

NOVA

Dependable Gas Analysis Solutions

870 SERIES

CONTINUOUS GAS ANALYZERS FOR STEEL-MAKING AND METALS INDUSTRIES



APPLICATIONS

For continuous monitoring of atmospheres associated with steel-making and metal-working or other industrial processes. Analysis of any combination of methane (CH₄), carbon dioxide (CO₂), carbon monoxide (CO), hydrogen (H₂), and oxygen (O₂). Offers a viable and more economical alternative to mass spectrometer analysis for these gases.

FEATURES

- Field-cleanable infrared detector for reliable measurement of CO, CO₂, and CH₄
- Thermal conductivity detector for H₂
- Oxygen analysis by long-life electrochemical sensor
- Sensors/detectors temperature-controlled or compensated for maximum analytical stability
- H₂ reading is compensated for the interference effects of the other gases measured
- High ranges on each channel available (up to 100%)
- Touch-screen display for gas readings
- Built-in sample pump or pressure regulator
- Automatic calibration & serial output package
- Isolated 4-20mA analog recorder outputs
- Durable stainless steel tubing & sample components
- Automatic moisture removal system included

OPTIONS

- Calculations performed on gas readings such as gas ratios and heating value of flammable gases
- Sample conditioning systems available for acidic gas and dust
- Cabinet purge system available for use in hazardous areas
- Environmental management packages for operation in extreme temperatures, outdoors, or in dusty environments



NOVA ANALYTICAL SYSTEMS

www.nova-gas.com



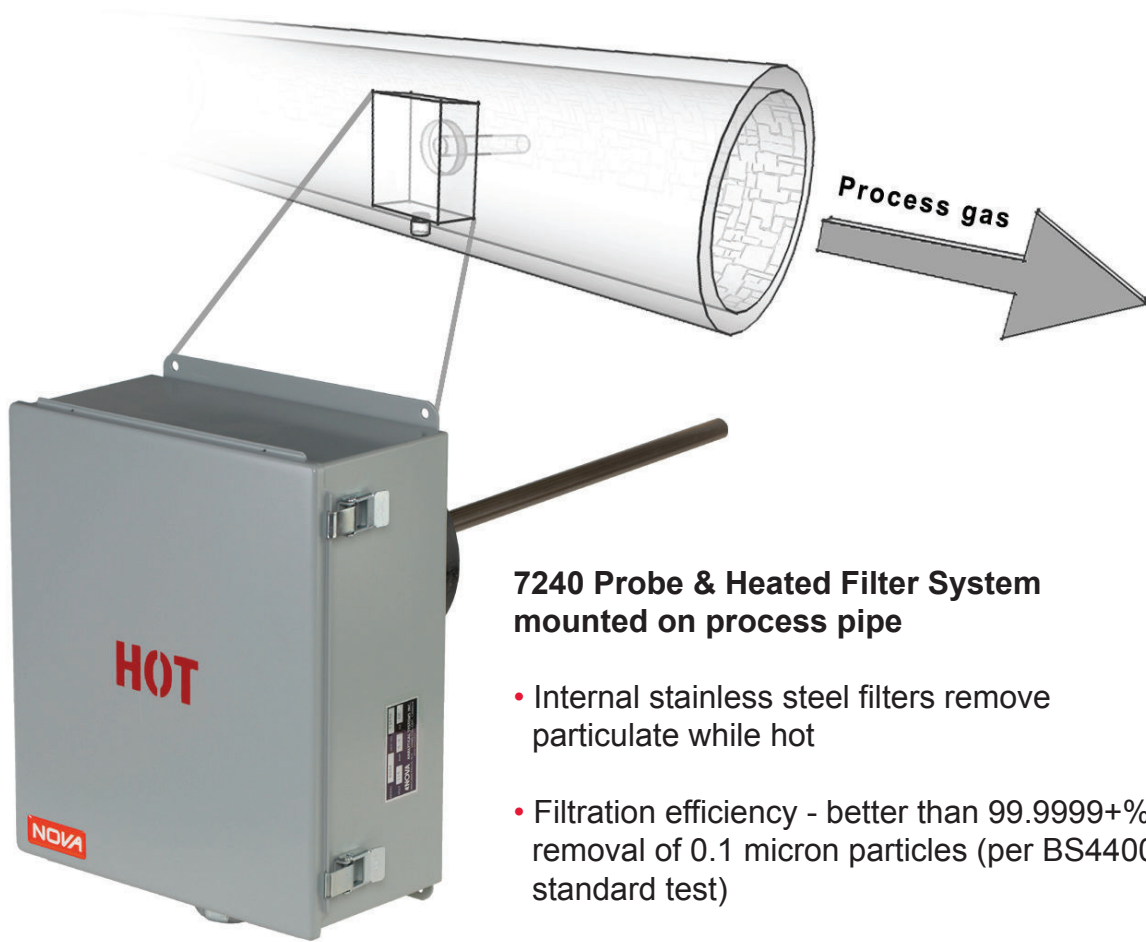
DESCRIPTION

The Nova 870 Series Analyzer System has been designed with the flexibility and robustness required in the industrial environments that characterize the steel & metal industries. This equipment offers a viable and more economical alternative to mass spectrometer analysis for common process gases.

The Nova 870 Series utilizes high-stability infrared detectors for the simultaneous measurement of CO, CO₂, and CH₄. In addition, the analyzer can be supplied with a non-consumable, long-life thermal conductivity cell for H₂ that is compensated for the interference effects of CO, CO₂, and CH₄. This ensures that H₂ will always read correctly regardless of the background gas composition. A long-life electrochemical sensor may be included for O₂ analysis. All sensors / detectors are temperature-controlled or temperature compensated for maximum analytical stability.

Autocalibration functionality allows easy calibration without user intervention. The included Serial Output Package allows connection of analyzer to personal computers via a choice of USB / RS-232 / RS-485. Data recording software is also included. Isolated 4-20mA analog outputs are scaled to each gas analysis range.





7240 Probe & Heated Filter System mounted on process pipe

- Internal stainless steel filters remove particulate while hot
- Filtration efficiency - better than 99.9999+% removal of 0.1 micron particles (per BS4400 standard test)

Sample gas to analyzer

870 Series Analyzer in NEMA 4 Wall-Mounted Enclosure



ENCLOSURES

- NEMA4 Weather-proof (IP65) and NEMA4X weather-proof and corrosion resistant (IP65) enclosures are available. All tubing connections are 1/4" SS FPT.
- Cabinet Purge Kits available for Hazardous rated areas.
- Cabinet temperature management packages available for analyzer operation in hot or cold environments indoors or outdoors.

SPECIFICATIONS

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

Description

Method of Detection:	NDIR infrared detector for CO, CO ₂ , & CH ₄ ; thermal conductivity cell for H ₂ ; Electrochemical sensor for O ₂	
Ranges Available: <i>(Other gas ranges may also be available)</i>	0 - 2.0%, 0 - 25.0%, 0 - 50.0%, 0 - 100.0% O ₂ 0 - 10.0%, 0 - 50.0%, 0 - 100.0% CO 0 - 10.0%, 0 - 50.0%, 0 - 100.0% CO ₂	0 - 10.0%, 0 - 50.0%, 0 - 100.0% CH ₄ 0 - 5.0%, 0 - 50.0%, 0 - 100.0% H ₂
Resolution:	0.1%	
Accuracy and Repeatability:	±1.0-1.5% of full scale, depending on gas measured	
Drift:	Less than 2% of full scale per month	
Response Time (T-90):	20-30 seconds to 90% step change	
Ambient Temperature Range:	40 to 104°F (4 to 40°C). Optional: -22 to 158°F (-30 to 70°C) with Outdoor Packages.	
Linearity:	± 1.5% of full scale	
Size and Weight:	Physical data will vary depending on model and enclosure required	
Power:	115VAC 60Hz (220VAC 50Hz available)	
Output Options:	4-20mA into 500 ohms isolated; choice of RS232 / RS485 / USB serial connection	
Alarms:	High and/or low alarm contacts available, relay contacts SPDT 5A @ 220VAC rating. Low flow alarm optional	

UNIQUE APPLICATIONS

All Nova analyzers are built using proven technologies and techniques. If this product does not suit your application, please contact Nova at 1-800-295-3771. In many cases, we are able to build an analyzer specific to your needs.



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