits

- Ideal for lower flow conditions where Glycol Water Bath systems are excessive
- Approximately ¼ of the cost of standard glycol water bath system
- No glycol
- Simple start-up allows for system to be shut-down and started as required during low/zero flow conditions
- Reduced maintenance

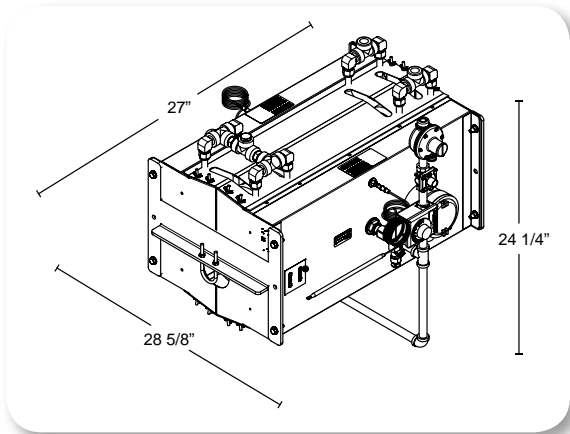
MLH

Standard Heater Sizes

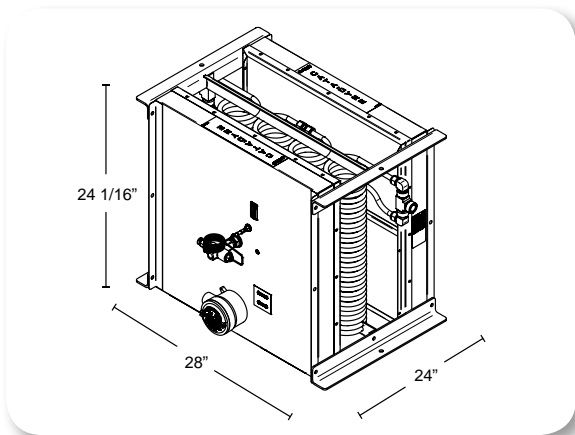
6" x 24" Single Coil



12" x 24" Double Coil



24" x 24" Quad Coil



MLH

CHS Industrial Facility Hazardous Area Heating Package



The Cata-Dyne™ CHS Series Heating Package is the industry standard for space and spot heating applications where flammable gases, vapours or liquids may be present. Equipped with explosion-proof infrared heaters, this package comes standard or custom designed to meet any unique application.

The Cata-Dyne™ infrared heaters are controlled either manually or with an integrated hazardous locations control panel.

Applications

Comfort heating for industrial buildings, CNG, LNG or propane vehicle maintenance facilities and freeze protection for equipment and components.

Control Panel Features

- Single switch ON/OFF/STANDBY control
- -18°C to 38°C (0°F to 100°F) thermostat
- Interlock terminals for integration with ancillary equipment
- Custom options available
- CSA_{US} certified for Class I, Division 2, Group D, or optional UL_C certification for Class I, Division 1, Group D, IEC Ex
- Expandable to 6 zones
- Touch screen option for CSA Class 1, Division 2
- Exhaust fan control

Control Panel Benefits

- Single point control of multiple heaters
- Floor level access to all control functions
- Interlock terminals for remote "Enable" & "Standby"
- Self diagnostic fault indication
- Optional remote thermostat for each zone

Heater Features

- Proprietary Cata-Dyne™ catalyst pad
- Corrosion resistant 300 series stainless-steel construction
- Natural gas or propane operation
- Electric start available in 120V to 600V
- Individual heater models range from 8,000 - 48,000 Btu/hr
- CSA certified for use in Class I, Division 1 & 2, Group D hazardous locations
- Certified to ANSI Z83.20b-2011/CSA 2.34b-2011
- NFPA30A Compliant

Heater Benefits

- No moving parts and designed to operate indefinitely when supplied with clean fuel and adequate ventilation
- Heaters can be strategically positioned to optimize heat distribution

CHS

TABLE 17 - Control Panel Capacities - Heaters/Controllers Per Zone

Heater		Preheat Wattage					Maximum Amount Heaters (Maximum Current)						
Size	Btu/hr Rating	120V	208V	240V	480V	600V	120 vac 1Ø	208 V 1Ø	240 vac 1Ø	208 vac 3Ø	240 vac 3Ø	480 vac 3Ø	600 vac 3Ø
12x24	8000	500	500	500	700	550	48 H (200 A)	48 H (115 A)	48 H (100 A)	48 H (66.7 A)	48 H (57.8 A)	48 H (40.5 A)	48 H (25.4 A)
12x36	12000	600	600	600	600	600	48 H (240 A)	48 H (138 A)	48 H (120 A)	48 H (80.0 A)	48 H (69.4 A)	48 H (34.7 A)	48 H (27.7 A)
12x48	16000	800	800	800	800	800	42 H (280 A)	48 H (185 A)	48 H (160 A)	48 H (107 A)	48 H (92.5 A)	48 H (46.2 A)	48 H (37.0 A)
12x60	20000	1250	1250	1250	1250	1250	27 H (281 A)	48 H (288 A)	48 H (250 A)	48 H (167 A)	48 H (145 A)	48 H (72.3 A)	48 H (57.8 A)
12x72	24000	1450	1450	1450	1450	1450	23 H (280 A)	39 H (272 A)	47 H (284 A)	48 H (193 A)	48 H (168 A)	48 H (83.8 A)	48 H (67.1 A)
18x24	12000	500	500	500	700	~	48 H (200 A)	48 H (115 A)	48 H (100 A)	48 H (66.7 A)	48 H (57.8 A)	48 H (40.5 A)	N/A
18x36	18000	1200	1200	1200	1200	1200	28 H (280 A)	48 H (277 A)	48 H (240 A)	48 H (160 A)	48 H (139 A)	48 H (69.4 A)	48 H (55.5 A)
18x48	24000	1600	1600	1600	1600	1600	21 H (280 A)	36 H (277 A)	42 H (280 A)	48 H (213 A)	48 H (185 A)	48 H (92.5 A)	48 H (74.0 A)
18x60	30000	2500	2500	2500	2500	2500	13 H (271 A)	24 H (288 A)	27 H (281 A)	39 H (271 A)	45 H (271 A)	48 H (145 A)	48 H (116 A)
18x72	36000	2900	2900	2900	2900	2900	11 H (266 A)	20 H (279 A)	23 H (278 A)	33 H (266 A)	39 H (272 A)	48 H (168 A)	48 H (134 A)
24x24	16000	500	500	500	700	~	48 H (200 A)	48 H (115 A)	48 H (100 A)	48 H (66.7 A)	48 H (57.8 A)	48 H (40.5 A)	N/A
24x30	20000	500	500	500	700	~	48 H (200 A)	48 H (115 A)	48 H (100 A)	48 H (66.7 A)	48 H (57.8 A)	48 H (40.5 A)	N/A
24x36	24000	1200	1200	1200	1200	1200	28 H (280 A)	48 H (277 A)	48 H (240 A)	48 H (160 A)	48 H (139 A)	48 H (69.4 A)	48 H (55.5 A)
24x48	32000	1600	1600	1600	1600	1600	21 H (280 A)	36 H (277 A)	42 H (280 A)	48 H (213 A)	48 H (185 A)	48 H (92.5 A)	48 H (74.0 A)
24x60	40000	2500	2500	2500	2500	2500	13 H (271 A)	24 H (288 A)	27 H (281 A)	39 H (271 A)	45 H (271 A)	48 H (145 A)	48 H (116 A)
24x72	48000	2900	2900	2900	2900	2900	11 H (266 A)	20 H (279 A)	23 H (278 A)	33 H (266 A)	39 H (272 A)	48 H (168 A)	48 H (134 A)

Hazardous Location Control Panel

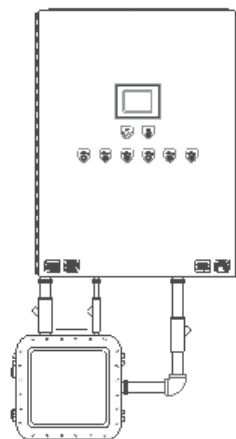


Figure 1

Typical for 6 Stages

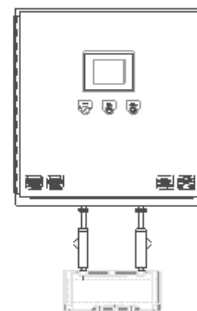


Figure 2

Typical for 1 Stage Unit

CHS

Accessories

In many typical oil & gas applications that are classified as Class I hazardous locations, the Cata-Dyne™ heater must be installed in accordance with CSA and FM codes and regulations. As a result, the Cata-Dyne™ product line is supported with essential accessories required to ensure the safe and efficient operation of the units.

Safety Shut-Off Valves

- The safety shut-off valve works in conjunction with the thermocouple to monitor the catalytic reaction ensuring it is well established before fuel supply remains on unattended
- Designed to automatically shut off the gas supply to the heater if the thermocouple senses that the catalyst pad has dropped below the activation temperature
- Two styles are available to suit your heating application needs



ASV375 - Safety Shut-Off Valves

- 3/8" NPT connections and a maximum inlet pressure of 1/2 psi
- designed with a pilot test port located at the base of the valve that can be used to measure operating pressure

TABLE 18 - ASV375

Part #	Description
Valve - ASV375	Safety Shut-Off Valve & Thermostat

ASV375NT - Safety Shut-Off Valves

- The ASV375NT valve includes an additional tamper-resistant design discouraging mechanical attempts to fix the valve open and override it's safety feature
- 3/8" NPT connections and a maximum inlet pressure of 1/2 psi

TABLE 19 - ASV375NT

Part #	Description
Valve - ASV375NT	Tamper-Proof Safety Shut-Off Valve

Mertik Combination Gas Controls/Valves

- Designed as a non-electric combination of the safety shut-off valve and a thermostat control
- Includes a tamper-resistant thermocouple connection that cannot be mechanically fixed open

TABLE 20 - Mertik

Part #	Description
AC-GV33	Combination Gas Control/Valve

Certifications

- Mertik - CSA approved and CE certified
- ASV375 and ASV375NT - CSA approved

Thermostatic Temperature Control Valve

- This valve is designed with a bulb and capillary assembly that automatically regulates fuel flow to a Cata-Dyne™ heater from 100% when heat is required to approximately 30% when the thermostat is satisfied
- This unit is used to control building temperature for spot and space heating applications
- The sensing bulb is filled with a temperature sensitive liquid. Changes in the temperature at the bulb expand and contract the liquid on temperature rise and fall causing the internal mechanism to modulate the flow of fuel
- Temperature control range of 0°C to 44°C (32°F to 110°F)
- Maximum inlet pressure of 1/2 psi
- Each unit has a connection size of 3/8" NPT female and a capillary length of 5 ft (1.5 m)
- No electrical power is required to operate this unit
- Controls are factory set to specific Btu and fuel ratings for specific heater types and sizes. Contact factory for the appropriate thermostat control valve.



Certifications

- CSA approved

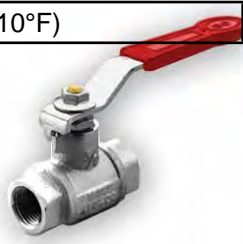
TABLE 21 - Temperature Control Valves

Part #	Description
--------	-------------

AC-TC	0°C to 44°C (32°F to 110°F)
-------	-----------------------------

Manual Shut-Off Ball Valve

- The ball valve is installed upstream of all auxiliary heater controls to manually shut-off the fuel supply to the Cata-Dyne™ heater, see installation instructions for correct configuration for each fuel type
- A 3/8" NPT shut-off ball valve, with female NPT inlet and outlets in forged brass which increases the strength of the body
- Supplied with all manually controlled Cata-Dyne™ heaters
- The hard chrome-plated ball has Teflon seats and an anti-corrosion Dacromet treated handle



Certifications

- CSA approved and UL listed

Thermocouples

- The Type K Thermocouple is a probe made from two dissimilar metals that monitors the temperature of both the electrical start-up element and the underside of the catalyst pad inside the Cata-Dyne™ heater



Certifications

- Thermocouples are CSA approved

Gas Pressure Regulators

- All regulators are designed to ensure there is a precise control of gas or propane flow
- The regulators are part of the piping system connecting to the Cata-Dyne™ units, see installation and operating instructions for precise configuration
- The following three types of regulators are available: Appliance Regulators, Service or Low Pressure Regulators and High Pressure Regulators



Appliance Regulators

- The appliance regulator is used for controlling the manifold pressure on all natural gas Cata-Dyne™ heaters and is supplied with all CSA certified models
- It is a spring type, nonadjustable appliance regulator with a maximum inlet pressure 1/2 psig
- Available pressure outlet settings are: 3.5" (89 mm), 4.5" (114 mm) and 7.0" (178 mm) w.c.

- Maximum flow capacity: 65,000 Btu/hr

Certifications

- appliance regulators are CSA approved

Service or Low Pressure Regulators

- Used as an appliance regulator for all model sizes of Cata-Dyne™ heaters operating on LPG, and serves as a natural gas low pressure line regulator when used in conjunction with the ES-404 gas appliance regulator
- Self-operated, spring loaded device that is field adjustable
- It has a maximum inlet pressure of 250 psig and is factory set at 11" w.c. or 4.5" w.c. outlet pressure, with a connection size of 1/4" NPT inlet by 3/8" NPT outlet
- Ambient temperature range: -40°C to 55°C (-40°F to 130°F) or -29°C to 70°C (-20°F to 160°F) (Fisher regulator only)
- Maximum rating for propane: 140,000 Btu/hr (41 kW)
- Maximum rating for natural gas: 70,000 Btu/hr (20.5 kW)
- 1/8" NPT screwed vent connection is provide.

Certifications

- low pressure regulators are CSA approved or UL listed (Fisher only)

High Pressure Regulators

- Maximum pressure of 6,000 psig inlet pressure and is factory set at 50 psig outlet pressure
- Connection size is 1/4" NPT (one inlet and two outlets)

Certifications

- High pressure regulators are UL listed

TABLE 22 - Gas Pressure Regulators

Part #	Description
AC-R-ES404-7	Max Appliance Regulator 1/2 psig - 7" w.c. (1.7 kPa)
AC-R-2511	Low Pressure Regulator 250 psig - 11" w.c. (1.1 kPa)
AC-R-1301F	High Pressure Regulator 6000 psig inlet (41 MPa) 50 psig outlet (345 kPa)

Battery Cables/Electric Start Up Leads

- Are used for starting a 12V Cata-Dyne™ heater from a battery or other power supply
- Each set of cables comes with heavy duty spring loaded serrated jaw clamps at one end and closed loop terminal ends the other
- A strain relief connector is attached at the terminal end to enable the user to seal the connection between the cable and the junction box
- Lengths are available in 25 ft (7.6 m), 30 ft (9.14 m), and 40 ft (12.19 m)



TABLE 23 - Start-Up Leads 12V

Part #	Description
AC-LEAD-25	25 ft. Lead
AC-LEAD-30	30 ft. Lead
AC-LEAD-40	40 ft. Lead

Battery Cable Cabinet

- This mountable storage cabinet is a convenient solution for storing battery start-up leads, offering protection from adverse weather conditions
- Each cabinet is manufactured from heavy duty 20-gauge stainless steel, and can be used with all lengths of battery cables from 25 ft to 40 ft (7.6 m to 12.2 m)
- The units are lockable and easy to install



TABLE 24 - Battery Cable Cabinet

Part #	Description
IN-BATBOX	Battery Cable Cabinet

Fuel Gas Hose

- Versatile braided rubber fuel hose
- These hoses have a 350 psi maximum working pressure, and are available in lengths of 5, 10, 15, 20 ft (7.6 m to 12.2 m). Other custom sizes are available
- The connection size at each end is 3/8" NPT male

Certifications

- CSA approved Type 1 natural and propane gas hose

TABLE 25 - Propane Hoses

Part #	Description
AC-HOSE-10	10 ft. Hose
AC-HOSE	15 ft. Hose
IN-P-H-3/8 x 20 ft.	20 ft. Hose
IN-P-H-3/8 x 25 ft.	25 ft. Hose
IN-P-H-3/8 x 30 ft.	30 ft. Hose

Protection Grilles

Two types of protection grilles are available to protect personnel and objects from coming into direct contact with the face of the Cata-Dyne™ heater.



Strap-On Grilles

- Comes with four straps on all corners so the grille can be bolted to the heater box
- Can be bolted to a variety of standard Cata-Dyne™ heaters
- The bolting hardware is included in the purchase

Note:

Cannot be used with MKII units. Not available for all sizes.

Snap-On Grilles

- These snap on to the bezel of the Cata-Dyne™ heater
- Available in a variety of sizes
- They do not require any additional hardware or tools to install
- MKII units accept this style only

Note:

Can only be used with units manufactured after Sept 1, 2002.

Gas Pressure Test Kit

- Pressure gauge and PVC tube used to accurately test and measure the gas pressure going into a Cata-Dyne™ heater by connecting the tube end to the gas test port of the Safety Shut-Off Valve
- Portable kit, ideal for all heater sizes
- Eliminates the need to fit test ports on pipelines used for heater operation
- Includes a 15" w.c. (3.7 kPa) pressure gauge, a 6 ft (1.8 m) PVC tube and the connection to the SSOV
- Compatible with both natural gas and propane heaters

POL Adapters

- Propane fitting adapter used as a straight adapter that reduces a propane cylinder adapter to 1/4" NPT
- Full flow brass fitting with a 7/8" (22 mm) hex nut



Stratafan™

Stratafan™ produces up to 150 cfm of air flow promoting uniform distribution of heat within enclosed areas, reducing temperature stratification and ventilation dead spots. This thermoelectric fan is self powered by a thermoelectric generator and has a cast aluminum housing.



Certifications

- CSA certified for Class I, Divisions 1 & 2, Group D Hazardous locations; certified to temperature code T3C

Vent Hood Assembly

- A light weight galvanized steel construction venting system for use with the Cata-Dyne™ heater to vent the by-products of reaction (carbon dioxide and water vapour) outside the building
- Each assembly consists of 1 exhaust hood, 1 length of vent pipe 30" (762 mm), 1 elbow, 1 flashing, and 1 snowcap
- Assemblies available for both standard Cata-Dyne™ heaters and MKII models (12" and 24")
- The above parts can be ordered individually



TABLE 26 - Vent Hood Assemblies

Part #	Width
AC-VHASSY-6	6" (152 mm)
AC-VHASSY-8	8" (203 mm)
AC-VHASSY-12	12" (305 mm)
AC-VHASSY-24	24" (610 mm)
AC-VHASSY-36	36" (914 mm)
AC-VHASSY-48	48" (1219 mm)
AC-MKII VHASSY-12	MKII - 12" (305 mm)
AC-MKII VHASSY-24	MKII - 24" (610 mm)

Wall Mounting Brackets

- Optional stainless steel or mild steel constructed mounting brackets and hardware
- Standard wall brackets can mount Cata-Dyne™ heaters 7.5" (190 mm) away from the wall to allow access to the back of the heater
- MKII model bracket sizes are half the length of our standard wall mounting brackets allowing the heater to be installed closer to the wall
- Brackets for large units over 8,000 Btu/hr (2.3 kW) are manufactured from heavy gauge mild steel flat bar



TABLE 27 - Wall Mount Brackets

Part #	Heater Size (inches)
AC-WBRK-08	8x8
AC-WBRK-06	6x24
AC-WBRK-12	12x12
AC-WBRK-12	12x24
AC-WBRK-12	12x36
AC-WBRK-12	12x48
AC-WBRK-12	12x60
AC-WBRK-12	12x72
AC-WBRK-1824	18x24
AC-WBRK-1836	18x36
AC-WBRK-1848	18x48
AC-WBRK-1860	18x60
AC-WBRK-1872	18x72
AC-WBRK-2424	24x24
AC-WBRK-2430	24x30
AC-WBRK-2436	24x36
AC-WBRK-2448	24x48
AC-WBRK-2460	24x60
AC-WBRK-2472	24x72
AC-WBRK-MK12	12x12 and 12x24

45° Wall Mount Brackets

- Specialized mounting angle brackets used to simplify the installation of all 18" and 24" Cata-Dyne™ heaters
- Manufactured from mild rolled steel with a zinc plated finish

Conversion Data

TABLE 28 - Wall Mount Brackets - 45°

Part #	Description - Mounting Angle Bracket
AC-WBRK-1824-45	18 x 24, Short Side
AC-WBRK-1836-45	18 x 36, Long Side
AC-WBRK-1848-45	18 x 48, Long Side
AC-WBRK-1860-45	18 x 60, Long Side
AC-WBRK-872-45	18 x 72, Long Side
AC-WBRK-2424-45	24 x 24, Long Side
AC-WBRK-2436-45	24 x 36, Long Side
AC-WBRK-2448-45	24 x 48, Long Side
AC-WBRK-2460-45	24 x 60, Long Side
AC-WBRK-2472-45	24 x 72, Long Side

Floor Stands

- 12-gauge galvanized steel construction and hardware
- Allows the heater to be placed closer to an object than the wall mounting system
- Floor stands are adjustable, allowing the unit to be moved to the optimum height for the required heating application



TABLE 29 - Floor Mount Brackets

Part #	Description
AC-FSS-8	8x8
AC-FSS-24	6x24
AC-FSS-12	12x12
AC-FSS-24	12x24
AC-FSL	12x36
AC-FSL	12x48
AC-FSL	12x60
AC-FSL	12x72
AC-FSL	18x24
AC-FSL	18x36
AC-FSL	18x48
AC-FSL	18x60
AC-FSL	18x72
AC-FSL	24x24
AC-FSL	24x30
AC-FSL	24x36
AC-FSL	24x48
AC-FSL	24x60
AC-FSL	24x72

1000 Btu/hr = 0.2929 kW or 292.9 W
 1000 Btu = 1.054 MJ
 3,412 Btu/hr = 1.0 kW

1 psi = 27.91 inches w.c.
 1 psi = 6.895 kPa
 1 inch w.c. = 0.247 kPa

1 standard cubic foot NAT Gas = 1000 Btu
 1 standard cubic foot LPG = 2,500 Btu
 1 standard cubic meter NAT Gas = 37 MJ
 1 standard cubic meter LPG = 88 MJ

1 pound LPG = 21,560 Btu
 1 kilogram LPG = 50.1 MJ

3.5 inches w.c. = 8.7 mbar = 0.87 kPa = 0.126 psi
 4 inches w.c. = 9.9 mbar = 0.99 kPa = 0.144 psi
 7 inches w.c. = 17.3 mbar = 1.73 kPa = 0.251 psi
 11 inches w.c. = 27.2 mbar = 2.72 kPa = 0.394 psi

°C = (°F - 32) x (5/9)
 °F = (9/5 x °C) + 32

1 ft = 0.3048 m
 1 ft² = 0.09290304 m²
 1 ft³ = 0.02831685 m³
 1 in = 2.54 cm
 1 in² = 6.4516 cm²
 1 in³ = 16.38706 cm³

1 psi = 27.91 in. w.c.
 1 in. w.c. = 0.247 kPa

1 cfm = 0.028312 m³/hr

Inverse Square Law

Intensity of infrared energy is inversely proportional to the square of the distance from the source of energy.

For infrared energy, this translates to: $I = P/4\pi r^2$

Where: I = intensity of infrared at the heated object

P = total power emitted from IR source

r = the distance from the source to the heated object



Explosion-Proof Gas Catalytic Heaters

5918 Roper Road, Edmonton, Alberta, Canada T6B 3E1
Phone: (780) 466-3178 Fax: (780) 468-5904

PLEASE ADHERE TO INSTRUCTIONS PUBLISHED IN THIS MANUAL.
Failure to do so may be dangerous and may void certain provisions of your warranty.
For further assistance, please call:

24 Hr. Hotline: 1-800-661-8529

(U.S.A. and Canada)

Please have model and serial numbers available before calling.

WARRANTY: Under normal use the Company warrants to the purchaser that defects in material or workmanship will be repaired or replaced without charge for a period of 18 months from date of shipment, or 12 months from the start date of operation, whichever expires first. Any claim for warranty must be reported to the sales office where the product was purchased for authorized repair or replacement within the terms of this warranty.

Subject to State or Provincial law to the contrary, the Company will not be responsible for any expense for installation, removal from service, transportation, or damages of any type whatsoever, including damages arising from lack of use, business interruptions, or incidental or consequential damages.

The Company cannot anticipate or control the conditions of product usage and therefore accepts no responsibility for the safe application and suitability of its products when used alone or in combination with other products. Tests for the safe application and suitability of the products are the sole responsibility of the user.

This warranty will be void if, in the judgment of the Company, the damage, failure or defect is the result of:

- vibration, radiation, erosion, corrosion, process contamination, abnormal process conditions, temperature and pressures, unusual surges or pulsation, fouling, ordinary wear and tear, lack of maintenance, incorrectly applied utilities such as voltage, air, gas, water, and others or any combination of the aforementioned causes not specifically allowed for in the design conditions or
- any act or omission by the Purchaser, its agents, servants or independent contractors which for greater certainty, but not so as to limit the generality of the foregoing, includes physical, chemical or mechanical abuse, accident, improper installation of the product, improper storage and handling of the product, improper application or the misalignment of parts.

No warranty applies to paint finishes except for manufacturing defects apparent within 30 days from the date of installation.

The Company neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the product(s).

The Purchaser agrees that all warranty work required after the initial commissioning of the product will be provided only if the Company has been paid by the Purchaser in full accordance with the terms and conditions of the contract.

The Purchaser agrees that the Company makes no warranty or guarantee, express, implied or statutory, **(INCLUDING ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE)** written or oral, of the Article or incidental labour, except as is expressed or contained in the agreement herein.

LIABILITY: Technical data contained in the catalog or on the website is subject to change without notice. The Company reserves the right to make dimensional and other design changes as required. The Purchaser acknowledges the Company shall not be obligated to modify those articles manufactured before the formulation of the changes in design or improvements of the products by the Company.

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Warranty



As a leader in advanced heating and filtration solutions with facilities across North America, CCI Thermal Technologies Inc. manufactures six of the top brands in industrial heating in addition to a comprehensive line of engineered industrial filtration products including:



Cata-Dyne™ is the industry standard in infrared gas catalytic heaters, enclosures, pipeline systems and accessories. Customers across a wide range of industries rely on Cata-Dyne™ to supply them with safe, reliable, efficient and versatile infrared catalytic heating equipment for a variety of applications in both hazardous and non-hazardous environments.

Ruffneck™ is renowned for its rugged, reliable and versatile heavy-duty explosion-proof heaters, heating systems and heating accessories. Ruffneck™ has a long and proud history of supplying quality heating products for the harshest industrial environments to a worldwide customer base for over 30 years. Ruffneck™ is well-known in the industry for its "ship the heat in a week" policy, where 95% of all standard orders are shipped within one week of order placement.



Caloritech™ electric heaters, heating elements and heating accessories are well-known in the industry for their quality, reliability, performance and versatility. In addition to standard "off the shelf" industrial heaters and heating systems components, Caloritech™ also offers engineered heating solutions custom designed, manufactured and tested to satisfy customer specifications. No matter what your application or environment, Caloritech™ has a solution to fit your heating needs.

3L Filters™ has satisfied the most demanding industrial filtration requirements for over 40 years. A broad range of standard and custom products includes liquid filters, strainers, separators, pressure vessels, and engineered products and systems. 3L Filters™ has special expertise for nuclear, petrochemical, water treatment and environmental applications.



Norseman™ is the most technologically advanced line of explosion-proof electric air heaters and heating accessories, including both forced air heaters and natural convection heaters, as well as unit heaters, panel heaters and thermostats. Norseman™ offers innovative, low maintenance solutions for a wide range of applications in a variety of industrial and commercial environments. Custom engineered heaters or heating systems are available for specialized applications.

Fastrax® has manufactured railroad track and switch heating since 1995. Fastrax® engineers complete heating packages for the rail industry. Fastrax® track and switch heaters are designed to provide the most efficient heat transfer on rail equipment and components for the coldest environments. In addition to heaters, Fastrax® manufactures fully automatic energy saving controls to complete the rail heating system.



DriQuik™ provides components for infrared drying ovens. DriQuik™ utilizes a pioneered radiant oven technology established in the 1930s providing the industry standard in infrared radiant heating components.

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