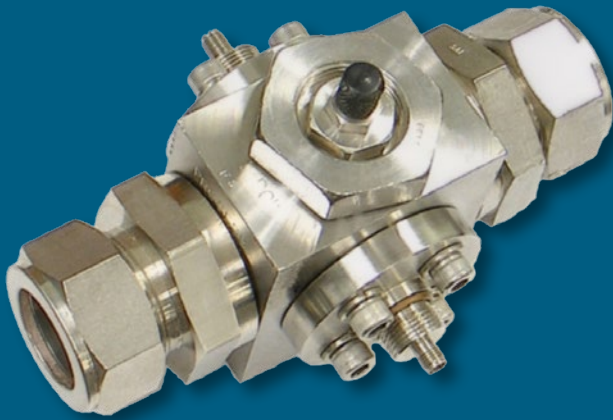


PRODUCT DATASHEET

Turbidity Process Flow Cell

Compatible with ClearView® db Analyzers
Configured for Haze or Turbidity



More signal

Less noise

Lower detection limits

- Suitable for Saybolt color, Haze, or Turbidity, and select transmission measurements
- Virtual view into the process
- Suitable for liquids and vapors
- Reproducible pathlength permits servicing in the field

Turbidity Process Flow Cell

The Turbidity Flow Cell was developed for at-line measurements where a direct insertion probe is not practical. It's suitable for Saybolt color, Haze or Turbidity and select transmission measurements. The GUIDED WAVE Multi-Purpose Flow Cell (MPFC™) design was modified by replacing the cleanout port with optics to collect the 90° backscattered light. The Turbidity Flow Cell requires three intrinsically safe process grade fiber optic cables to be connected between the ClearView® db analyzer and the Turbidity Flow Cell. The fiber optic cables allow for simultaneously measuring the light scattered by a solid breakthrough into the process and the transmission for color or other measurements.

A Simple, Serviceable Design

The Turbidity Flow Cell is a convenient, compact, rugged sample interface that is easy to install and even easier to service. Key elements of the design include simple, serviceable o-ring seals, sapphire windows, and o-ring sealed optics to prevent ambient moisture infiltration. The Turbidity Flow 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 our brand innovation. If necessary, the flow cell can be completely disassembled for inspection or deep cleaning. The reassemble step is easily accomplished without changing the pathlength, a crucial parameter for repeatable measurements.

Process-Resistant Construction

The Turbidity Flow Cell is designed to withstand corrosive processes. It is constructed in 316L stainless steel. It can also be made from other materials depending upon specific application requirements, such as Hastelloy C-276. Elastomeric seals prevent leakage and protect the Turbidity Flow Cell's vital internal optics. The process and processing environment dictate the actual o-ring material that is best suited for the application. Suitable o-ring materials must be specified to meet the process chemistry and safety requirements. Common materials, such as Viton, Kalrez®, EPDM, etc., are readily available. Consult appropriate resources for temperature specifications of various o-ring materials and chemical compatibility with the process.

Dual Seal for Added Safety

Perhaps the most crucial aspect of any online sample interface design is the sealing approach. Since process fluid streams will be under pressure and the composition is often hazardous leaks are unacceptable. Additionally, moisture infiltration from the external environment adversely affects performance too. Our brand utilizes multiple o-ring seals that effectively address both issues. This protects the expensive internal optics.

Exceptional Light Transmission

Like all our sample interfaces, the Turbidity Flow Cell provides exceptional optical performance. Internal optics result in a collimated light beam for consistently accurate measurements. Typically, peak transmission exceeds 45%. That means more signal, less noise, and lower detection limits for the measurement. The optics on the Turbidity Flow Cell are permanently aligned at the factory. As a result, there is no need for any optical adjustments in the field. Additionally, there is no chance for optical misalignment to occur under normal processing conditions or during servicing.

Pathlengths and Operating Range

The Turbidity Flow Cell is available in a 20 mm pathlength and in UV-VIS and NIR versions. It operates over the following temperature and pressure ranges:

- Temperature: ≤ 300 °C (o-ring material dependent)
- Pressure: 0-500 psi [3450 kPa]

Compatible with the ClearView db Analyzer Configured for Haze or Turbidity

The sample interface is a crucial component of a complete fiber optic-based analyzer system. For maximum performance, the probe or flow cell must be optically matched with both the analyzer (spectrometer) and the fiber that transmits the spectral signal. All our sample interfaces, analyzers, and fiber optic cables are optically matched, so when used in combination they achieve the highest possible consistency and performance.

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 the sample interface (probe or flow cell) installed in the process. Get the full power of this technology and choose the Turbidity Flow Cell along with one of our optically matched ClearView db analyzers and process grade fiber optic cables – *for control you can measure!*

Specifications	
Optical Pathlength:	20 mm
Spectral Range:	UV-VIS (200 – 800 nm); NIR (800- 2100 nm)
Fiber Connector:	SMA 905
Optical Efficiency:	>45% transmission from 800 – 1650 nm (%T)
Temperature Range:	≤ 300 °C (o-ring material dependent)
Pressure Range:	0 to 500 psi [3450 kPa]
Body Material:	316L SS standard; Hastelloy C-276, others available on request
O-Ring Material:	Viton, EPDM, Kalrez, silicon, other materials available upon request
Process Connection:	1 inch tubing

Large Variety of Configurable Designs

Process Insights offers a large variety of probes, flow cells, and process grade fiber optic cables that meet the harsh demands of the process environment. Several have auxiliary features. All the sample interfaces (probes and flow cells) can be optimized for the UV-VIS and NIR spectral regions or supplied with custom fiber diameters and connectors to match the optical requirements. Many include optional accessories for easy adaptation to different process installation configurations.

GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights manufactures and delivers premium sensors, monitors, detectors, analyzers, instrumentation, and software that are mission-critical to keep your operations, personnel, and the environment safe – every day across the globe.

Get the most reliable, precision analytical technologies available on the market today. We will work to match your needs and budget, and provide the optimal, and most stable process analysis solution for your application.

CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

Process Insights is committed to solving our customers' most complex analytical, process, and measurement challenges everyday.

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For a complete list of sales & manufacturing sites, please visit: <https://www.process-insights.com/about-us/locations/>

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REVOLUTIONIZING MEASUREMENT

EVERYWHERE