

FPX Series

Robust, Small Diameter Transflectance Probes

High performance spectroscopic probes for laboratory and process analysis
 Near-IR, Visible, UV



FPX-Series Transflectance Probes provide the benefits of high performance spectroscopic analysis in the small diameters needed for many small scale reaction development, survey, and in-line monitoring applications.

Transflectance probes are typically used for spectroscopic chemical analysis in reaction vessels which are too small to allow the use of conventional single pass transmission probes. They have the advantage of small diameter but have traditionally been hampered by high stray light and poor data repeatability resulting from the use of two optical passes through the same sample volume. The unique optical design of Hellma Analytics FPX Series probe with Axiom Technology eliminates this problem by preventing back scatter from optical surfaces and particulate matter in the sample volume from reaching the receiving optical fiber. The result is a much higher level of photometric accuracy and data reproducibility than available with earlier transflectance probes.

The mechanical design of the FPX Series probes assures a high level of physical and chemical robustness. They are impervious to attack by most aggressive chemical systems, and are unaffected by high pressures and temperatures as well as thermal shock. These characteristics are made possible by the use of Grafoil[®] seals captured in an electron-beam welded 316 stainless steel probe. In addition, the use of relatively large core (0.6 mm) optical fibers makes it practical to multiplex several probes to a single spectrometer by using our FMX Series Multiplexer. Two versions of the FPX Series are currently available. These share the same optical design and performance but differ in their mechanical structure.

FPX-200 SMALL DIAMETER PROBE:

The basic FPX-200 employs a straight 6.35 mm (1/4") diameter stainless steel body (Hastelloy optional) making it ideal for hand held use or small scale reaction monitoring.

FPX-300 PROCESS PROBE:

The FPX-300 features extremely robust construction employing a straight, 12.70 mm (1/2") diameter body making it ideal for use in applications entailing high flow rates and highly viscous materials.

FEATURES:

- Designed for micro-scale reaction monitoring
- Very low stray light
- High photometric accuracy
- Withstand highly aggressive chemicals
- Suitable for high temperature and pressure operation
- Compatible with efficient multiplexing



SPECIFICATIONS:

Model Designations:	FPX-200MN-5	FPX-300MN-5
Body Type:	Straight, 6.35 mm (1/4") diameter	Straight, 12.70 mm (1/2") diameter
Insertion Length:	15 cm	
Material of Construction:	M= S (316 Stainless Steel) M= H (Hastelloy C-276)	
Spectral Range:	N= Near Infrared (400 – 2200 nm)	
Optical Path length:	5 mm	
Sample Gap:	2.5 mm (1/2 of Path length)	
Maximum Stray Light:	0.5 %	
Window Material:	Sapphire	
Window Seal Type:	Grafoil® in welded structure	
Maximum Temperature:	240°C	
Maximum Pressure:	100 bar	
Fiber Connections:	2 meter attached fibers with male SMA-905 connectors	
Fiber Core Diameter:	0.6 mm	