

## Multi-Purpose Process Flow Cell with Turbidity Port

**GUIDED WAVE'S** Multi-Purpose Flow Cell (MPFC) with an additional 3rd port can be used for Haze or Turbidity (NTU) measurements with our ClearView® db process photometer. The turbidity measurement detects solids breakthrough in your process while simultaneously measuring the transmission provided a 20mm pathlength is appropriate, for example, when monitoring Saybolt color. One of the primary advantages of UV-Vis and NIR process spectroscopy is the utilization of intrinsically safe fiber optic cables to remotely locate the analyzer relative to your process. 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 GW 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 probe can be field disassembled for o-ring service and reassembled without changing the optical pathlength, an important parameter for repeatable measurements. The haze or turbidity measurement is made by a 90° backscatter method. This turbidity function requires a third optical fiber to return the 90° scattered light to the analyzer.

### Process-Resistant Construction

The Multipurpose 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®, etc., are readily available. Please consult appropriate resources for temperature specifications of various o-ring materials and to determine chemical compatibility with your process.

### Exceptional Light Transmission

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

### Dual Seal for Added Safety

Our multi-purpose flow cells have a dual seal at the sapphire window to process interface. This doubles the protection of the more costly internal optical components.

### Operating Range

The Multi-Purpose Flow Cell operates over the following pressures and temperature ranges:

- Temperatures to 300 °C (o-ring material dependent)
- Pressures to 500 psi (o-ring durometer dependent)

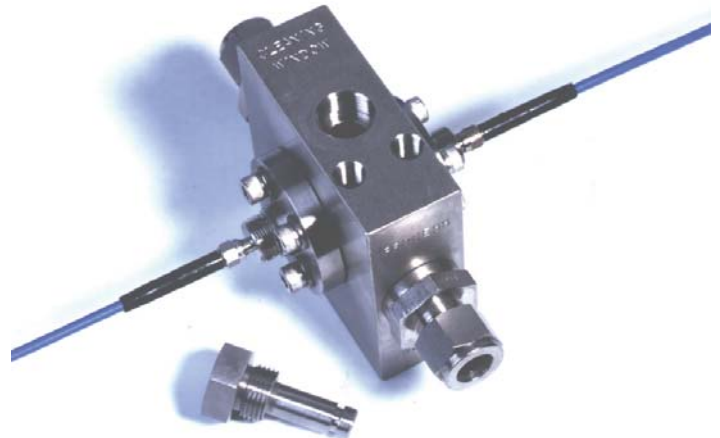
The turbidity version of the multipurpose flow cell is available in a 20 mm pathlength.

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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
Window Material:	Sapphire

Path Length	20 mm
Maximum Pressure:	500 psi [3450 kPa]
Maximum Temperature:	300 °C (o-ring material dependent)
Spectral Range:	VIS-NIR (400 – 2100 nm) UV-VIS (200 – 1000 nm)
Optical Efficiency:	> 45% (800 – 1650 nm)
Fiber Termination:	SMA 905
Conduit Connection:	3/4" MNPT

## Heated Multi Purpose Flow Cell (MPFC)



## Multi Purpose Flow Cell (MPFC)

Guided Wave also manufactures heated and unheated flow cells in various path lengths from 1 to 20 mm. All flow cells have the Guided Wave innovative clean-out port.

## Contact Us

Please contact a Guided Wave sales representative at [gwsales@guided-wave.com](mailto:gwsales@guided-wave.com) for additional information. Detailed installation drawings are available for review. For additional information on Guided Wave process analyzers, process probes, and fiber products please see our website at [www.guided-wave.com](http://www.guided-wave.com).

## ClearView® db Enclosure Options



**Zpurge Unit**  
Class I, Division 2

**ExProof Unit**  
Class I, Division 1

**General Purpose Unit**