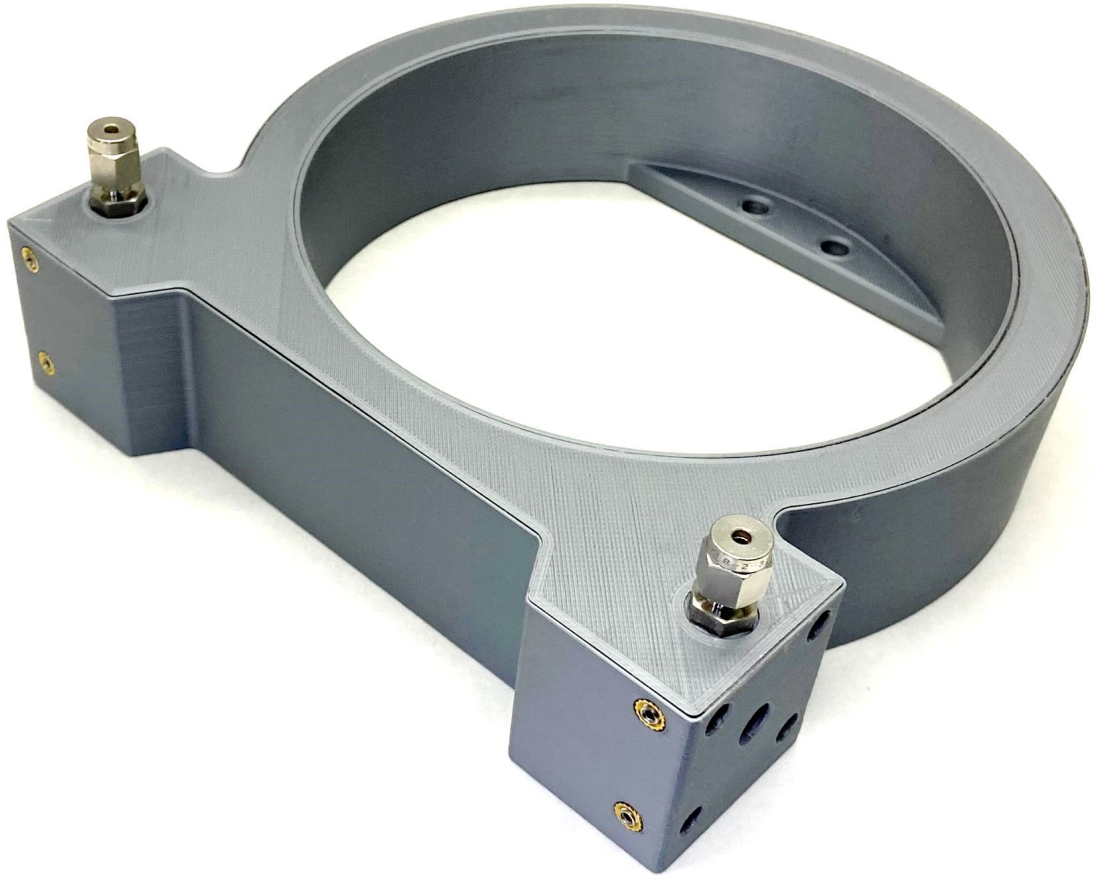
GUIDING PHOTONICS

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 with minimal sample size for trace-gas and isotope analysis.

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
- Barbed or Swagelok style gas fittings
- Compatible with 30 mm cage mount systems
- Mounting holes for integration onto an optical bench or in a custom housing

GUIDING PHOTONICS

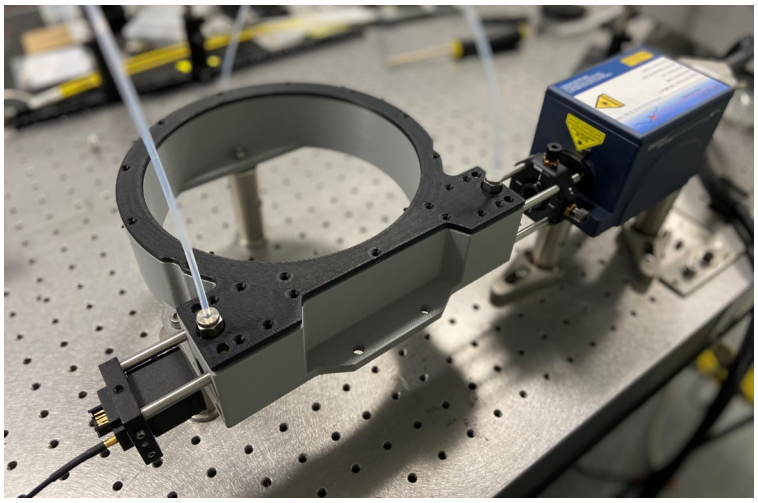
Omega™ Hollow Fiber Gas Cell

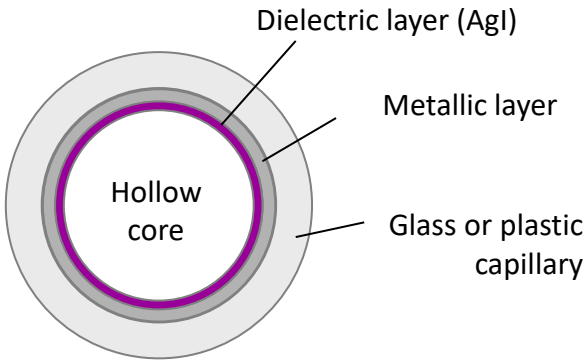
Standard Configuration

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	0.001 - 1.0 Atm
Wetted parts	Stainless steel Silver-Iodide

Variations

Internal Bore Diameter	200 - 1500 µm
Path Length	0.3 – 5.0 m
Sample Volume	0.03 - 9 mL
A range of window options available including wedged and/or AR coated	Silica: 0.35 - 0.7 µm BaF2: 0.2 - 11 µm ZnSe: 2 - 13 µm





Hollow core fiber cross-section

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 electronically actuated valves.

Contact Us

Email: sales@guidingphotonics.com
Web: https://guidingphotonics.com

We are a spin-off from Opto-Knowledge Systems, Inc.

optoknowledge