HIGH ACCURACY

measurement instruments

PRODUCT DATASHEET

www.high-accuracy.com

Rosemount™ 770XA

Natural Gas Chromatograph

Rosemount™ 770XA gas chromatographs provide the most accurate analysis of natural gas available in a field mounted gas chromatograph (GC). The Rosemount 770XA features a design that increases analytical capability, maximizes ease of use, and widens the range of analysis options in a GC with an ambient temperature rating of -20 to 60 °C (-4 to 140 °F). These enhanced features make the Rosemount 770XA ideal for natural gas custody transfer and applications requiring advanced analysis such as C9+ (with hydrocarbon dew point and cricondentherm calculations) and C6+ with hydrogen sulfide (H_2S).

Rosemount 770XA Natural Gas Chromatograph

Features

Unmatched measurement performance

- Best C6+ heating value/BTU repeatability available
  ± / -0.010 % (± / -0.10 BTU/1000 BTU) in temperature controlled environment
  ± / 0.020 % (± / -0.20 BTU/1000 BTU) in uncontrolled environment (-20 to 60 °C/-4 to 140 °F) with a three minute cycle time
- Best in industry C9+ repeatability available ±0.0125 % of heating value (±0.125 BTU/1000 BTU) for controlled environment
  ±0.025 % (±0.25 BTU/1000 BTU) of heating value for uncontrolled environment (-20 to 60 °C/-4 to 140 °F) with a five minute cycle time
- Wide dynamic range from percent to trace level components down to 2 ppm
- Reliable performance over broad ambient temperatures -20 to 60 °C/-4 to 140 °F

Easy to use

- Single bolt analytical valve design for easy overhaul in the field
- Large column canister for both micro-packed and capillary columns of long lengths
- Internal stream selection and valve actuation solenoids that can be replaced easily in under five minutes
- Easy to use MON2020™ software for diagnostics
- Four conduit entry points in the electronics housing for easy wiring access
- One package for fiscal metering or gas quality
- Custody transfer analysis from C6+ to C9+
- Contaminant monitoring – trace hydrogen sulfide, carbon dioxide, oxygen, etc.
- Combine measurements and reduce analysis cost
  - C9+ with hydrocarbon dew point
  - C6+ with H_2S (3 to 30 ppm H_2S)
  - C6+ with oxygen
  - C6+ with helium and hydrogen
  - C9+ with methanol and water

Reduced installation costs

- Standard 24 Vdc power or optional 120/240 Vac power
- Integrated controller electronics
- Pipe-mount, wall-mount, or floor-mount

Lower operation and maintenance costs

- No shelter or instrument air required
- Low carrier and power consumption
- Longest gas chromatograph valve and column warranties available in the market today

Applications

Standard natural gas applications

Emerson™ has made popular end-user energy and gas quality applications standard on all Rosemount™ gas chromatographs. Applications may vary by components of interest, analysis time, reduced hardware, or improved precision. For non-standard natural gas applications, Rosemount can custom-engineer the 770XA gas chromatograph to fit most requirements.

Energy measurement (to C6+ and C9+)

The Rosemount 770XA gas chromatograph standard applications for energy measurement include C6+ (three minutes), C7+ (ten minutes), and C9+ (five minutes). The latest GPA 2145/2172, AGA-8, and ISO 6976 calculations are available and can be configured to be calculated together.

Standard Measurement Ranges		C6+	C7+	C9+
Methane	65 to 100 mole %			
Ethane	0 to 20 mole %			
Propane	0 to 10 mole %			
n-Butane	0 to 5 mole %			
Iso-Butane	0 to 5 mole %			
n-Pentane	0 to 1 mole %			
Iso-Pentane	0 to 1 mole %			
Hexane C6+**	0 to 0.7 mole %			
Heptane C7+***	0 to 1 mole %			
Nitrogen	0 to 20 mole %			
Carbon dioxide	0 to 20 mole %			
Hexanes*	0 to 1 mole %			
Heptanes*	0 to 1 mole %			
Octanes****	0 to 0.5 mole %			
Nonane+*****	0 to 0.5 mole %			

* C7+ and C9+ analysis only
** Not included in C7+ and C9+ analysis results
*** C7+ analysis only
**** C9+ analysis only

Gas quality analysis

Natural gas contaminants, such as hydrogen sulfide and oxygen, reduce pipeline integrity over time. Most contaminants can be easily measured in the Rosemount 770XA gas chromatograph for online quality assurance. Contaminant monitoring can be combined with energy measurements for complete custody transfer analysis. To the extent possible, these combined applications use independent gas chromatograph valves, detectors, and columns for each primary measurement. This technique offers greater reliability, increased speed, and easier troubleshooting. This application approach also simplifies field upgrades and re-applications in the 770XA gas chromatograph by minimizing internal piping changes.

Hydrocarbon dew point monitoring

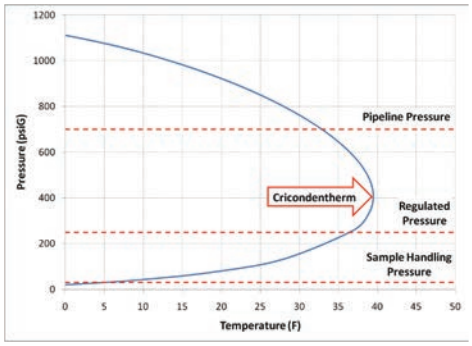
The Rosemount 770XA gas chromatograph offers accurate and reliable hydrocarbon dew point calculations from the extended C9+ analysis by combining two detectors and a controller within a single housing – reducing complexity, minimizing maintenance and spare parts requirements, simplifying the scope of analyzers at the pipeline, and reducing the overall cost of the analytical solution.

The Rosemount 770XA integrates hydrocarbon dew point software into the gas chromatograph to provide dew point temperatures for up to four user-entered pressures and the cricondentherm using the Peng-Robinson or the Redlich-Kwong-Suave equations of state. Real-time dew point results can be provided by using analog or Modbus inputs from another device for the calculation pressures.

The measured C6/C7/C8 and C9+ components allow for an accurate determination of the hydrocarbon dew point for pipeline-quality natural gas using reliable and low-maintenance thermal conductivity detectors (TCDs), avoiding standalone dew point analyzers or flame ionization detectors (FIDs), which require additional utility gas requirements. For heavier gas applications where significant amounts of components above C10 are expected, an FID can be combined with a TCD to provide for further extended analysis.

Custom applications

If Rosemount's standard applications do not fit your needs, the 770XA gas chromatograph can be customized to meet many measurement requirements. Simply submit a completed application data sheet with your request, or ask our application engineers for assistance.



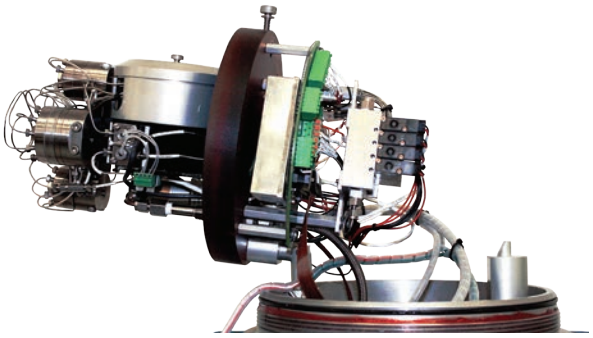
A typical phase curve showing the cricondentherm and the hydrocarbon dew point calculated at three pressures for practical operational use.

Superior performance

Modular analytical oven

Building off of the proven valves, columns, and detectors of the Rosemount™ 570 and Rosemount 770 gas chromatographs, the Rosemount 770XA gas chromatograph analytical oven has been designed for maximum serviceability and expandability. It features a clean architecture with few cables, making the Rosemount 770XA simple to maintain. In addition, the oven features a unique, pivot-top base that provides maximum accessibility to the components below for servicing.

Multiple temperature control zones and up to four six-port or ten-port valves and two independent detectors provide extreme application flexibility and range. All components in the oven are completely accessible and serviceable in the field to reduce the total cost of ownership over the life of the analyzer.



Unique analytical assembly design pivots to allow instant access to all components.

Gas XA analytical valves

The Rosemount 770XA has the capacity to support up to six ten-port or six-port diaphragm/piston gas XA analytical valves. These pneumatic valves are guaranteed for the life of the gas chromatograph and are specified to operate over five million cycles. The unique, double-diaphragm design removes the need for springs, O-rings, and lubrication. Valve service is performed by replacing a cost-effective diaphragm set, which can normally be completed in less than ten minutes.

Stream switching module

The internal sample stream switching module is available in four or eight-stream versions. This saves end users the additional hardware and assembly costs associated with externally mounted stream selection assemblies. For applications with widely varying stream composition, double-block-and-bleed configuration is optionally available.

Thermal conductivity detectors

The thermal conductivity detector (TCD) is the detector of choice for most applications due to its universal response to all components of interest in natural gas and light refinery and hydrocarbon processing gas analysis. The TCD found in the Rosemount 770XA gas chromatograph is able to measure well beyond the normal ranges seen in other designs and is sensitive enough to perform many applications with low parts-per-million measurement requirements. This greatly simplifies the gas chromatograph design and lowers the cost to the end user when a simple and rugged TCD can be used.

Micro-packed columns

The Rosemount 770XA gas chromatograph offers micro-packed columns with a superior combination of features found in both capillary and conventional packed columns — speed, sharp peak resolution, and low carrier gas consumption. In addition, the unique design provides for greatly extended column life and the longest warranty available on the market (five years on the standard C6+ natural gas set). Standard capillary columns may also be used in Rosemount 770XA applications as required.

Flame photometric detector (FPD)

The flame photometric detector (FPD) module enables the measurements of trace sulfur compounds when integrated with Rosemount 770XA gas chromatographs. The flame photometric detector and associated electronic boards are installed in temperature-controlled, flame-proof enclosures and mounted on a stand complete with the flame air and hydrogen controls. The design eliminates the need for instrument air, greatly reducing installation cost of the 770XA gas chromatograph.

The FPD module comes fully integrated with the Rosemount 770XA gas chromatograph. The FPD module is ATEX-approved for Zone 1 & 2 locations.

Six-port and ten-port XA valves build on legendary performance of the Rosemount 570 six-port valve, with reduced dead volume and a single retention bolt to simplify maintenance.

Controller electronics and communications

Modular electronics

The control electronics, option cards, and field termination boards are all packaged conveniently in the lower section of the Rosemount 770XA gas chromatograph. Customer-terminated power and output connections are also made in this lower section of the gas chromatograph.

Local indication and operation panel

Analyzer health and valve status can be viewed through the front cover of the gas chromatograph. The panel displays green (healthy), yellow (warning), and red (failure) LEDs, along with LEDs indicating gas chromatograph valve on/off actuations, power, and CPU health. Each valve can be actuated manually for simplified troubleshooting and fast system purging after maintenance.

Touch key local operator interface (optional)

The Rosemount 770XA local operator interface (LOI) permits maintenance and operation of a Rosemount 770XA without a laptop or PC. The LOI is a high-resolution color display that is touch key infrared activated and supports all core GC operations.

Features include:

- Color LCD with full VGA (640 x 480 pixels) resolution
- User adjustable auto-backlighting for easy viewing
- Eight infrared-activated touch keys and screen saver

In addition, the LOI:

- Eliminates external magnetic pen requirements and tactile buttons.
- Maintains the 770XA hazardous area classifications.
- Indicates complete GC status, control, and diagnostics, including full chromatogram display and alarm messages.

Flexible I/O

The Rosemount 770XA is built with enough I/O to handle most applications, including:

- Five discrete digital outputs
- Five discrete digital inputs
- Two analog inputs
- Six analog outputs
- Three Modbus serial ports (RS-232/RS-485/RS-422)
- Two Modbus enabled Ethernet ports (one with DHCP server for local access)

If there is a need for more I/O, the Rosemount 770XA includes two expansion slots that use the I/O cards from the ROC-800 family of flow computers.

Data archiving and reports

The Rosemount 770XA includes expanded reports and data archiving that conforms to the latest API 21.1 requirements for metering audit purposes and back up of the primary systems such as flow computers or SCADA systems. Every analysis is time and date stamped and archived for retrieval via the MON2020 software.

- **Security** – four levels of password-protected security, configurable to read/write or read-only for third-party access.
- **Event logs** – a continuous record of all operator changes, with time, date, and user identification name records
- **Alarm logs** – a continuous record of all historical alarms, time/date stamped with alarm state and description
- **Maintenance log** – a *scratch pad* for tracking maintenance or testing performed on the gas chromatograph system
- **Archiving** – over 31,700 analysis records (which is over 65 days for a C6+ three minute application), 370 final calibration records, and 370 validation records are archived automatically with time and date stamps.
- **Chromatograms** – over 1,700 worth of analysis chromatograms and 370 chromatograms and user selected *Protected Chromatograms* that are permanently stored, including the factory testing chromatograms.
- **Drawings and documents** – user manuals and drawings in several file formats are stored in thecontroller memory for convenient retrieval using the MON2020 software, eliminating the risk of manuals and drawings being misplaced. User-generated documents (such as maintenance checksheets or installation drawings) can also be uploaded to the controller for later retrieval.

Standard reports include:

- **Average reports –** hourly, 24-hour, weekly, monthly and variable averages.
- **Analysis reports** – physical property calculations for component and group analysis and alarms.
- **Raw data report** – retention times, peak areas, detector number, method, integration start/stop, and peak width for the analysis.
- **Calibration report** – raw component data, new response factors, retention times, and deviation from last calibration
- **Final calibration report** – results from the calibration response factors and retention time adjustments.
- **Molecular weight vs. response factor graph** – the response factors plotted on a log/log graph as outlined in the GPA2198-03 Appendix B to confirm the fidelity of the detector response across components.

MON2020™

The Rosemount 770XA gas chromatograph is designed to operate unattended. If adjustments are needed, our proprietary gas chromatograph software, called MON2020™, allows complete control of the Rosemount 770XA either locally or remotely.

From within MON2020, you can:

- Start or stop analysis, calibration, or validation cycles.
- Generate and save current and historical analysis and calibration reports.
- Review and modify analytical settings.
- Upload and display multiple chromatograms for comparison.
- Upload and trend any of the measured results.
- Export data to text, HTML, or Excel for use in third party applications.
- Check on original calibration against the last calibration.
- Perform GC operation checks and modifications simultaneously.
- Upload and view manuals and drawings stored in the gas chromatograph.

MON2020 is a Windows® based software that makes analyzer configuration, maintenance, and data collection easy. With intuitive drop-down menus, and fill-in-the-blank tables, even new users can quickly navigate through the software.

With its abilities to communicate with your enterprise network and export to numerous file types, MON2020 is a powerful tool that ensures operators, engineers, maintenance personnel, and management have access to critical data, such as current and archived chromatograms, alarm history, event logs, and maintenance logs.

MON2020's chromatogram viewer allows you to view and compare both live and archived chromatograms simultaneously. Despite its small size (less than 100 kb), the chromatogram file (.xcgm) includes analysis and calculation results, integration and valve timing settings, retention time settings, and raw peak data.

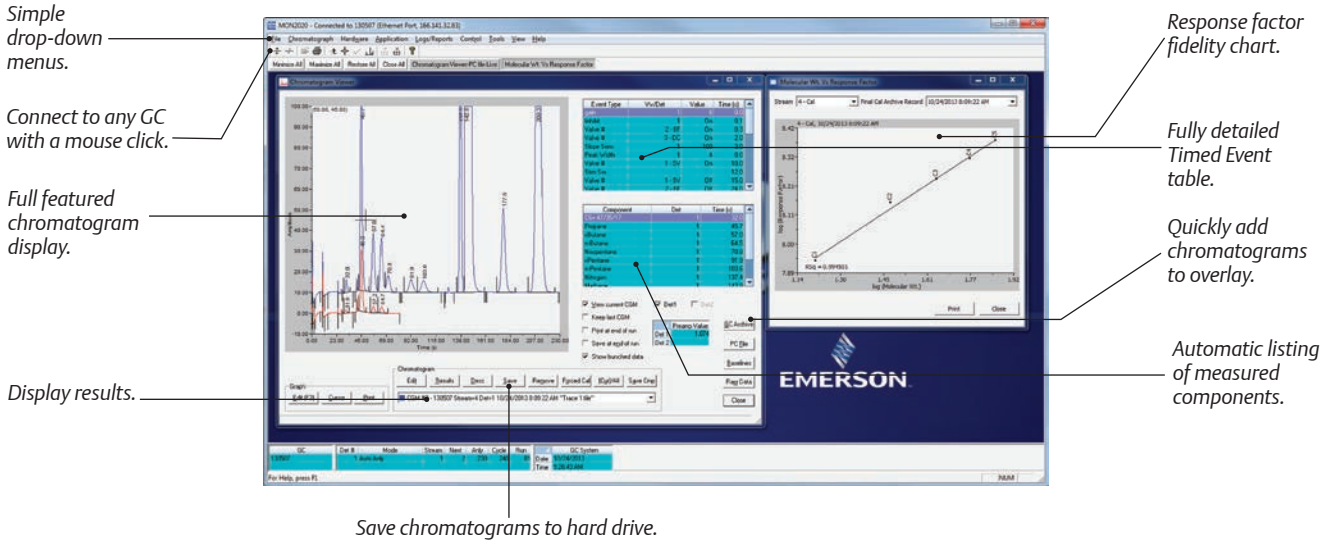
MON2020's trend viewer makes it easy to trend multiple variables on a single chart. To help diagnose process or analysis issues, you can select single or multiple points on the trend viewer; the chromatograms associated with these points will open in the chromatogram viewer. The trends can be saved as trend files or exported as text, CSV, or Microsoft® Excel files.

MON2020 can connect to a Rosemount 770XA via Ethernet directly or over your local or wide area network. MON2020 is equipped with multi-level username and password security settings to limit and control access to the GC, and provide five levels of authority ranging from read-only access to full control of the GC and its data.

MON2020's unique Diagnostic File feature makes remote diagnostics and documenting the analyzer performance easy and consisent. The diagnostic data file combines chromatograms, alarm logs, event logs, and configuration details into a single file that is time and date stamped. The generation of the diagnostic file is a simple menu selection and not only creates the file, but also creates an email with the time stamped file attached, ready for dissemination.

The MON2020 software is supplied with the Rosemount 770XA, is common across the XA platforms, and is available to download from the Emerson website, making it easy to access.

Figure 1 - MON2020 Interface



Integration with third-party networks

Whether you want to network gas chromatographs throughout your network or simply link a single gas chromatograph to a flow computer, the Rosemount 770XA can be configured to handle most any scenario.

- Choice of Ethernet, Modbus Serial, or 4–20 mA analog outputs.
- Use MON2020™ for diagnostics, configuration, and data retrieval over Ethernet, serial, or modem connections.
- Use multi-dropped serial or Ethernet networks to connect multiple XA series gas chromatographs.
- Able to connect multiple PC workstations using MON2020.

The Rosemount 770XA gas chromatograph supports three types of communication interfaces

- 10/100 Mbps Ethernet connectivity
- RS-232, RS-422, and RS485 serial communication links
- 4–20 mA analog outputs

Ethernet connectivity

Two Ethernet interfaces are available on the Rosemount 770XA gas chromatograph. Each interface can be configured with a static IP address, subnet mask, and gateway. The RJ45 connector Ethernet port can be configured to operate as a DHCP host to simplify local PC access. The Ethernet interfaces on the 770XA serve both the MON2020 connections and Modbus TCP requests. The dual Ethernet interfaces can be used in many ways. Examples:

- Connect to a plant network for GC maintenance personnel and the other to a control network using Modbus TCP.
- Connect to a broadband cellular wireless gateway for remote GC access for data collection and maintenance, and the other for a local laptop connection.

The Rosemount 770XA's Ethernet connection can be commissioned in two ways:

- Through the local operator interface (LOI) on the gas chromatograph's upper enclosure front panel
- Through the MON2020 gas chromatograph software via direct connection over Ethernet

OPC

With the optional GC-OPC server, the Rosemount 770XA can connect via OPC with fully configurable definition files and remote operation control capabilities.

Modbus serial

The Modbus protocol is widely used today, because it is simple and effective. The Rosemount 770XA can be configured to use the flow computer industry standard SIM-2251 Modbus map and be compatible with communication links from Danalyzer legacy GC installations, or fully customized Modbus maps can be configured using either single register per floating point (ENRON Format) or two registers per floating point format used in DCS and PLC systems.

Three hard-wired serial ports can be configured as RS-232, RS-485, or RS-422 links to communicate to host systems using the Modbus protocol. An additional fourth serial port is configured for RS-232 with a nine-pin D-type connector and can be used for direct connection to a Daniel® ultrasonic flow meter or local MON2020 access. The ultrasonic flow-meter link enables the online calculation of the speed of sound for continuous validation of the custody measurement. If more serial links are required, up to two additional serial ports can be added using the two expansion ports using ROC800 series I/O cards.

4–20 mA analog outputs

The Rosemount 770XA gas chromatograph supports six isolated 4–20 mA analog outputs that can be expanded to fourteen analog outputs with optional expansion cards.

Analytical systems & integration services

Emerson™ offers a comprehensive range of analytical system solutions and third party integration services. From standalone panels and cabinets to three-sided shelters and environmentally controlled walk-in enclosures, our complete range of capabilities is backed by over 60 years of analytical expertise across thousands of process installations throughout the world.

From front end engineering design (FEED) and consulting services to manufacturing, integration, and testing to commissioning services and on-going lifecycle support, Emerson provides complete turnkey analytical solutions.

With seven full scope analytical systems and integration centers and sixteen regional support facilities strategically located across the world, Emerson has the global resources and analytical expertise to provide localized support.

Engineered sample systems

Any gas chromatograph is only as good as the quality of the sample it measures. The standard sample system includes a particulate filter and liquid filter/shut-off for each sample stream. If required, the sample system can also be custom engineered for the specific requirements of the application.

Common features include:

- Heated and open-panel designs
- All components rated for the area classification

Variety of sample probes to extract a reliable and stable sample from the process

Environmental chamber testing

Every Rosemount gas chromatograph that leaves our facility undergoes rigorous testing throughout assembly. The majority of our systems are put into a 24-hour environmental chamber test, where they must operate to specification in an environment where the temperatures cycle between -18 and 54 °C (0 and 130 °F) for a minimum of 24 hours.

Our product testing procedures are much stricter than the industry standard for analytical measurement products. When you purchase an Emerson gas chromatograph, you can be assured that you are investing in the highest-quality online gas chromatograph available. As a result of chamber testing, we can guarantee all gas chromatographs that we ship will operate to the performance specifications across the stated operating temperature range.

Environmental testing chamber

(This page purposely left blank for your notes.)

Specifications

Please consult Rosemount if your requirements are outside the specifications listed below. Improved performance, other products, and material offerings may be available depending on the application.

Construction

Hazardous area certified for: -20° to 60 °C/-4° to 140 °F

Enclosure protection rating: IP66

Dimensions (without sample system):

- **Wall-mount:** 711 mm H x 445 mm W x 498 mm (28 in. H x 17.5 in. W x 19.6 in. D)
- **Pipe-mount:** 711 mm H x 445 mm W x 671 mm (28 in. H x 17.5 in. W x 26.4 in. D)
- **Floor-mount:** 1532 mm H x 445 mm W x 612 mm (60.3 in. H x 17.5 in. W x 24.1in. D)

Corrosion protection

- **GC enclosure material:** Copper free aluminum coated with industrial grade powder coat suitable for high humidity and salt-laden environments.
- **Process wetted materials:** Stainless steel. Where the function of an item excludes the use of stainless steel (e.g. glass rotameter tubes), materials that are resistant to corrosion are used.
- **Electronics:** All electronic circuit boards are tropicalized with a clear conformal coating.

Mounting: Floor-standing (standard), wall, or pipe-mount (optional)

Approximate weight (without sample system): 50 kg (110 lb)

Area safety certification options:*

- **CSA:**
  - **For USA:** Class I, Zone 1, AEx d IIC, Enclosure Type 4 Class I, Division 1, Groups B, C, and D, IP66
  - **For Canada:** Class I, Zone 1, Ex d IIC, Enclosure Type 4 Class I, Division 1, Groups B, C, and D, IP66
- **ATEX / IECEx**

Ex II 2G
Ex d IIC Gb T6
(Ta = -20 °C to +60 °C)

*Stated T-ratings can vary based on applications.

Performance capabilities

Oven: Airless, maximum 120 °C (248 °F)

Valves: Six-port and ten-port diaphragm chromatograph valves. Other types of valves, such as liquid injection or rotary valves, may be used depending on the application.

Carrier gas: Application-dependent. Typically zero-grade helium, nitrogen, or hydrogen.

Sample and calibration gas input pressure range:
0.2068 to 2.0684 bar: 1.0342 bar (recommended) or 15 psig

Carrier gas input pressure range (recommended):
6.2052 to 6.8947 bar (90 to100 psig)

Detectors: Thermal conductivity detector (TCD) and flame photometric detector (FPD) available in multiple configurations.

Gating options: Fixed-time, slope sensing gating of peaks

Streams: Up to 20 externally controlled streams or up to 8 internal (includes calibration stream)

Chromatograms stored/archived internally: Stores over 80 days of analysis report data and up to 2,500 individual chromatograms.

Electronics

Power:

- **Standard:** 24 Vdc (21 to 30 Vdc)
- **Optional:** 90–264 Vac, 47–63 Hz

Typical power consumption at 22 °C (72 °F):

- **Startup:** 105 Watts DC (125 Watts AC)
- **Steady state:** 35 Watts DC (40 Watts AC)

Note: Add 15.5 Watts DC (18 Watts AC) for LOI

Communications (standard)

- Ethernet: Two ports – one RJ-45 and one four-wire – with 10/100 mbps
- Analog inputs: Two standard isolated inputs filtered with transient protection, 4–20 mA (user scalable and assignable)
- Analog outputs: Six self-powered isolated outputs (4–20 mA)
- Digital inputs: Five inputs, user assignable, optically isolated, rated to 30 Vdc at 0.5 A
- Digital outputs: Five user-assignable outputs, Form C and electromechanically isolated, 24 Vdc
- Serial: Three termination blocks, configurable as RS-232, RS-422, or RS-485 and one RS-232 D-sub (9-pin) Modbus/PC Connection

Communications (optional)

Two expansion slots available for additional communications.
Each slot has the capacity to add one of the following:

- Four analog inputs (isolated) card
- Four analog outputs (isolated) card
- Eight digital inputs (isolated) card
- Five digital outputs (isolated) card
- One RS-232, RS-422, or RS-485 serial connection card

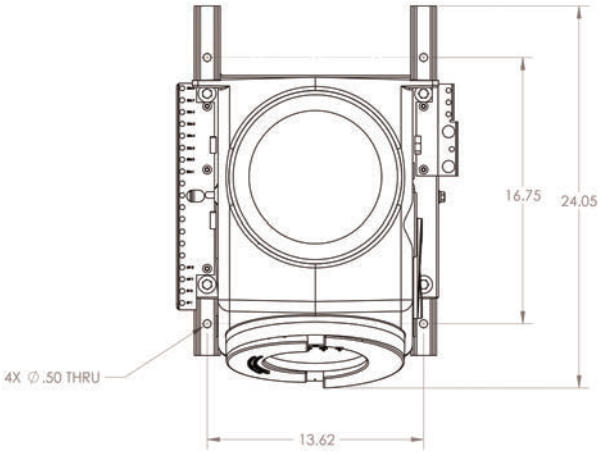
Touch key local operator interface (optional)

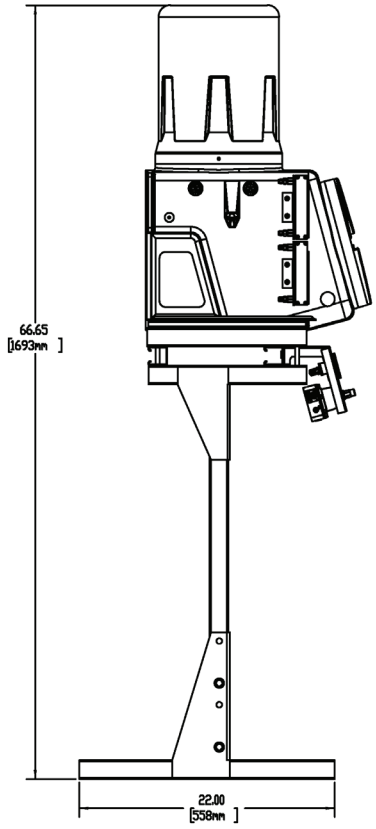
The Rosemount 770XA local operator interface (LOI) allows for maintenance and operation of a Rosemount 770XA without a laptop or PC. The LOI is a high resolution color display that is touch key infrared activated and supports all core GC operations.

Recommended installation

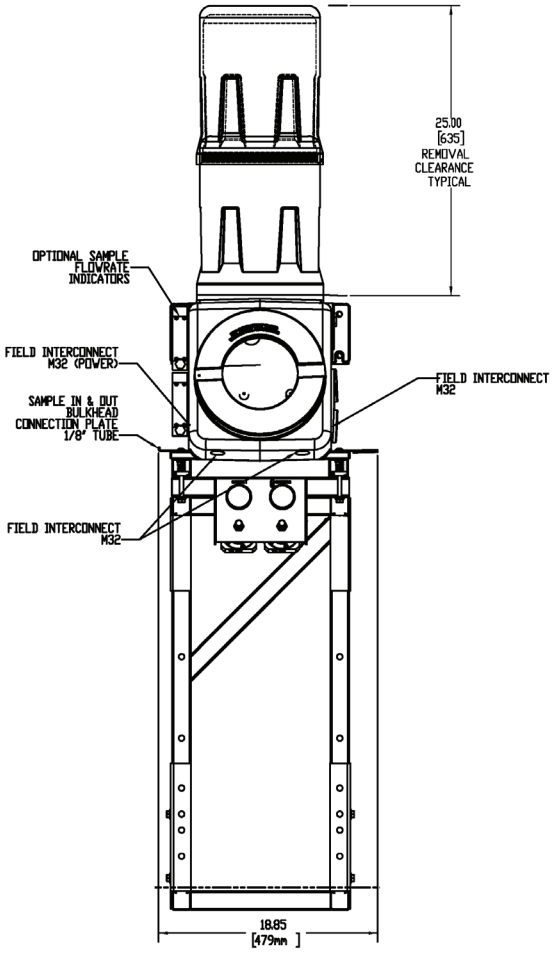
The drawings below represent the minimum recommended installation guidelines for the Rosemount 770XA gas chromatograph. Please consult Rosemount for detailed installation recommendation of your application.

Dimensions are in inches with millimeters in parentheses.



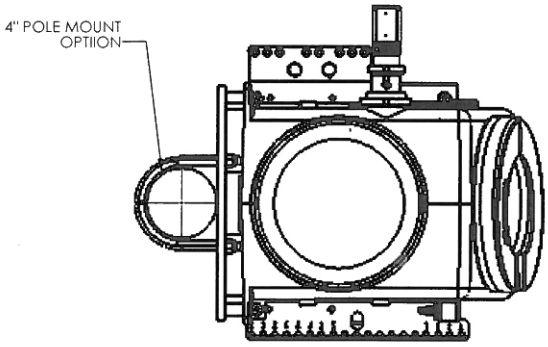


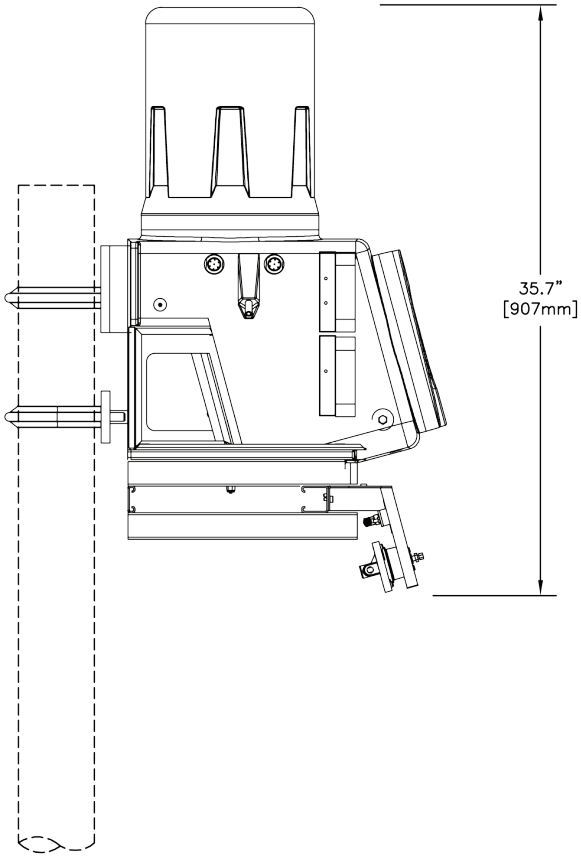
FLOOR MOUNT SIDE VIEW



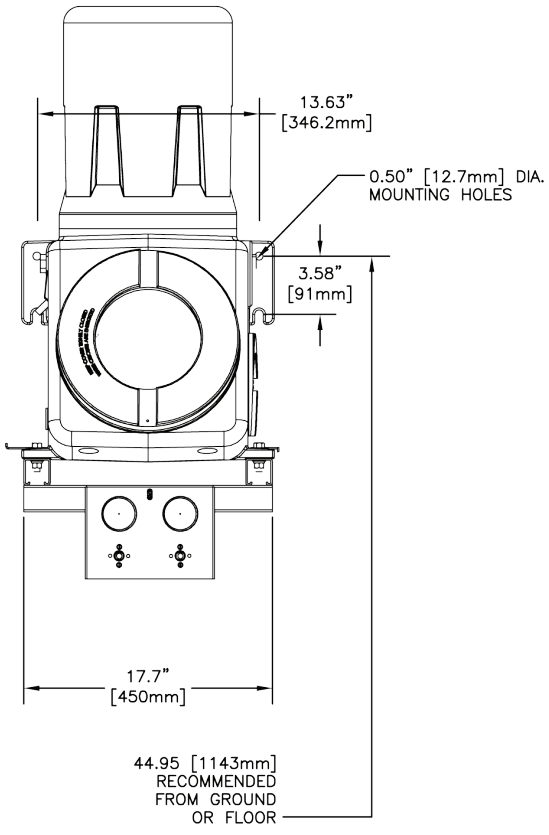
FLOOR MOUNT FRONT VIEW

Wall and pole mounted details





PIPE MOUNT SIDE VIEW



WALL MOUNT FRONT VIEW

HIGH ACCURACY

measurement instruments

Our offering:

	Pressure Measurement		Level Measurement
	Temperature Measurement		Flow Measurement
	Marine Measurement & Analytical		Gas Analysis
	Liquid Analysis		Flame and Gas Detection
	Tank Gauging		Wireless Infrastructure
	Acoustic & Discrete	HIGH ACCURACY measurement instruments	

www.high-accuracy.com

Americas

Emerson Automation Solutions
10241 West Little York, Suite 200
Houston, TX 77040
+1 866 422 3683 or +1 713 396 8880
+1 713 466 8175
GC.CSC@emerson.com

Europe Regional Office

Emerson Automation Solutions Europe GmbH
Neuhofstrasse 19a P.O. Box 1046
CH 6340 Baar
Switzerland
+1 954 846 5030
+1 952 846 5121
GC.CSC@emerson.com

Asia Pacific Regional Office

Emerson Automation Solutions
1 Pandan Crescent
Singapore 128461
+65 6777 8211
+65 6777 0947
GC.CSC@emerson.com

Middle East and Africa Regional Office

Emerson Automation Solutions
Emerson FZE P.O. Box 17033
Jebel Ali Free Zone - South 2
+971 4 8118100
+971 4 88665465
GC.CSC@emerson.com

Analyticexpert.com

Linkedin.com/company/Emerson-Automation-Solutions

Twitter.com/Rosemount_News

Facebook.com/Rosemount

Youtube.com/user/RosemountMeasurement

Google.com/+RosemountMeasurement