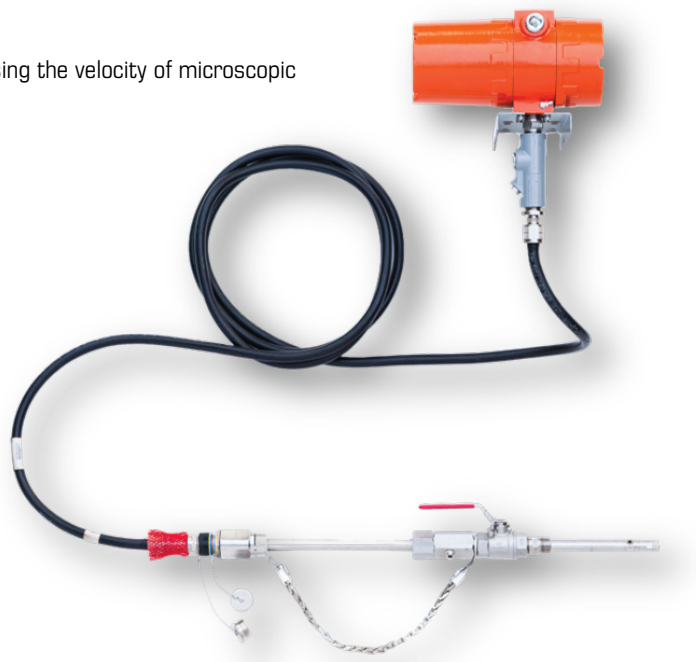
KINGS ENERGY SERVICES

FOCUS® 2.0 OPTICAL GAS FLOW METER

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

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

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.arissintegrated.com.my

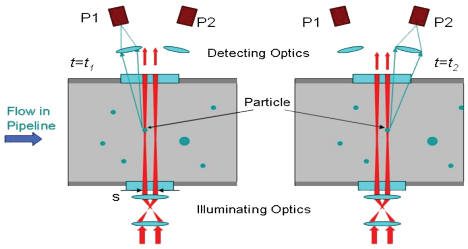
info.aisb@arissintegrated.com.my

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OPTICAL GAS FLOW METER



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 τ.

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 1m/s (0.33 ft/s to 500 ft/s) ± 5% 1 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

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