KINGS ENERGY SERVICES

FOCUS® 2.0 OPTICAL GAS FLOW METER

FLARE GAS MEASUREMENT & MONITORING | EMISSIONS MEASUREMENT | BIO-GAS MEASUREMENT | INCINERATOR GAS MEASUREMENT

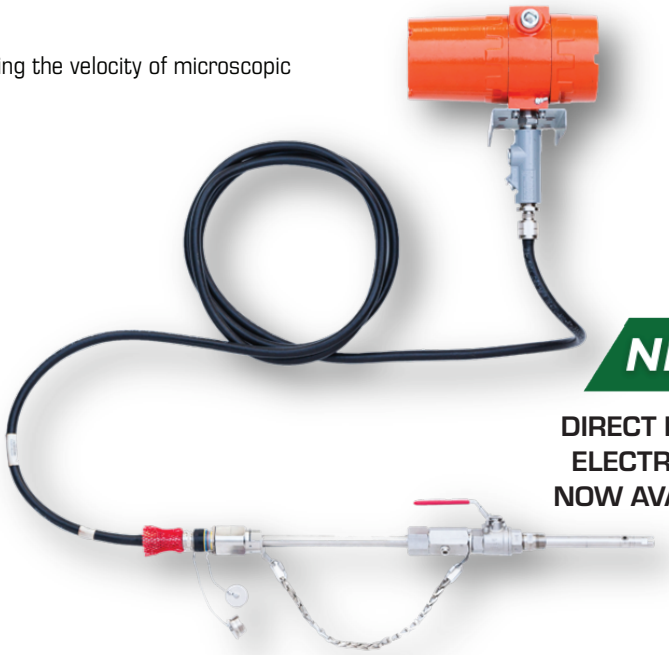
OVERVIEW

Focus 2.0 utilizes patented laser technology to measure gas flow by sensing the velocity of microscopic particulates naturally occurring in gas streams.

This System Consists of:

- A flow sensor
- An optical flow processor
- Heater power supply
- Installation software
  - Step by step configuration Wizard
  - User friendly
  - Easy to follow

- Quick & Easy Installation/Maintenance
  - One Installation point
  - Less than three hours to install
  - No system shutdowns required
  - No expensive annual calibration



NEW

DIRECT MOUNT ELECTRONICS NOW AVAILABLE

The Focus 2.0 is used to accurately measure a wide range of flow rates in a variety of pipe diameters from 4" to 36" inches using patented Laser-2-Focus Velocimetry

APPLICATIONS

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

BENEFITS

- Ease of installation & maintenance
- Cost effective & convenient
- High turndown ratio 1500:1
- ASME compliant
  - Code section VIII, Division 1
- CSA Certified - Intrinsically Safe
- Windows 10, 64-bit compatible software
  - Easy configuration
  - Download-all settings
  - Data logging

PROVIDING SOLUTIONS

www.kingsenergy.com 1-866-660-KING info@kingsenergy.com

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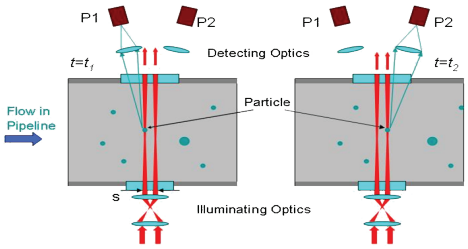
FOCUS® 2.0 OPTICAL GAS FLOW METER

NEW DIRECT MOUNT OPTION

HOW IT WORKS



1. Small particles in the gas pass through the laser beams.
2. Laser light is scattered, allowing particles to be detected by photo-detector P1, a pulse is then generated.
3. The particle then passes a second laser beam and is detected by photo-detector P2 generating a second pulse.
4. The time interval between these pulses is τ, and where S is the distance between the laser beams then the gas velocity is calculated as $V = S\,\tau$.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Velocity Measurement Range	0.1m/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) ± 1%
Measurement Accuracy (% of reading)	0.1 m/s to 12 m/s (0.33 ft/s to 500 ft/s) ± 2% 12 m/s to 100 m/s (3.30 ft/s to 330 ft/s) ± 2.5% 100 m/s to 150 m/s (330 ft/s to 500 ft/s) ± 5%
Safety Approvals	CSA certified IEC Ex d [ia] IIB Approval Pending

PROBE SPECIFICAITONS	
Temperature	Processor: -40 to +50 °C (-40 to +122 °F) Probe: -40 to +120 °C (-40 to +248 °F)
Maximum Process Pressure	300 psig (20 barg)
Pipe Diameter	4" to 36" inches (Larger sizes, contact Kings)
Probe Diameter	19.1 mm (0.75 inches)
Wetted Materials	Meter body: 316L stainless steel Optical Windows: borosilicate glass

OPTICAL FLOW PROCCESSOR SPECIFICATIONS	
Power Requirements	+24 VDC/150 mA
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, e3m3/d, CFH, MCFD, MMCFD)
Fibre Optic Extension Cable	Silicone jacketed flexible armored cable (with 10, 25, and 50m length)

COMING SOON
Bluetooth Wireless Communication
2GB Flash Memory

PRODUCT OPTIONS & ACCESSORIES

DIRECT MOUNT OPTION NOW AVALIABLE

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)

OPTIONAL ACCESSORIES
OFA-KIT-1 in HOT TAP - hot tap installation kit
OFA-ADAPTR-1-FLG-2" - flange kit adaptor

OPTIONAL CABLE LENGTHS
10 meters
25 meters
50 meters

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