

# NOVA

Dependable Gas Analysis Solutions



## 5000 SERIES

**PORTABLE FLUE GAS ANALYZER FOR ANY COMBINATION OF O<sub>2</sub>, CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, AND STACK TEMPERATURE**

### APPLICATIONS

Analysis of oxygen (O<sub>2</sub>), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), oxides of nitrogen (NO & NO<sub>2</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions. For checking combustion efficiency, burner & control performance, and detection of air infiltration on furnaces, heaters and boilers. May be used in commercial, industrial and residential settings.

### FEATURES

- Rugged design that is easy to use
- Fast warm-up and accurate response
- Digital readouts with switchable backlight
- Built-in sample pump
- Rechargeable battery operation
- Active condensate removal
- Long-life electrochemical sensors for O<sub>2</sub>, CO, NO, NO<sub>2</sub>, and SO<sub>2</sub>
- CO<sub>2</sub> actually measured by infrared detector - not calculated
- Rapid reading recovery on CO, NO, NO<sub>2</sub>, or SO<sub>2</sub> 'overdose'
- Use on flue gas from any fuel
- Pays for itself in months through fuel savings

### OPTIONS

- Stack temperature probe and readout
- High temperature sampling probe
- Detachable/portable data logger
- Digital Platform to support the following options:
  - Calculated values e.g. combustion efficiency, O<sub>2</sub> normalization, excess air, unit conversion ppm to mg/m<sup>3</sup> for ppm gases measured
  - RS-232 or RS-485 output and software
  - Touch-screen display
  - Built-in printer



5006 Series with analog platform

5006 Series with digital platform

Optional Ice Bath Precooler



### CALIBRATION

- Ambient air for O<sub>2</sub> span and CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, and SO<sub>2</sub> zero
- On analyzed gas mixtures of CO and CO<sub>2</sub> in nitrogen, NO & NO<sub>2</sub> in nitrogen, and SO<sub>2</sub> in nitrogen for span (also zeroes O<sub>2</sub>)

NOVA ANALYTICAL SYSTEMS

[www.nova-gas.com](http://www.nova-gas.com)

## DESCRIPTION

The Nova 5000 Series Portable Flue Gas analyzer has been designed for accuracy, reliability, ease of use and ease of service, providing a detailed analysis of flue gas composition. The 5000 uses customer replaceable sensors which respond quickly to the O<sub>2</sub>, CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, and SO<sub>2</sub> present in the flue gas sample. The O<sub>2</sub> sensor life expectancy is typically 3-4 years. The CO, NO, NO<sub>2</sub>, and SO<sub>2</sub> sensor life is typically 2-3 years. The infrared CO<sub>2</sub> sensor should not need to be replaced under normal conditions of use. Depending on model, the detected gases may be displayed on separate LCD meters or a single touchscreen display.

A rechargeable 'gel cell' battery provides enough power for about 4-5 hours of continuous operation and the analyzer can be used while it is being recharged. A red LED tells when to recharge and a green LED verifies that it is receiving recharging power. The Model 5000 series case is rugged, dust and water resistant when closed. A built-in printer, which also shows date and time, is optionally available. A detachable datalogger is also available which can be uploaded to a PC.

## MODELS

- 5001-A: O<sub>2</sub> only
- 5001-B: CO only
- 5001-C: CO<sub>2</sub> only
- 5001-D: NO only
- 5002-A: O<sub>2</sub> & CO
- 5003-A: O<sub>2</sub>, CO, & NO
- 5003-B: O<sub>2</sub>, CO<sub>2</sub>, & CO
- 5004-A: O<sub>2</sub>, CO<sub>2</sub>, CO, & NO
- 5004-B: O<sub>2</sub>, CO, NO, & SO<sub>2</sub>
- 5005-A: O<sub>2</sub>, CO<sub>2</sub>, CO, NO, & SO<sub>2</sub>
- 5006: O<sub>2</sub>, CO<sub>2</sub>, CO, NO, NO<sub>2</sub>, & SO<sub>2</sub>
- Stack temperature, NO, NO<sub>2</sub>, SO<sub>2</sub>, CO<sub>2</sub>, may be separately added to any model

## SPECIFICATIONS

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

Description	
<b>Gases Measured:</b>	Customer replaceable electrochemical O <sub>2</sub> , CO, SO <sub>2</sub> , NO, & NO <sub>2</sub> sensors Solid state infrared detector for CO <sub>2</sub>
<b>Ranges Available:</b>	0-25.0% O <sub>2</sub> 0-20.0% CO <sub>2</sub> 0-200 up to 0-9999 PPM CO 0-200 up to 0-5000 PPM NO 0-200 up to 0-800 PPM NO <sub>2</sub> 0-200 up to 0-2000 PPM SO <sub>2</sub> 32-1800°F (0-1000 °C) net stack temperature
<b>Resolution:</b>	0.1% on percent ranges; 1 PPM on PPM ranges; 1°F (1°C) stack temperature
<b>Accuracy and Repeatability:</b>	±1-2% of full scale
<b>Drift:</b>	< 2% full scale per 8 hours of continuous operation
<b>Response Time (T-90):</b>	< 30 seconds for 90% of O <sub>2</sub> , CO, CO <sub>2</sub> and SO <sub>2</sub> , < 60 seconds for 90% NO and NO <sub>2</sub>
<b>Ambient Temperature Ranges:</b>	32° to 122°F (0 to 50°C)
<b>Linearity:</b>	±1% of full scale for each gas measured
<b>Size and Weight:</b>	Approx. 14" W x 10½" D x 6" H (35 x 27 x 15 cm) @ 12 lbs (5.5 kgs)
<b>Power:</b>	12V battery operation. 115VAC 60Hz for recharging (220VAC 50Hz available)
<b>Output Options:</b>	4-20 mA or 0-1V for each gas measured; RS232 or RS485, printer, & data logger

## 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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