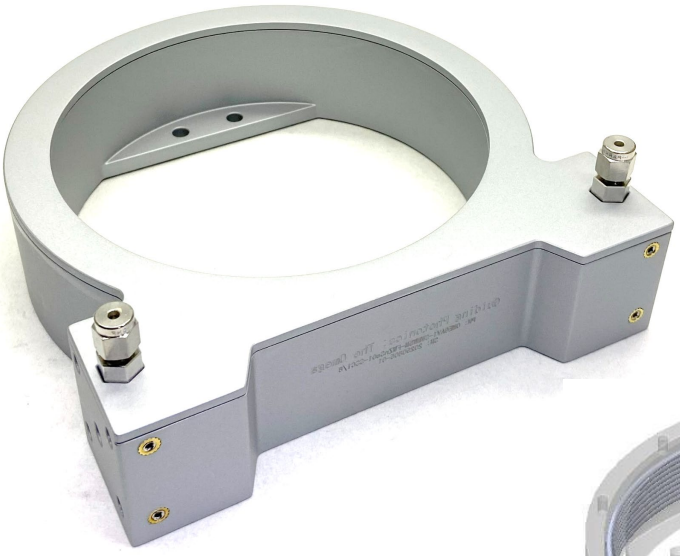
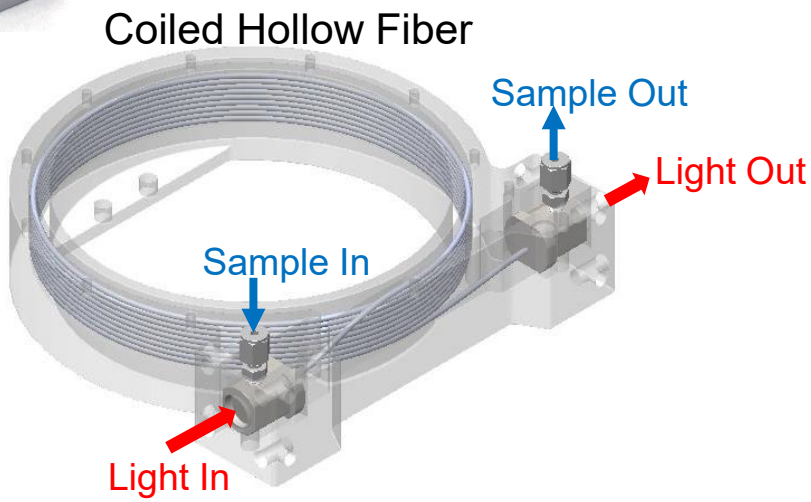
GUIDING PHOTONICS

Omega™ Hollow Fiber Gas Cell





Laser spectroscopy has never been easier

Robust, compact gas cells utilizing hollow core fibers that are incredibly simple to align. Within the hollow fiber, the probe beam and analyte overlap enabling sensitive laser absorption spectroscopy or Raman spectroscopy with minimal sample size.

Key Features

- Low sample volume: < 10 mL
- Sensitive analysis: < 1 picomole
- Moderate path length: e.g., 5 m
- Compact size
- Incredibly simple and robust alignment
- Various wavelength ranges, including the entire mid-infrared range

Components

- Hollow core fiber with reflective inner coating
- AR coated, wedged optical windows
- Swagelok style gas fittings
- Compatible with 30 mm cage mount systems
- (Optional-V2) integrated pressure sensors with on-board display (sensors on each end of fiber)
- (Optional) integrated pinholes for Raman use

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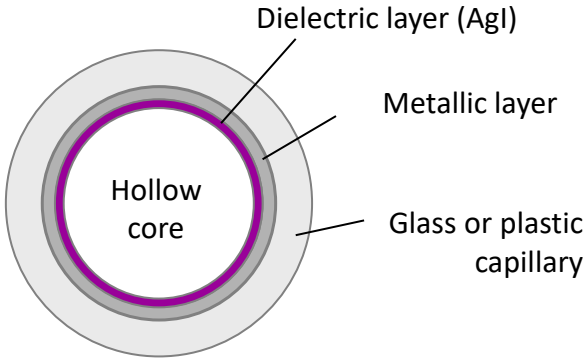
Standard Configuration – V1

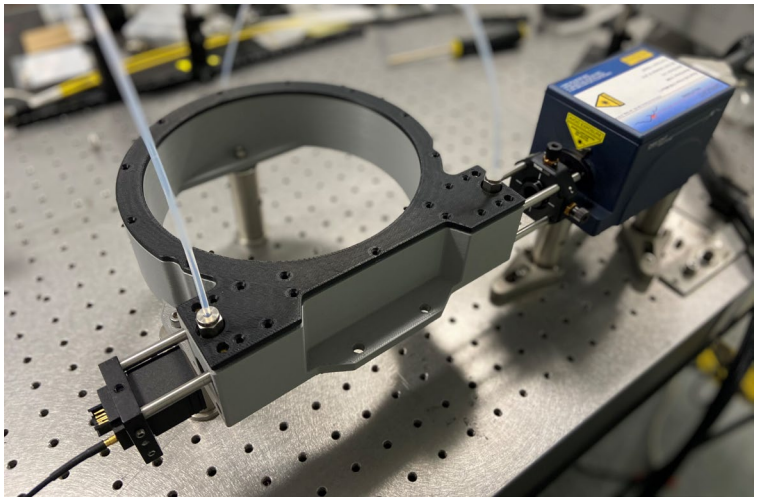
Wavelength Range	3 - 12 µm
Internal Bore Diameter	1.5 mm
Path Length	5 m
Sample Volume	9 mL
Optical Throughput	> 5 %
Output Divergence ½ Angle	30 mRad
Operating Pressure	vacuum - 15 Atm
Wetted parts	Stainless steel Silver-Iodide Window coating



Hollow core fiber cross-section

Variations

Internal Bore Diameter	200 - 1500 µm
Path Length	0.3 – 5.0 m
Sample Volume	0.03 - 9 mL
Window options include wedged and/or AR coated	Silica: 0.35 - 0.7 µm BaF2: 0.2 - 11 µm ZnSe: 2 - 13 µm
Integrated pressure sensors and display (V2)	



Alignment

The relatively large fiber diameter (ID = 1.5 mm) and single pass configuration enables obtaining ‘first light” with minimal effort. In some cases, you can collimate your beam into one end and simply put your detector at the other end. It is that easy.

Custom Systems

Gas cells can be customized to utilize a wide range of Guiding’s hollow core fiber optic waveguides. Options include different sample volumes, path lengths, and wavelength ranges. In addition, systems can include additional components such as low dead volume pressure sensors and/or integrated pinholes.

Contact Us

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