

NOVA

Dependable Gas Analysis Solutions

920 SERIES CONTINUOUS BIOGAS ANALYZERS



APPLICATIONS

For continuous analysis of oxygen (O₂), methane (CH₄), and/or carbon dioxide (CO₂) in recovered gases from biogas applications. Hydrogen sulfide (H₂S) readout optional.

FEATURES

- Temperature controlled sensors for maximum stability
- Long life electrochemical O₂ sensor
- Infrared detector for reliable measurement of CH₄ & CO₂; detector may be cleaned in the field
- Stainless steel hard tubing and corrosion-resistant components for internal sample path
- Cabinet positive-pressure system to minimize the corrosive effects of hydrogen sulfide (H₂S) on cabinet electronics & sensors
- Built-in sample pump, pre-filter, filters, and flow meter
- Automatic condensation removal without the use of cooling water, compressed air or thermal-electric elements
- Rugged NEMA4 (IP65) enclosure
- Isolated 4 - 20 mA output for each gas
- Low flow alarm & relay
- Automatic analyzer calibration with full-color touch screen LCD display
- Diagnostic alarms with troubleshooting guidance
- 'Cal-Now' button enables full calibration at any time by activating only one switch

CALIBRATION

- Ambient air for O₂ span and CO₂ & CH₄ zero
- Analyzed calibration gas of CO₂ and CH₄ in nitrogen for CO₂ & CH₄ span and O₂ zero



923C (O₂, CH₄, & CO₂ analysis
with Full Autocalibration)

OPTIONS

- H₂S & BTU readout (see ranges & models)
- Gas hi/low alarms with relay contacts
- Class 1 Division 2 rated purge kit for use in hazardous areas
- Outdoor weather packages for operation from -20°C up to 55°C (-4°F to 131°F)

NOVA ANALYTICAL SYSTEMS

www.nova-gas.com

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DESCRIPTION

The Nova 920 Series analyzers have been designed for monitoring recovered and processed gases from biogas installations. This equipment continuously removes moisture from the wet sample gas without the need for cooling water, compressed air, or failure-prone thermoelectric elements. The 920 Series comes complete with pre-filter, sample pump, flow meter, continuous moisture removal system, long-life O₂ sensor, infrared CO₂/CH₄ detector, low flow sensor, alarm relay contacts, and 4-20mA outputs for each gas measured. Sensors / detectors are mounted in an internal dedicated enclosure which is heated and temperature controlled to reduce drift due to ambient temperature swings. The internal sensor enclosure is removable to allow quick field change of sensors. The infrared detector can be cleaned in the field if necessary by the on-site technician

On all models with Autocalibration, all calibration functions are controlled through the display rather than through manual controls. The operator only has to input the calibration frequency and leave calibration gas cylinder connected to the analyzer - the rest is automatic. Diagnostics and troubleshooting information are also included in the display interface. This assists operators to quickly determine the cause of an alarm and get the analyzer back on line.

MODELS

- 920 - O₂
- 921 - CH₄
- 922 - O₂ and CH₄
- 923 - CO₂ and CH₄
- 924 - O₂, CH₄, and CO₂

Other analysis options available (added as suffix to model #):

- H1 - H₂S, range 0 - 200 up to 0 - 2500 PPM H₂S
- BTU - BTU readout, range 0-1000 BTU
- Other combinations can be requested

SPECIFICATIONS

Nova reserves the right to specification changes which may occur with advances in design without prior notice.

Description	
Method of Detection:	O ₂ and H ₂ S by electrochemical sensor, CH ₄ & CO ₂ by infrared detector
Ranges Available:	0-25.0% O ₂ ; any range between 0-50.0% to 0-100.0% CH ₄ , CO ₂ ; 0-200 to 0-2,500 PPM H ₂ S; 0-1000 BTU
Resolution:	0.1% on CO ₂ , O ₂ , & CH ₄ , 1 PPM H ₂ S, 1 BTU
Accuracy and Repeatability:	±1% of full scale
Drift:	Less than 2% of full scale per month
Response Time (T-90):	Less than 30 seconds not including sample line delay
Ambient Temperature Range:	40 to 104°F (4 to 40°C). Optional: -20°C to 55°C (-4°F to 131°F) with Outdoor Pkgs.
Linearity:	±1% of full scale for each gas measured
Size and Weight:	Approx. 24" H x 24" W x 10" D @ 90 lbs (61 x 61 x 25 cm @ 20 kg) Physical data may vary depending on options required
Power:	115VAC 60Hz (220VAC 50Hz available)
Output Options:	Isolated 4-20mA standard
Alarms:	High O ₂ , high CO ₂ , low CH ₄ , low flow; SPDT relays with 10A contacts



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