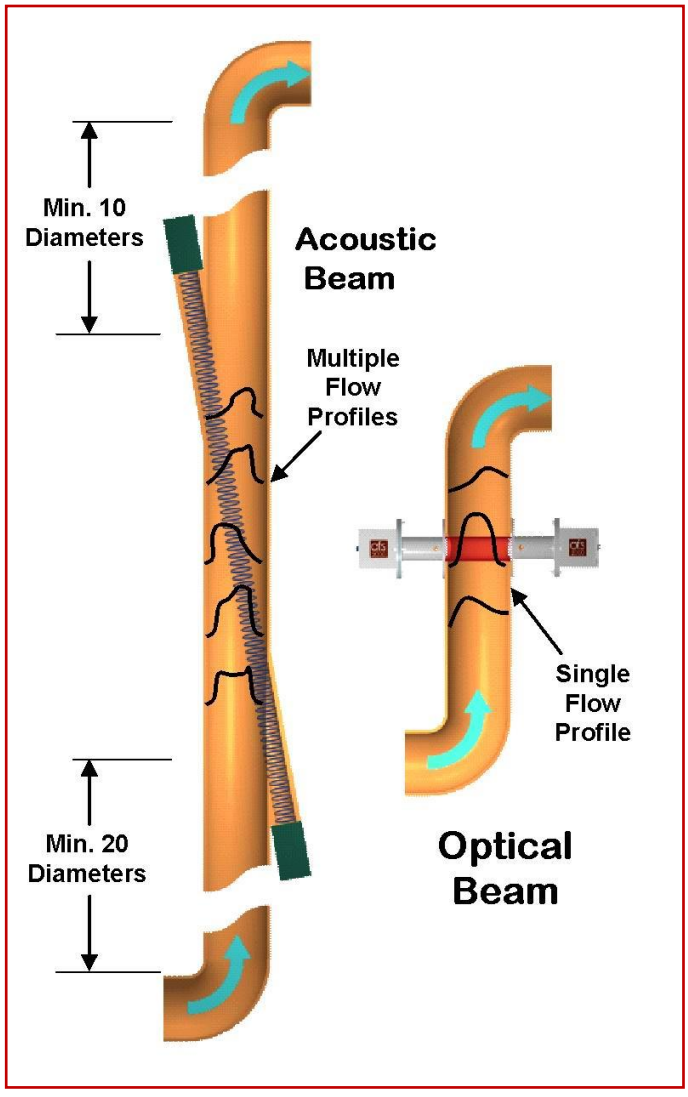
OFS-2000F™ Flare Velocity Sensor Advantages

The Optical Scientific Inc. (OSi) Optical Flow Sensor is the *PREMIER CHOICE* for accurately measuring flow velocity on your flare lines and flare stacks.

- **OFS-2000F is EPA approved including Subpart J & Ja applications**
- **No re-piping is required (long 30-diameter runs not needed)**
  - OFS typical is 2 diameter upstream / 1 down (can be shorter)
  - Can save facility $100's of thousands in re-piping costs
- **True wide dynamic range – 0.03 to 170 m/sec with one sensor**
  - This has been OFS range for 10 years plus – not just since RSR or J/Ja regs out
- **No interference / dependence on media composition**
  - Hydrogen? No problem – measurement not affected by molecular weight
  - Measurement - zero effect from temp, pressure, density, humidity, etc.
- **Non-intrusive (nothing in flow), easy install, easy to maintain**

The OFS-2000F is an optical sensor and unlike costly ultrasonic installations, the OFS is placed perpendicular to the pipe or stack axis, not diagonally, resulting in better accuracy and more siting flexibility. It is not directly exposed to the flow (non-intrusive and non-contact) which translates into better durability and lower maintenance. OFS technology results in:

- Low cost to acquire, install and maintain
- Very low up-/down-stream pipe diameter requirements
- Non-intrusive to flow; no pressure drop
- Path-averaged for more accurate measurement
- Can be 100% isolated from media behind sight glasses
- Simple installation & start-up – 'plug-n-play'
- Mean Time Between Failure (MTBF) > 10 years
- EPA approved technology (J / Ja, Part 60 / 75, RSR etc.)
- NIST wind tunnel tested (not just traceable)
- Field proven in many hundreds of varied installations
- All digital / DSP based / drift-free electronics
- Built-in self-test, diagnostics & automatic calibration
- Suitable for extreme temperature applications
- 5000:1 turn-down ratio from a single instrument
- No moving parts, no consumables
- Current loop and serial communications I/O
- Easy interface to PC, PLC, CEMS, etc.
- Built-in digital display & keypad



Optical Scientific Inc. (OSi) ● 2 Metropolitan Ct., Suite 6 ● Gaithersburg, MD, 20878 ● USA
Ph. 301-963-3630 ● Fax 301-948-4674 ● www.opticalscientific.com ● email: sales@opticalscientific.com

- Configurable: large or small diameter flare lines or stacks are measured with the same OFS-2000F model
- Variety of rack and NEMA4 / NEMA4X & SS enclosures and area classification options available
- Extensive user base exists and extensive service / support knowledge base exists
- Can be used in widest range of applications versus any other measurement technology
- Not affected by dirt on the windows or high opacity flow media (up to 95% opacity OK)
- Results independent of temperature, pressure, humidity, opacity and media composition (no measurement or compensation for these variables [*which are error mechanisms for other technologies*] is required for OFS)
- Full 12-month warranty; Internationally accepted Safety and Quality approvals

The table below summarizes the competitive differential advantages of OSI's OFS / optical scintillation technology compared to other technologies.

	Ultrasonic	Pitot Tube	OFS	OSi Advantage?
Sample Volume	Long Path	Point Measurement	Long Path	Yes over Pitot
Path Velocity Profile Variability	Multiple / complex	Point Only	Single Profile	Yes over both
Measurement Representativeness	Variable Profiles, Fair	Single Point, Poor	Single Profile, Excellent	Yes over both
Transducer Exposure *	In Sample	In Sample	Non Contacting, not in sample	Yes over both
Technology	Newer, Hybrid Analog / Digital	Old, Low-Tech, Analog	Advanced, All Digital	Yes over both
Installation Cost	High (2-point/2-level)	Low (1-point/1-level)	Moderate (2-point/1-level)	Yes over ultrasonic
Field Calibration	Annual / Semi-Annual	Annual / Semi-Annual	None Required	Yes over both
Suitability for Harsh Environments *	Poor	Moderate	Excellent	Yes over both
Siting Restrictions	High	Medium	Few	Yes over both
Maintenance	High	Medium	Low	Yes over both
Acquisition plus Operating Costs	High	Medium	Low	Yes over both

** Sight glasses may be used to totally seal off process gases for caustic, flammable or high pressure process flows.*

Be sure to contact us on the web (http://www.opticalscientific.com), by email (sales@opticalscientific.com), or by phone (301-963-3630) for more information and to request a quote on the most versatile / high performance flow sensor in the world!

Optical Scientific Inc.

2 Metropolitan Ct., Suite 6
Gaithersburg, MD 20878 USA
Ph. 301-963-3630
Fax 301-948-4674
website: www.opticalscientific.com
email: sales@opticalscientific.com

For the world's best performing and most reliable advanced optical instruments, please contact OSi today!