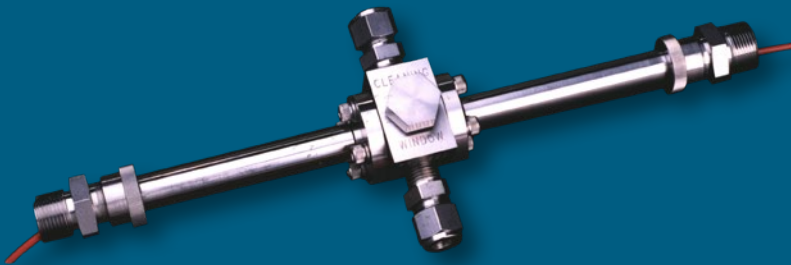


PRODUCT DATASHEET

Multi-Purpose Process Flow Cell (MPFC)

Compatible with NIR and UV-VIS Analyzers



More signal

Less noise

Better measurement

- Virtual view into the process
- Optically matched to Guided Wave analyzers
- Compatible with most NIR, UV-VIS analyzer brands
- High optical efficiency

Multi-Purpose Flow Cell (MPFC)

GUIDED WAVE'S Multi-Purpose Flow Cell (MPFC) is used whenever direct insertion probes are not appropriate and the process material does not require the added assurance of the High Safety Flow Cell. One of the primary advantages of near infrared process spectroscopy is the utilization of intrinsically safe fiber optic cables to remotely locate the probe. While direct insertion probes eliminate sample loops and sample systems and their associated problems, sometimes it is necessary to install sample loops for safety, service, and/or sample conditioning reasons. The MPFC is a convenient, compact, rugged sample interface that is easy to install and even easier to service. The cell's sapphire windows can be cleaned by simply removing a clean-out plug for direct access to the windows without disconnecting process lines or fiber optic cables. This clean-out port is a Guided Wave innovation.

A Simple, Serviceable Design

Key elements of the MPFC design are simple, serviceable o-ring seals, the Guided Wave clean-out port, high optical efficiency, slip jointed conduit-ready connections, sapphire windows, a clean flow pattern, and o-ring sealed optics to prevent ambient moisture infiltration. The flow cell can be field disassembled for o-ring service and reassembled without changing the optical pathlength, a crucial parameter for repeatable measurements.

Process-Resistant Construction

The Multi-Purpose Flow Cell comes standard in 316L stainless steel but is available in many other alloys. Suitable o-ring materials must be specified to meet your process chemistry and safety requirements. Common materials, such as Viton, Kalrez®, EPDM, etc., are readily available. Please consult appropriate resources for temperature specifications of various o-ring materials and chemical compatibility with your process.

Exceptional Light Transmission

Like other Guided Wave optical probes, the Multi-Purpose Flow Cell provides exceptional optical performance. Typically, peak transmission exceeds 50%. That means more signal, lower measurement noise translating to lower limits of detection.

Dual Seal for Added Safety

The Guided Wave Multi-Purpose Flow Cell now boasts a dual seal at the sapphire "window-to-process" interface. This doubles protection for the expensive internal optical lenses.

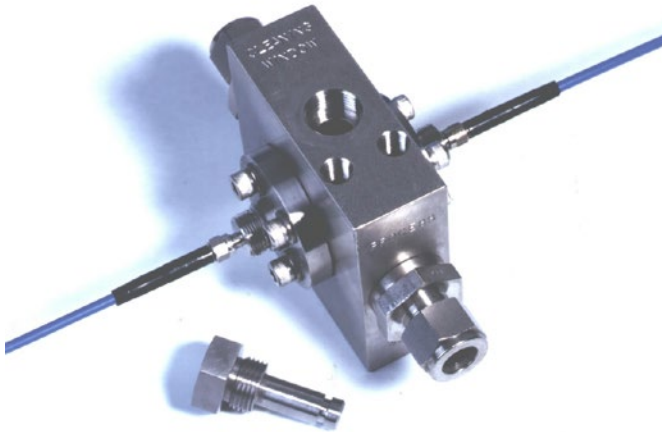
Operating Range

This MPFC is available in five standard pathlengths 1, 2, 5, 10, and 20 mm. It operates over the following pressures and temperature ranges:

- Temperatures to 300 °C (o-ring material dependent)
- Pressures to 500 psi (o-ring durometer dependent)
- A certified version is available that is rated to 1000 psi

Heated Version Available

A version of the MPFC, drilled to accept a heating or cooling fluid, is also available. While the heat exchanged is not sufficient to significantly impact a rapidly flowing sample, it can be used to maintain the temperature of a preconditioned sample.



Axial Flow Cell

For pathlength requirements >20 mm, see Guided Wave's versatile Axial Flow Cell design.



Specifications:	
Body Material:	316L SS (standard), Hastelloy B, Hastelloy C-276, Titanium 6A1-4V, Nickel 200, Monel (Nickel 400,) Carpenter 20, 316 SS, Tantalum 304 SS
O-Ring Material:	Viton, EPDM, Kalrez, Silicon, other materials available upon request
Window Material:	Sapphire (VIS-NIR) or Fused Silica (UV)
Pathlength Flow Tube Size:	1 mm / 3/8" OD tubing 2 mm / 3/8" OD tubing 5 mm / 3/8" OD tubing 10 mm / 1/2" OD tubing 20 mm / 1" OD Tubing
Maximum Pressure:	500 psi [3450 kPa]
Maximum Temperature:	300 °C (o-ring material dependent)
Spectral Range:	VIS-NIR (400 – 2100 nm) UV-VIS (190 – 850 nm)
Optical Efficiency:	> 45% (800 – 1650 nm)
Fiber Termination:	SMA 905
Conduit Connection:	3/4" MNPT

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Process Insights' products and solutions deliver innovative and differentiated analysis and measurement solutions and technologies that add high value to our customers and protect the environment.

Our commitment is to deliver smart and affordable innovation that optimizes process, improves safety, and transforms our world.

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