



Windowed Gas Flow Cells for Free Space Applications

The FCW Windowed Gas Flow cells are optimized for free space applications, UV to Mid-IR. The flow cell ships standard with CaF₂ wedged windows and can accommodate alternate ½ inch diameter optical windows, regularly available from any optics vendor (examples include MgF₂ or ZnSe and/or AR coated options).

The housing is a rugged vacuum tight enclosure made from 316 stainless steel, which allows for very good resistance to a wide array of chemical gases. The gas inlet and outlet connections are standard ¼" Swagelok tube connector, with other configurations available upon request.

Standard optical path (interaction) length is 10cm although custom path lengths are available upon request. Clear aperture of the Flowcell is 0.375" or 9.5mm.

Specifications

Parameter

Wavelength Range (CaF ₂ , Cell Transmission > 50%)	150 nm to 9 microns
Interaction Length	10cm standard, 7.5-50cm available.
Clear Aperture	9.5 mm
Operating temperature	-40°C to +200°C
Spectral ripple (P-P)	<0.05 dB P-P in 2nm span
Wetted surfaces	316 SS, Viton, and CaF ₂ (or other optics)
Storage temperature	-40°C to +200°C
Swagelok® fitting style	1/4", see ordering information for options
Leak rate	< 1E10 ⁻⁸ atm-cc/sec
Cell Pressure Rating	0 to 500psi
Cell Volume	7.2 cc



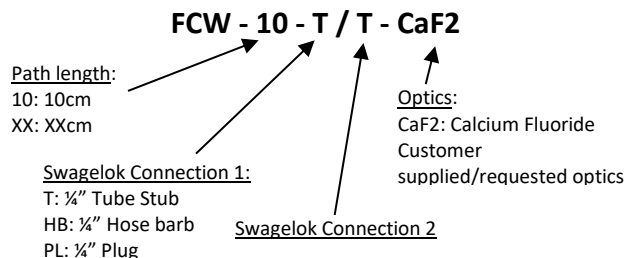
Features

- **Wavelength operation from 150nm to 9 microns**
- **Designed for minimum optical interference artifacts**
- **316 Stainless Steel construction for chemical resistance**
- **Swagelok® fittings for easy integration**
- **Low cost**

Applications

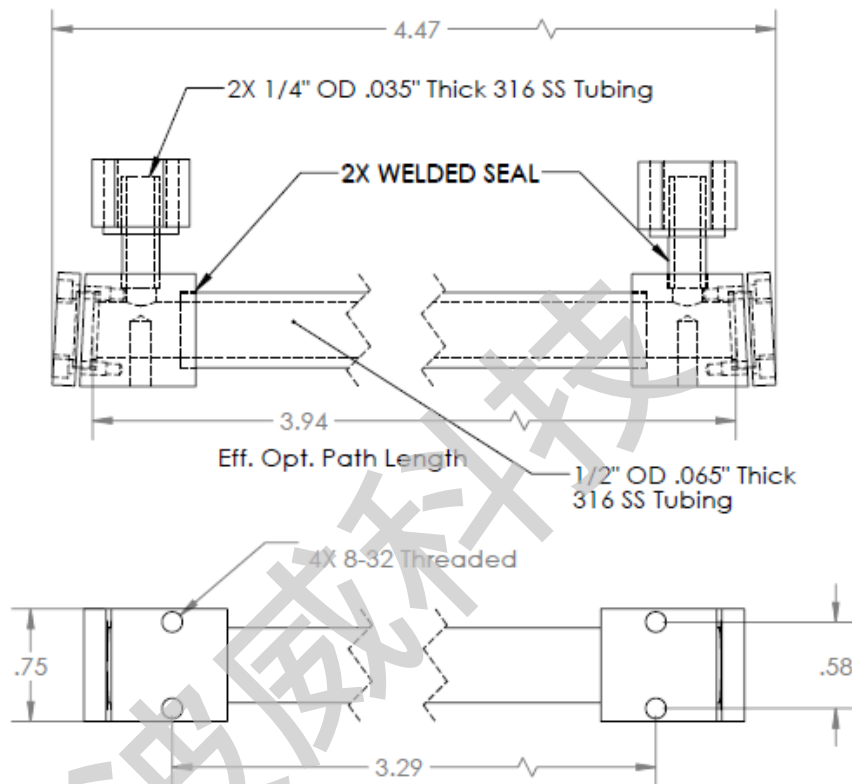
- **Gas sensing systems from the deep UV to the Mid-IR**
- **Spectroscopic research**
- **Chemical detection systems**

Ordering Information (example)





Package Drawing (10cm path, dimensions in inches)



Flowcell operation:

Wavelength References Flowcells are very simple to use. For best results, however, note the following:

- The cell is provided with four mounting holes tapped with 8-32 threads on the bottom.
- Do not apply mechanical stress on the endcaps. These hold the optics.
- If you require valves on the cell inquire as these can be provided, we can offer high quality needle or diaphragm valves.
- Uniform heating can reduce condensation and aids in moisture removal from the cell surfaces. Initial pump down with some heating is very beneficial for low background water vapor.
- If the cell optics are damaged due to contamination we can rework the cell for lifetime cost savings. Please contact factory.