

# NOVA

Dependable Gas Analysis Solutions



## 7900P SERIES

### PORTABLE GAS ANALYZER FOR HEAT TREATING AND OTHER HYDROGEN-BASED INDUSTRIAL PROCESSES

#### APPLICATIONS

For monitoring heat treating atmosphere gases in any combination of carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), hydrogen (H<sub>2</sub>), oxygen (O<sub>2</sub>), and dew point. Also available for other industrial processes that include hydrogen.



#### FEATURES

- Best value H<sub>2</sub>-based multi-gas portable analyzer
- Fast warm up and response time
- Long life thermal conductivity cell for H<sub>2</sub> cannot be burned out due to loss of flow
- Long life electrochemical O<sub>2</sub> sensor
- Sensitive infrared detectors for CO, CO<sub>2</sub>, and CH<sub>4</sub>
- H<sub>2</sub> reading compensated for presence of CO, CO<sub>2</sub> and CH<sub>4</sub>
- Fast response ceramic dew point sensor
- Bright LED digital readouts
- Modular layout that is easy to maintain
- Rechargeable battery operation
- Built-in sample pump, flow meter and filters
- Rugged bench top (BT) style cabinet
- Solenoid valves used to isolate low range dew point and O<sub>2</sub> sensors during sample purge and transpor-tation to prevent ambient air contamination

#### OPTIONS

- Recorder outputs of 0-1V or 4-20 mA (can be isolated)
- Condensate removal for wet applications
- Suitcase (K) style cabinet available
- AC power operation
- Carbon potential calculation with CO, CO<sub>2</sub> and CH<sub>4</sub> channels
- Sensor mounted in temperature controlled heated box for improved accuracy (AC only)
- LCD digital readouts with backlight

#### CALIBRATION

- Analyzed calibration gas mixture to span all readings.

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

## DESCRIPTION

The Nova Model 7900P Series Heat Treat analyzers utilize a three channel high stability infrared detector for the simultaneous measurement of CO, CO<sub>2</sub>, and CH<sub>4</sub> in exothermic or endothermic gas mixtures. In addition, the analyzer can be supplied with a fully compensated thermal conductivity cell for H<sub>2</sub>. A separate O<sub>2</sub> detector can also be supplied for measuring low (PPM) or percent levels of oxygen in the atmosphere gas stream. Dew point is detected by a dielectric ceramic sensor and is available in standard and low ranges. All detected gases have a separate LCD digital readout and a linear recorder output. The customer may choose any combination of gases to be measured.

The 7900P series analyzers are complete with integral sampling pump, rechargeable battery, filters, flow meter, and sampling hose. Solenoid valves are used to isolate low range dew point and O<sub>2</sub> sensors during purges and when analyzer is not in use to prevent ambient air contamination of the sensors and greatly reduce purge time during start-up.

## SPECIFICATIONS

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

Description	
<b>Gases Measured:</b>	Customer may select one or more combinations of CO, CO <sub>2</sub> , H <sub>2</sub> , CH <sub>2</sub> , O <sub>2</sub> , or dew point
<b>Ranges Available:</b>	0-20.0%, 0-100.0% CO      0-10,000 PPM, 0-50.0% O <sub>2</sub> 0-2.00% , 0-100.0% CO <sub>2</sub> 0-100% NH <sub>3</sub> 0-40.0%, 0-100.0% H <sub>2</sub> -10° to +80°F(-23° to +26°C) Dew Point 0-10% , 0-100.0% CH <sub>4</sub> -148° to +68°F(-100° to +20°C) Dew Point
<b>Resolution:</b>	0.1% on % versions, 10 PPM on PPM versions
<b>Accuracy and Repeatability:</b>	±1% of full scale
<b>Drift:</b>	±0.5 % of full scale in 8 hours.
<b>Response Time (T-90):</b>	approximately 20-30 seconds to 90% step range, following warmup
<b>Ambient Temperature Range:</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>	10" H x 10" W x 14" D (25 x 25 x 35 cm) @ approx. 20 lbs (9 kg) Physical data may vary depending on model and options selected
<b>Power:</b>	115VAC 60Hz (220VAC 50Hz available)
<b>Output Options:</b>	4-20 mA for each gas measured. 0-1 VDC or serial output also available

## 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.

# NOVA

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NOVA ANALYTICAL SYSTEMS INC.

IN USA:

1925 Pine Avenue • Niagara Falls, NY • 14301  
Tel: 1-800-295-3771 • 716.285.0418 • Fax: 716.282.2937

IN CANADA:

270 Sherman Avenue North • Hamilton, ON • L8L 6N5  
Tel: 905.545.2003 • Fax: 905.545.4248

email: sales@nova-gas.com

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

## MODELS

### Single Gas Analyzers

<b>7900P-1A</b>	Carbon Monoxide only
<b>7900P-1AS</b>	Combustibles = CO x 2
<b>7900P-1B</b>	Carbon Dioxide only
<b>7900P-1C</b>	Methane only
<b>7900P-1D</b>	Hydrogen only

### Double Gas Analyzers

<b>7900P-2A</b>	Carbon Monoxide & Carbon Dioxide
<b>7900P-2B</b>	Carbon Monoxide & Hydrogen
<b>7900P-2C</b>	Carbon Monoxide & Oxygen
<b>7900P-2D</b>	Oxygen & Methane
<b>7900P-2E</b>	Hydrogen & Carbon Dioxide
<b>7900P-2G</b>	Oxygen & Hydrogen

### 3 Gas Analyzers

<b>7900P-3A</b>	Carbon Monoxide, Carbon Dioxide, & Methane
<b>7900P-3A-CP</b>	Carbon Monoxide, Carbon Dioxide, Methane, & Carbon Potential (Call for availability)
<b>7900P-3B</b>	Carbon Monoxide, Carbon Dioxide, & Hydrogen
<b>7900P-3C</b>	Carbon Monoxide, Carbon Dioxide, & Oxygen
<b>7900P-3D</b>	Oxygen, Carbon Monoxide, & Methane
<b>7900P-3E</b>	Oxygen, Carbon Monoxide, & Hydrogen

### 4 Gas Analyzers

<b>7900P-4A</b>	Oxygen, Carbon Monoxide, Carbon Dioxide, & Methane
<b>7900P-4B</b>	Oxygen, Carbon Monoxide, Carbon Dioxide, & Hydrogen
<b>7900P-4C</b>	Carbon Monoxide, Carbon Dioxide, Methane, & Hydrogen
<b>7900P-4D</b>	Oxygen, Carbon Monoxide, Methane, & Hydrogen
<b>7900P-4E</b>	Oxygen, Carbon Dioxide, Methane, & Hydrogen

### 5 Gas Analyzer

<b>7905A</b>	Carbon Monoxide, Carbon Dioxide, Methane, Hydrogen, & Oxygen
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### 6 Gas Analyzer

<b>7905A-DPL</b>	Carbon Monoxide, Carbon Dioxide, Methane, Hydrogen, Oxygen, & Dewpoint
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