

20 Series Gas Analyzer



20 Series Binary Gas Analyzer - Dual Pass

*Optimized, Self-Contained Gas Flow System
Built-in Gas Selection Manifold*

Custom Designed to Your Application

*Choice of standard, corrosion resistant
or all stainless steel system*

Class 1, Div 1, Group B, C, D

Class 1, Div 2, Group B, C, D

Available Systems

The GOW-MAC® 20 Series Gas Analyzer is designed for quantitative analysis of binary streams of industrial gases, and other gas mixing, cylinder identification, and atmosphere control applications on a non-continuous basis.

Typical Binary Gas Applications

NH ₃ in Air	H ₂ in N ₂
Argon in Helium	H ₂ in O ₂
CO ₂ in N ₂ (flue gas)	Methyl bromide in Air
CO ₂ in Helium	Natural gas in Air
Freon in Air	N ₂ in Argon
Helium in Air	O ₂ in Air
Hydrocarbons in He	O ₂ in H ₂
SO ₂ in Air	F ₂ in N ₂
	... and many others

Models

The GOW-MAC® 20 Series Gas Analyzer is designed as either a single or a dual pass unit. It is supplied as either bench or 19" rack mounted. For special applications, an optional purgeable housing is available. A single pass analyzer has a hermetically sealed reference thermal conductivity detector (TCD). It has a pump (optional), flowmeter with needle valve, leak proof connectors, and a five-way valve for zero, calibration, and sample gases. Materials of constructions are inert to most sample streams normally encountered.* A Dual pass unit has a flowing reference TCD, flowmeters and pump (optional).

An optional diaphragm pump is employed for flows of up to 500 cc/min. A separate compressor type pump is recommended for pumping a sample from long distances.

*NOTE: If questionable and/or corrosive gases are to be used, contact our Technical Sales Department for your special application.

Accuracy

The GOW-MAC® Gas Masters is rugged and simple to operate. Accuracy is 3% of full scale.

Detector

The thermal conductivity detector (TCD) is the GOW-MAC® Model 10-454 with either four rhenium-tungsten (WX), tungsten (W2), or nickel (Ni) filaments. The sensing elements have prescribed minimum gas sensitivity and zero stability vs. current change. Response time will be less than 30 seconds for most applications. Where the application requires unusual flow or response characteristics, special cells and/or filaments can be furnished.

An optional TCD temperature controller is available for those applications where stability is essential.

The analyzer is equipped with a solid state power supply and dc milliammeter.



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SB-201

Readout

(1) 4½" Analog meter, 100 divisions (a 3½ digit digital meter is optional); (2) Terminals included for customer's 1 mV potentiometric recorder.

Alarms

Our alarm options come with an alarm board and operational amplifier. Choices include High-High, High-Low, High only, or Low only.

Electrical

The 4-20 mA Voltage to Current Converter (optional) converts a mV signal to a 4-20 mA signal. It is used when the signal is traveling over long distances (>10 feet) without interference or transmitting the signal to a programmable logic controller (PLC).

Calibration

The 20 Series analyzers are not factory calibrated for any specific gas mixture. Calibrations are available at an additional charge and are quoted upon request.

Application Data Sheet

There is an Application Data Sheet enclosed. We specialize in building custom analyzers, therefore, we ask you to give us your specific application parameters so that we can quote the appropriate analyzer for your needs.

Warranty

All instruments sold by GOW-MAC® are warranted for a period of one year against defects in materials and workmanship.

Ordering Information (refer to accompanying price list)

20 Series, 115 V, 50 Hz
22 Series, 230 V, 60 Hz

*Calibration additional – quoted upon request

Standard Instrument Specifications

Gas Connections	1/8" o.d. tubing
Mounting	Bench or 19" Rack
Purgeable Case	Optional
Ambient Operating Temp.	32°F to 120°F (0°C to 49°C)
Detector Temperature	100°C, factory set (Optional)
Temp. Regulation	Optional
Power Required	115/230 V, ± 50/60 Hz
DC Power Supply	3 - 20 V @ 300 mA
Power Line Regulation	0.5%
Flowmeters w/ Needle Valves	Yes
Sample Flow Rate Range	0 - 1 CFH (472 cc/min.)
Pressure Required (min.)	2 psig (6" H ₂ O)
Pressure Flow Regulator	No
Metering Valve	Yes
Standard Fittings	Brass
Sensitivity	Application dependent
Accuracy	≤ 3% F.S. on meter; 1% on recorder
Response Time	Dependent on cell and flow rate
Drift	Dependent on calibration
Zero Stability	Dependent on calibration
Noise Band	Dependent on calibration
Calibration/Span	10-turn Potentiometer
Readout	
Recorder	0 - 5 mV
Meter	Analog, 0 - 5 mV (standard) Digital w/ alarms (optional)
Alarm Contacts	Optional
Pump	Optional
Dimensions	
Case	10.1"H x 10.1" W x 17.25" D (25.61 x 25.61 x 43.82 cm)
19" Rack Mount	14.0"H (35.6 cm)
Weight	Net: 30 lbs. (13.5 kg) Shipping: 35 lbs. (15.75 kg)

Specifications and features will vary depending upon system configuration and are subject to change without notice. The above specifications are established during design, but are not to be construed as test criteria for every product.



Visit our web site at
www.gow-mac.com
to view product information,
descriptions and applications for
additional GOW-MAC® products