

# Rosemount™ 370XA

## Modular Installation Solutions



The Rosemount 370XA Modular Installation Solution design suits all your installation requirements in a Zone 1 area. The installation solution can be a simple indoor rack, containing the required sample system and utility gas regulators, or a heated enclosure for outdoor installation in cold climates.

- Two enclosure options for modular installation solutions.
- Full compositional and physical properties traceable to international standards.
- Exceeds the requirements of OIMLR140 Class A measurement with the option of a twelve month validation interval.
- Ability to validate and calibrate on site, if required, without the need to return to the manufacturer.

# Overview

The Rosemount 370XA, part of the XA series of Emerson gas chromatographs, is designed to provide reduced cost, greater ease of use, and increased measurement performance for your C6+ and C7+ BTU/CV analysis.

Rosemount 370XA gas chromatographs provide the most extended analysis for extreme conditions. The Rosemount 370XA offers increased analytical capacity, reliability, and maintainability, combined with a wide range of analysis options in a field-mounted gas chromatograph (GC).

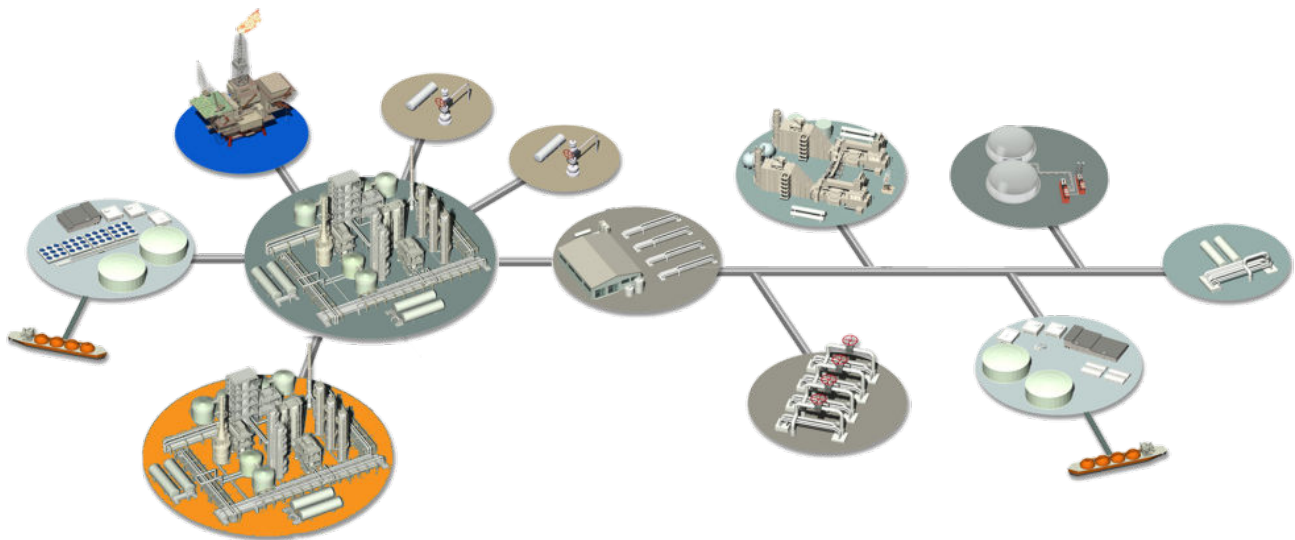
With a single-cast enclosure, the analyzer offers an efficient use of oven space to accommodate micropacked and capillary columns, as many as four 10-port valves, a rotary valve for liquid injections, and up to three detectors. With little internal cabling used, the Rosemount 370XA allows maximum access to valves and internal components, making maintenance quick and easy.

# Applications

## Applications for the Rosemount 370XA modular enclosure

For use across the natural gas value chain, the Rosemount 370XA modular installation solution provides full compositional data and physical property calculations to GPA and ISO standards, providing customers greater insight into their process control compared to inferential technologies.

**Figure 1: Rosemount 370XA Modular Enclosure Applications**



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## Natural gas custody transfer

Rosemount gas chromatographs are synonymous with calorific value/BTU measurement on gas transmission and distribution pipelines. Emerson designed the analyzer with simplicity and ease-of-use in mind, eliminating the complexity often perceived with gas chromatograph installations.

The modular installation options complement the products design and ensure a cost effective upgrade path is available for your aging installed base.

The Rosemount 370XA can perform ISO or GPA/AGA based physical property calculations and store the analysis results in non-volatile memory for up to 85 days. The stored data can be easily retrieved using MON2020™ or via Modbus® communication. Industry standard SIM\_2251 Modbus maps are used as the default serial communication protocol. The Rosemount 370XA can be customized to accommodate other requirements as needed.

Designed to replace other aging C6+ gas chromatographs currently installed in the network, the Rosemount 370XA does not require configuration changes to the SCADA system or Flow Computer.

Numerous metrology approvals are available for the Rosemount 370XA. See the [Rosemount](#) website for a list of certifications and approvals.

## Production gas measurement

Analyzing production gas in the gathering network has traditionally been done with manual or automatic samplers. However, the ongoing costs of collecting and analyzing these samples and the time delay between collecting the sample and receiving the results is leading many producers to look at installing on-line gas chromatographs closer to the wellhead.

The infrastructure and field knowledge that a traditional gas chromatograph requires for installation and ongoing maintenance often does not exist in the production and gathering network environment. The Rosemount 370XA addresses these concerns by decreasing the infrastructure and utility requirements for installation and operation and using the local operator interface (LOI) to guide operators through the most common maintenance functions.

## Power generation and furnace gas control

Tighter emissions regulations and the need for maximum burner efficiency require the air/fuel ratio to be optimized based on the energy content and quality of the incoming gas. The composition and energy content of the natural gas supplied can vary significantly with little or no notice from the gas provider.

Feed gases with Wobbe Index values outside of the burner's design parameters can result in damage to the burner tip or inefficient combustion leading to flame-outs. Monitoring the feed gas can provide a check on the natural gas supply and help avoid burner damage or unexpected flame-outs.

The Rosemount 370XA can measure the quality of the incoming gas and calculate its Wobbe Index to provide feed-forward control to the fuel/air ratio. This can lead to significant improvements in burner efficiency and lower emissions when compared to flue gas measurements that provide feedback control. Using the Wobbe Index value from the GC, the burner management system can adjust to changes in gas quality before the oxygen, NO<sub>x</sub>, or carbon monoxide levels in the flue gas streams increase.

## Renewable energy

As we move to more renewable energy sources in the reduction of CO<sub>2</sub> emissions, bio-methane production is on the increase.

The Rosemount 370XA solution provides producers a low cost, low risk, gas quality measurement to ensure maximum return on investment for your connection to the gas network.

## Features for modular installation solutions

- Full compositional and physical properties traceable to international standards.
- Exceeds the requirements of OIMLR140 Class A measurement with the option of a twelve month validation interval.
- Ability to validate and calibrate on site if required without the need to return to the manufacturer.

- Low sample gas flow rate to atmosphere.
- Low utility gas consumption with one 50l cylinder lasting eleven months or longer with latest available fill pressures.
- Remote diagnostics removing the safety risk traveling to site.
- Reduced engineering and procurement activities.
- Reduced installation costs.
- Reduced start-up and commissioning with optional on-site training by our certified technicians.
- Standard documentation packages saved on the Rosemount 370XA for future reference.
- Ability to add site-specific documents, such as calibration gas certificates to allow full audit trails with our API 21.1 audit log.

For further details please refer to the Rosemount 370XA [Product Data Sheet](#).

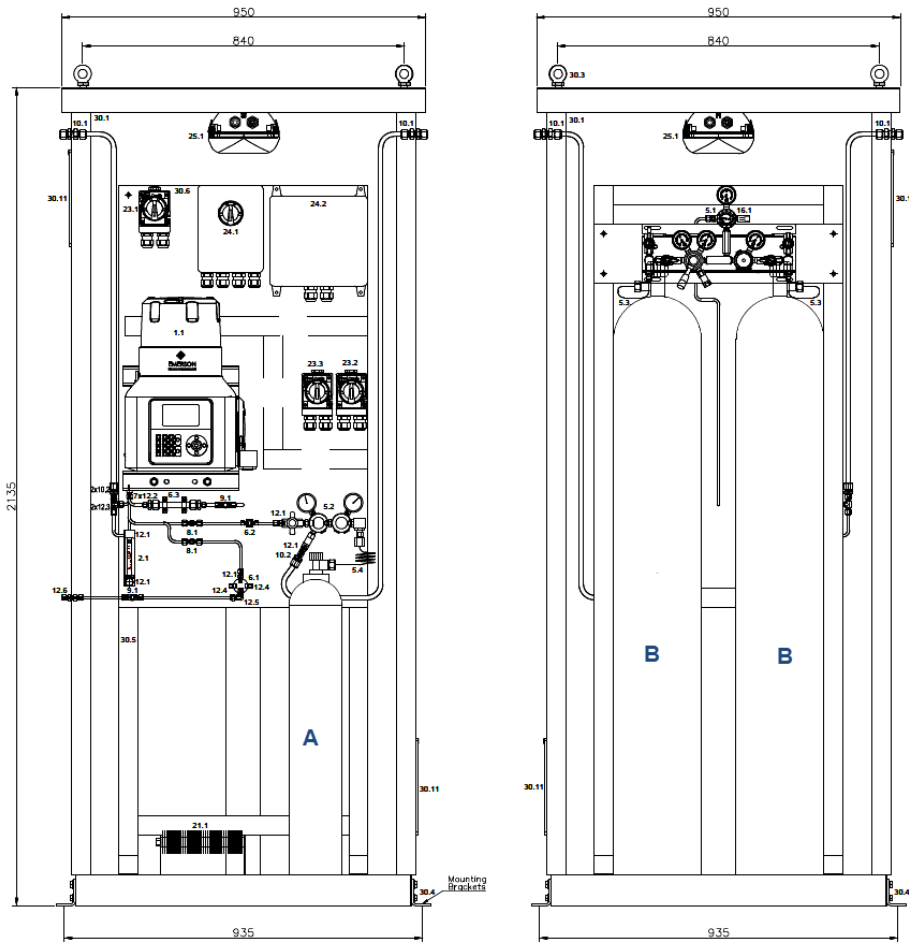
## Specifications

Option	Description
370XANGS	370XA Natural Gas System
<b>Level 1</b>	<b>Installation</b>
0	Basic frame only (for use indoors, ambient -4 to 122 °F (-20 to 50 °C) Cylinder heating required below 14 °F (-10 °C), see Level 6.
1	Basic frame with sun/rain shield ambient -4 to 122 °F (-20 to 50 °C) Cylinder heating required below 14 °F (-10 °C), see Level 6.
2	GRP enclosure with front and rear Doors, (for ambient temperature range -4 to 122 °F (-20 to 50 °C) Cylinder heating required below 14 °F (-10 °C), see Level 6.
<b>Level 2</b>	<b>Sample probe</b>
0	None - sample pressure 14.5 to 43.5 psig (1.0 to 3.0 BarG), customer take-off provided
1	Standard pressure reducing sample probe for sample pressures 43.5 to 1479.4 psig (3 to 102 BarG) and above. (Process Conditions must be provided)
2	For sample pressures below 14.5 psig (1.0 BarG)
3	Vaporizing probe for liquified natural gas (LNG)
<b>Level 3</b>	<b>Sample pressure regulator for sample pressures 43.5 to 435.1 psig (3 to 30 BarG)</b>
0	None - basic sample conditioning system for sample pressure 14.5 to 43.5 psig (1.0 to 3.0 BarG)
1	Pressure regulator for sample pressures 43.5 to 435.1 psig (3 to 30 BarG). (Fitted to the main sample handling system)
<b>Level 4</b>	<b>Fast loop bypass</b>
0	None - for sample lines less than 32 ft. (10 m)
1	Fast loop comprising bypass membrane filter and flow meter. (Fitted to main sample handling system)
<b>Level 5</b>	<b>Power Ppack</b>
0	None - customer 24 Vdc power supply required.
1	110/230 Vac power pack. Includes power supply, isolation switch, and junction box
<b>Level 6</b>	<b>Cylinder jacket</b>
0	None (for use with basic frame and ambient temperatures above 59 °F (15 °C))
1	Heated cylinder jacket for ambient temperature below 59 °F (15 °C). ATEX certified with isolation switch (power pack Level 5 required)
<b>Level 7</b>	<b>Lighting (for use with basic frame or enclosure)</b>
0	None
1	Internal light, ATEX certified with isolation switch (power pack Level 5 required)
<b>Level 8</b>	<b>Enclosure heater (for use with enclosure only)</b>
0	None (for use with ambient temperatures above 14 °F [-10 °C])
1	Enclosure heating (for ambient temperature below 14 °F [-10 °C]). ATEX certified with isolation switch (power pack Level 5 required)

<b>Option</b>	<b>Description</b>
<b>Level 9</b>	<b>Carrier and calibration gas control</b>
0	Single carrier gas pressure regulator with relief valve plus single calibration gas pressure regulator with relief valve automatically included
1	Auto change-over station for two carrier cylinders plus single calibration gas pressure regulator with relief valve automatically included
<b>Level 10</b>	<b>Gas cylinder connections</b>
0	DIN477
1	BS341
<b>Level 11</b>	<b>Documentation</b>
0	Standard documentation pack
<b>Level 12</b>	<b>Packing</b>
0	Standard, palletized, shrink-wrapped (shipping extra)
1	Export-packed, shrink-wrapped, wooden crate (shipping extra)

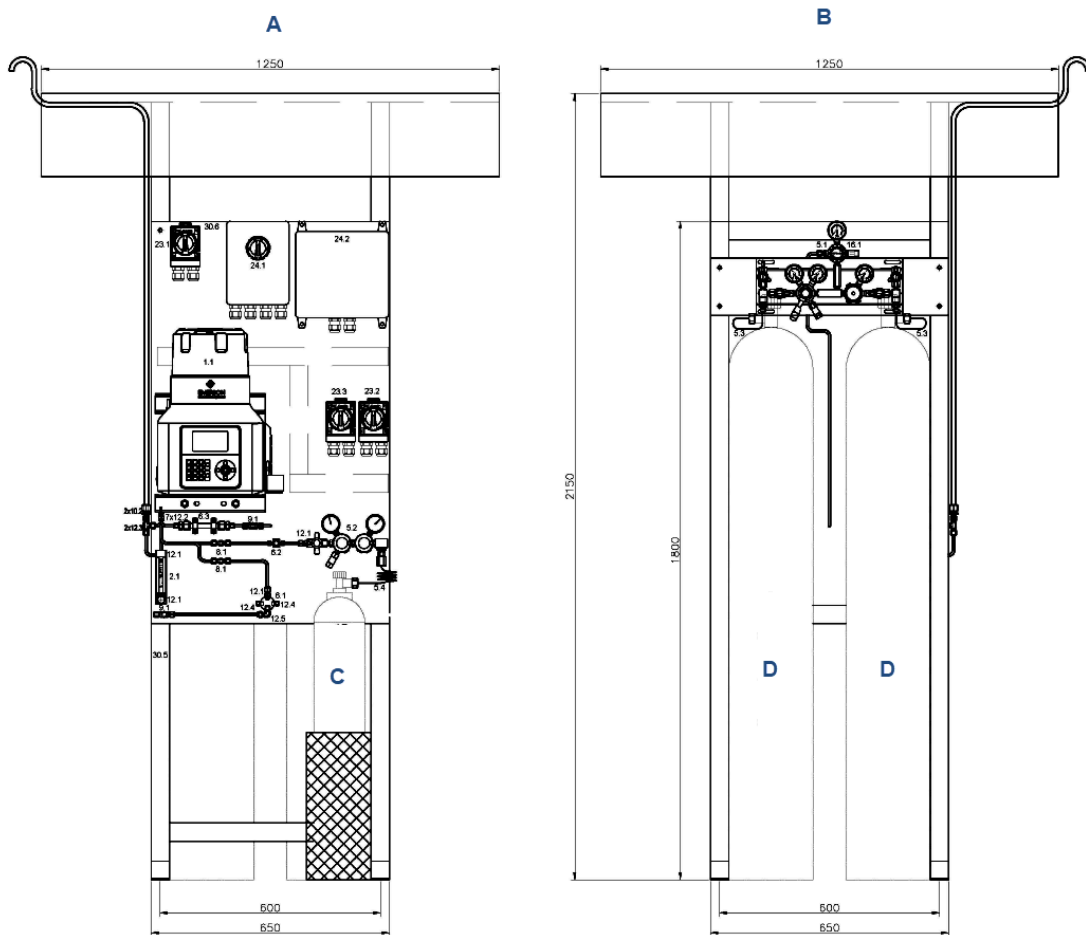
# Dimensional drawings

Figure 2: Rosemount 370XA Modular Enclosure



- A. Calibration gas
- B. Carrier gas (helium or hydrogen)

Figure 3: Rosemount 370XA Modular Rack with Weather Shield



- A. Front view
- B. Back view
- C. Calibration gas
- D. Carrier gas (helium or hydrogen)



## Lifecycle services and support

Our team of trained and certified field experts are available to support you during installation and commissioning, offering the opportunity for your technicians to gain some insight into the operation of the equipment. After start-up, our SureService options provide support in the unlikely event it is required. These services include:

- Telephone and remote support via our MON2020™ software
- Scheduled maintenance (remotely or on-site)
- Emergency support for critical applications
- Training

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### Note

For contact information, refer to the back page of this document or the [Emerson website](#).

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## Training services

Rosemount offers a complete list of training courses and continuous support programs to ensure your technicians know how to properly operate and maintain the GC during its lifecycle. All training courses are taught by Rosemount-certified instructors who provide the necessary hands-on training, theory, and conceptual knowledge needed to perform on-the-job functions safely and accurately.





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