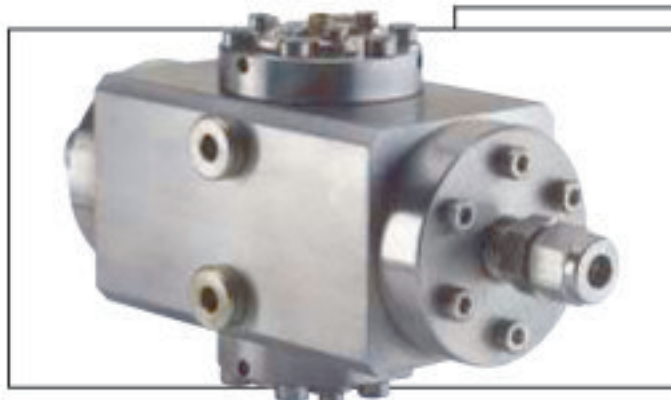




## Type A Liquid Flow Cell



Specac flow cells can operate at temperatures as high as 280°C and pressures as high as 1500 p.s.i. A choice of body materials, including Stainless Steel 316L and Hastelloy® C276 are available to ensure materials compatibility with a wide range of process fluids. Special materials are available upon request.

Sapphire windows are included as standard to ensure the highest resistance against corrosive process fluids. Pathlength can be specified from 1mm to 10mm (in 1mm steps) for standard configurations, and higher pathlengths are available upon request. Optical designs can be configured for near infrared (NIR) or UV-Visible regions of the spectrum, and further optimisation is available for specific areas of interest.

Twin, chemically inert, perfluoroelastomer seals are incorporated to guard against the unlikely event of window seal failure. Windows can even be Gold diffusion bonded to provide the highest seal integrity under the harshest of process conditions, further increasing the temperature rating to 400°C.

A wide range of options further enhances the performance of the range. Seal leak warning ports can be incorporated for additional process security and cells can be specified with a cleaning port to allow easy cleaning of the windows without the need to remove the cell. Protective metal hoods (to I.P. 65 rating) can be fitted over the fiber connections to guard against accidental damage or the effects of condensation.

Our flow cells can be supplied in a wide range of body materials, pathlengths, seal-types and flow fittings, to ensure exact matching with client's process requirements.

Specac's Type A series flow cells are designed for the optical sampling of industrial process fluids in transmission mode using fiber optics. Combined with infrared or UV-visible spectrometry, our flow cells allow for real-time remote monitoring and control of a wide range of industrial process. Type A flow cells are the ideal choice for installation in plant analyser houses, enclosures or even directly on the plant. Superior optical design, state-of-the-art sealing technology and rugged construction are combined with precision manufacturing to ensure many years of reliable, high performance.

### Applications

- Oil refining
- Petrochemicals
- Chemicals
- Pharmaceuticals
- Food
- Pilot plants

### Advantages

- Allows process control and monitoring
- Cost savings due to process optimisation
- Allows sampling of hazardous process streams in complete safety
- Reproducible sampling

## Type A - Liquid Flow Cell Standard Specifications

<b>Optical range:</b>	Specify NIR or UV-Visible operation
<b>Pathlength:</b>	1m m - 10m m (others available upon request)
<b>Window material:</b>	Sapphire
<b>Body material:</b>	Stainless Steel 316L or Hastelloy® C276 (others available upon request)
<b>Maximum temp:</b>	280°C (up to 400°C with Gold diffusion bonding)
<b>Maximum pressure:</b>	1500 p.s.i.
<b>Seals:</b>	Kalrez® 4079 (others available upon request)
<b>Cell bore:</b>	10m m or 16m m
<b>Fiber diameter:</b>	600µm (contact Specac for other options)
<b>Fiber fitting:</b>	SMA
<b>Flow fitting:</b>	1/4", 1/2" or 1" Swagelok®
<b>Thermocouple well:</b>	1/8" B.S.P.

### Optional Features

- Gold diffusion bonded windows
- Primary seal leak warning ports
- Window cleaning ports
- Protective hoods for fiber connections (I.P. 65 rated)

### Flow Cell Ordering Information

P/N ****	Process Flow Cell in SS316L, 10m m bore, 1/4" or 1/2" Swagelok® fittings
P/N ****	Process Flow Cell in SS316L, 16m m bore, 1/2" or 1" Swagelok® fittings
P/N ****	Process Flow Cell in Hastelloy® C276, 10m m bore, 1/4" or 1/2" Swagelok® fittings
P/N ****	Process Flow Cell in Hastelloy® C276, 16m m bore, 1/2" or 1" Swagelok® fittings

### Client to specify:

- Wavelength range
- Pathlength (1m m to 10m m in 1m m steps)
- Swagelok® fittings size
- Seal type (if different from standard specification)
- Optional features

*Please note – Specac Process Flow Cells can be supplied in a range of non-standard pathlengths, body materials, fiber diameters and flow fittings. Contact Specac for special requirements.*

**Specac**



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