

Advanced, cost effective system for gas velocity and volumetric flow rate measurements independent of pressure, temperature and gas composition.

### Overview

The system's principal technology, Laser-2-Focus Velocimetry, uses laser beams to measure the gas flow by sensing the velocity of microscopic particulates naturally occurring in gas. The Focus® 2.0 system consists of a flow sensor, an optical flow processor and a heater power supply. The system includes, the new user-friendly software with a Wizard mode that enables an easy step-by-step configuration of parameters.

Easily installed and maintained in the field, the system requires only one installation point in the gas line and takes less than 3 hours to install under normal conditions without, interrupting site operations or entire systems shutdown. The Focus® 2.0 is used to accurately measure a wide range of flow rates in a variety of pipe diameters (4" - 30" Inches).

### Applications:

- Gas flow measurement for flare and vent gas applications
- Flare monitoring for reducing waste & increasing process efficiency
- Emissions measurement for compliance with environmental regulations
- Bio-gas measurement applications

### Contact us

Photon Control is a leader in precision measuring sensors and flow meters, specializing in customization and OEM manufacturing. Visit [www.photon-control.com](http://www.photon-control.com) for more information, or contact us at [info@photon-control.com](mailto:info@photon-control.com) with your requirements for engineering guidance and a quote.



### Features

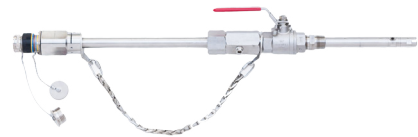
- Easy to install
- Cost effective
- High turndown ratio of 1500:1
- Compliant with ASME Code Section VIII, Division I for pressure safety
- Rate intrinsically safe by CSA
- Windows 7 64-bit compatible software features easy configuration download- all settings saved appended to data log



CABLES\*



ELECTRONICS



PROBE

## Technical Specifications

Specifications	
Velocity Measurement Range	0.1 m/s to 150 m/s (0.33 ft/s to 500 ft/s)
Repeatability	0.1 m/s to 150 m/s (0.33 ft/s to 500 ft/s) $\pm 1\%$
Measurement Accuracy	0.1 m/s to 1 m/s (0.33 ft/s to 3.30 ft/s) $\pm 5\%$ 1 m/s to 100 m/s (3.30 ft/s to 330 ft/s) $\pm 2.5\%$ 100 m/s to 150 m/s (330 ft/s to 500 ft/s) $\pm 5\%$
Probe Specifications	
Ambient Temperature	Powerup: -20 to +50 °C (-4 to +122 °F) Operating: -40 to +50 °C (-40 to +122 °F)
Process Temperature	-40 to +100 °C (-40 to +212 °F)
Maximum Process Pressure	300 psig (20 barg)
Pipe Diameter	4 in to 30 in
Probe Diameter	19.1 mm (0.75 in)
Wetted Materials	Meter Body: 316L stainless steel Optical Windows: borosilicate glass
Optical Flow Processor Specifications	
Power Requirements	+24 VDC
Analog Input Interface	Pressure and temperature transmitter (4 - 20 mA)
Analog Output Signal	Frequency/pulse Current loop (4 - 20 mA)
Digital Output Signal	RS-232 programming port RS-485 (Modbus RTU)
Output Variables	Velocity (m/s, fps) Flow rate (m³/h, e³ m³/d, CFH, MCFD, MMCFD)
Fiber Optic Extension Cable	Flexible armoured cable (with 5 - 50 m length silicone jacket)

## Product Options and Accessories

### Electronics Enclosures

OFP-XP-OC-HYB	Explosion-proof enclosure (Class 1 Zone 1; Ex d IIB T4)
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### Ordering Information

Optical Flow Processor Options:

- Option 1: Enclosure Type:
- XP-OC-HYB

\*Option 2: Optical Extension Cable

Length:

- 5 metres (standard)
- 10 meters
- 25 meters
- 50 meters

Included Accessories:

- Ball valve assembly (ball valve with packing gland assembly, 1 in. MNPT)
- RS-232 configuration cable (DB9 to 4-pin plug)
- Explosion-proof enclosure mounting kit (u-bolts for 2 in. pipe)

