

HPGP-101-C

High Pressure Gas Probe with PDS-E



High-technology manufacturing processes often require high-purity gases. The High Pressure Gas Probe system, HPGP-101-C, provides reliable in-line contamination monitoring for process gases at line pressure.

The HPGP is compatible with most non-toxic gases and can be used in many reactive gas monitoring applications.

The PDS-E (Particle Data System - Ethernet) instrument collects and reports data captured by the HPGP-101-C probe.

BENEFITS

Reduced Cost

- Speed qualification of process gas distribution systems
- Detect particles in gases before they impact yield
- Compatible with oxygen, hydrogen, and most non-toxic gases

Improved Process Control

- Verify gas quality
- Detect process upsets
- Quantify impact of system changes
- Accurate particle sizing
- Facility Net data management software for comprehensive data storage, management, reports, and alarms

Reliable

- Passive cavity design requires infrequent maintenance
- Inert gas purge ensures safety
- Leakage of sample gas to vessel discontinues power to electronics

FEATURES

- 0.1 μm sensitivity at 0.1 SCFM
- 8 particle channels
- Line pressures from 40 to 150 psig
- Passive laser cavity
- Parallel processing array detector system
- Safety containment vessel
- Oxygen and hydrogen compatibility

APPLICATIONS

- Qualification of gas distribution systems
- Process gas monitoring
- Reactive gas monitoring

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Specifications

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Size channels	8 channels with thresholds at: 0.1, 0.2, 0.3, 0.5, 1.0, 2.0, 3.0, 5.0 μm
Flow rate	0.1 SCFM (2.8 LPM)
Sample volume	0.1 SCFM (2.8 LPM)
Counting efficiency*	> 50% at 0.14 μm
Zero count level	< 2/ft ³ or < 0.2/min
Maximum concentration**	3,000/ft ³
Optical design	Passive cavity with parallel processing array detector
Optical system	Wide angle 90° scattering collecting optics with greater than 2 π steradians solid angle
Laser type	HeNe
Data system	PDS-E
Calibration	Calibration materials used are traceable to the US National Institute of Standards and Technology (NIST).
Power	100, 115, 220 – 230, or 230 – 240 V, 50 – 60 Hz, 0.5 A
Environment	Temperature: 32 – 113 °F (0 – 45 °C). Humidity: non-condensing. Maximum altitude: 9,842 ft (3,000 m).
Dimensions (l, w, h)	26 x 8 x 9 in (66 x 20 x 23 cm)
Weight	45 lb (20.4 kg)

PDS-E

Number of sensors	1
Sampling interval	1 second to 8:00:00 (hh:mm:ss)
Data management and analysis	Facility Net software
Computer interface	RS-232, bi-directional; Ethernet (via PMS protocol, Modbus, or OPC)
Power	100 – 240 VAC, 50 – 60 Hz, 0.63 A
Environment	Temperature: 32 – 113 °F (0 – 45 °C). Humidity: noncondensing. Maximum altitude: 9,842 ft (3,000 m).
Dimensions (l, w, h)	7 x 8.5 x 12.5 in (18 x 22 x 32 cm)
Weight	11.5 lb (5.2 kg)

* Allow \pm 5% for variations in sample flow.

** Greater than 90% accuracy (less than 10% coincidence loss) at maximum recommendation ambient concentration.

Patents apply: United States – 4,798,465, 4,893,928, and 4,594,715. Japan – 2,786,187, and 2,554,614.

Germany – 3,712,665C2, 3,930,642, and 3,485,749.4. Canada – 1,228,148. UK – EP142815.

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