Product Data Sheet
MS-00813-0200-0470, Rev AA
March 2024

Rosemount™ 470XA Freeze Protection Enclosure

For Natural and Process Gas Applications

Natural gas chromatographs (GCs) are often used in isolated locations for custody transfer applications. The GC and its sampling handling system can be exposed to extreme environmental conditions. These conditions may allow the gas in the sample system to fall below the hydrocarbon dew point of the gas, causing liquid fallout and inaccurate flow measurements. Isolated locations also leave the GC and auxiliary equipment vulnerable to tampering or theft.

A heated clamshell enclosure for the GC and a small calibration gas cylinder provide protection from intrusion from unauthorized third parties and theft with a lead-seal feature. A heater ensures an ambient internal environment of +50 °F (+10 °C) when outside temperatures drop to -20 °F (-29 °C), keeping the gas above its hydrocarbon dew point.

Features

The enclosure is constructed with CSA Class I, Division 1 components and is easy to use. The enclosure comes with the gas chromatograph (GC) prewired to an external Class I, Division 1 junction box, reducing the complexity of installation and saving you time and costs.

Designed for extreme environments

- Ultraviolet (UV) light, seawater, and fungi resistance
- Ability to lock and lead-seal the enclosure to prevent unauthorized third party access

Reduced installation costs

- Small, composite clamshell replaces the need for a conventional single room or dual room analyzer building that is cost-prohibitive for lower volume applications
- Enclosure enables locating the Rosemount 470XA GC close to the sample point, shortening the heated sample lines
- Internal tubing and wiring plumbed and connected to the GC before arriving in the field for easier and quicker field installation

Ease of use

- No need to remove the GC from the enclosure to perform routine maintenance, as the enclosure is designed with sufficient space and big hands in mind
- Enclosure's clamshell lid with stainless steel lid stays and spring loaded retainer chains is easy to lift, yet will not close accidentally for increased safety
- Heat-trace boot entry tubing for sample gas ensures thermal stability to keep the gas sufficiently above its hydrocarbon dew point to avoid liquid fallout

Contents

Ordering information

470ENC-FREZ: Enclosure 470XA Gas Chromatograph (GC) freeze protection, ambient temperature rating -20 °F (-29 °C)

Option notes

The freeze protection enclosure for the 470XA Gas Chromatograph (GC) is designed for standard natural gas applications or other applications where the sample hydrocarbon dew point is below +30 °F (-1 °C).

Pricing for enclosure and integration only. The GC and sample system must be ordered separately.

Level 1: Approvals

Code	Description
NA	No hazardous area rating on enclosure. Constructed with Class 1, Div. 1 components

Level 2: Heater option

Code	Description
E1	Electric heater, 120 Vac, T3 Class. Thermostat set at +50 °F (+10 °C)

Level 3: Sample system mounting for number of streams

Sample system not included; order separately.

Code	Description
1G	1 stream plate
2G	2 stream plate
3G	3 stream plate

Level 4: Calibration gas installation option

Calibration gas cylinder/regulator not included; order separately.

Code	Description
EXT	Bulkhead connection for external calibration gas cylinder
INT	Mounting for one internal LP5 calibration gas cylinder

Level 5: Bottle racks

If CAR option ordered, mounting holes will be drilled in the enclosure. Mounting hardware will be shipped loose.

Code	Description
CAR	Brackets/chains for 2 x carrier gas bottles mounted on the rear of the cabinet
NON	None

Level 6: Enclosure mounting

GC needs to be ordered with wall mount option.

Code	Description
F	Frame

Optional accessories

Sample probe regulator

Part number	Description
2-4-5000-610 (4 in./102 mm)	Genie® probe regulator with HSNG/GAG/RLF, ¾-in. NPT, 4 in. (102 mm)
2-4-5000-617 (7 in./178 mm)	Genie probe regulator with HSNG/GAG/RLF, ¾-in. NPT, 7 in. (178 mm)
2-3-5000-702	Genie drive probe with HSNG/GAG/RLF, ¾-in. NPT, adjustable length

Carrier gas and calibration gas accessories

Part number	Description
2-3-5000-050	Carrier manifold (allows for cylinder replacement without gas chromatograph (GC) interruption)
2-4-9500-078	Regulator, for carrier cylinder, with CGA 580 fittings, dual stage for high purity gases
2-4-9500-077	Regulator, for calibration gas, CGA-510 fittings (natural gas)
2-9-0020-945	C6+ calibration gas in LP5 cylinder
2-9-9020-779	Calibration heater blanket, 50 W, Class I, Div.1, Groups C, D (15 x 42)

Specifications

Please consult Emerson if your requirements are outside the specifications listed.

Improved performance, alternate products, and material offerings may be available depending on the application.

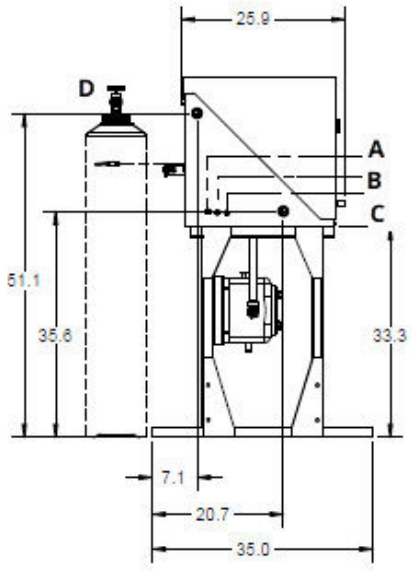
Construction

Environmental temperature	-20 °F to +140 °F (-29 °C to +60 °C)
Protection rating	External Junction Box: NEMA 4X
Protection rating area safety certification options	N/A: No hazardous rating, Class 1, Division 1 components
Optional Heater	Electric, 120 Vac, 300 W, T3
Total weight (excludes calibration gas cylinder)	300 lb. (136 kg)
Material	Enclosure: Hot-pressed glass fiber reinforced polyester Frame: Polyester-epoxy coated, 12 gauge low-carbon steel
Dimensions	Enclosure: 24 in. height x 52 in. width x 24 in. depth (609 mm height x 1320.8 mm width x 609 mm depth) Overall (with lid open): 84 in. height x 58 in. width x 35 in. depth (2142 mm height x 1479 mm width x 889 mm depth)
Mounting	Frame

Dimensional drawings

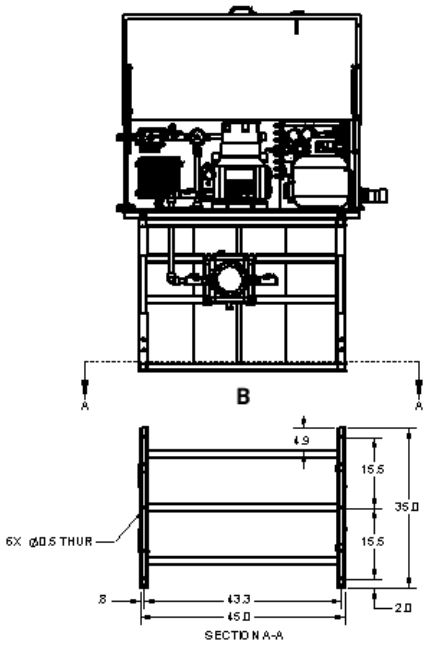
Dimensions are in inches.

Figure 1: Left view



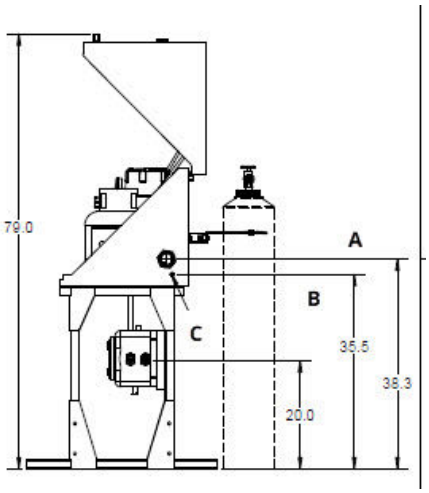
A. Measure vent
B. Sample vent
C. Sample bypass
D. Power in

Figure 2: Front view with door open



A. Section A-A
B. Front (door open)

Figure 3: Right view



A. Stream in
B. Carrier in
C. Four bulkheads

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For more information: **Emerson.com/global**

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