

FALCATA XP

High Precision Spectroscopic Transflection Immersion Probe



Ideal for transmittance measurements in process applications and pilot plants



The Hellma **Falcata XP** is particularly suitable for measuring transparent or slightly turbid media. Its compact design and flexible adaptability of the path length make it suitable for a wide range of applications. This probe model is available in the diameters 6 and 12 mm.

AREA OF APPLICATION

Possible applications for this probe include:

- Reaction tracking and endpoint determination in polymerization reactions
- Reaction monitoring in chemical synthesis
- Control of process chromatography
- Determination of color numbers

VERSATILE USE

The Falcata XP series allows quick and easy adjustment of optical path lengths by means of interchangeable path length inserts. The inserts are available individually in 1 mm, 2 mm, 5 mm, 10 mm and 20 mm, as well as in complete sets.

PRECISE AND REPRODUCIBLE MEASUREMENT RESULTS

The interchangeable path length tips are screwed to a stop and thus provide a reproducible optical path length.

EASY PROCESS INTEGRATION

The small probe diameter allows easy and space-saving integration into the process or even a smaller pilot plant reactor.

EASY TRANSFERABILITY OF MODELS

The Hellma "Falcata XP" is constructed from standardized components from a modular system. Since the laboratory probes of this probe model have a similar optical design, calibration models developed in the laboratory can easily be scaled up for process applications.

HIGH PROCESS SAFETY

The components of this probe model are kept in stock. This ensures rapid availability. The supply of spare parts is ensured. Repairs can be carried out quickly. This leads to higher process reliability and plant efficiency.

MAINTENANCE AND REPAIR SERVICE

Since elastomer sealing rings are subject to aging, Hellma offers a maintenance and repair service for elastomer-sealed process probes and measurement cells. This can extend the product life and avoid downtime.

BENEFITS

- Variable path lengths due to easily exchangeable path length inserts
- Compact design
- High transmission optics and minimal stray light values

PRODUCT CONFIGURATION

Model	Falcata XP
Measuring Principle	Transflection
Outer Diameter	6 mm approx. 1/4 inch / 12 mm approx. 1/2 inch
Optical Path / Focal Length	1 mm, 2 mm, 5 mm, 10 mm, 20 mm / Set (1, 2, 5, 10 and 20 mm)
Pathlength Tolerance	Quartz ±0.04 mm, Sapphire ±0.04 mm
Optical Material	Quartz Glass / Sapphire
Probe Body Material	Stainless Steel 1.4435/1.4404 (316L)/ Hastelloy C-22 (2.4602) / Titan Grade 2 (brazed)
Sealing Technology	Kalrez 6375/ Kalrez 4079/ Kalrez 6320 or hard soldered (in combination with fixed path length, sapphire and titan)
Spectral Range	UV/Vis / NIR
Wavelengths	UV/Vis: 230 - 1100 nm; NIR: 400 - 2300 nm
Optical Connection	F-SMA socket and ATEX PMA housing NW23 / 2 m glass fiber PE coated, 2x F-SMA and PMA housing
Lightguide Technology	Standard Fiber Optics / High Temperature Fiber Optics
Process Connection	Without Flange / Ø 12 mm: Different EN/DIN/ASME flanges / according to customer specification
Probe Barrel	Not suitable for Swagelok
Maximum Pressure	40 bar (Class 300, overpressure at RT, 31 bar at 200 °C, 27 bar bei 300 °C, 25 bar at 400 °C)
Temperature Restrictions	T max: optical connection 150 °C (without ext. fibers), Copex PMA 130 °C (85 °C for ATEX)
Maximum Immersion Depth	100 mm - 640 mm (without flange) / 600 mm (with flange)
Minimum Immersion Depth	25 mm
Length of Probe Barrel	Immersion depth + 10 mm (without flange), immersion depth + 50 mm (with flange)
Additional Functions	None
Temperature	5 °C to 300 °C (depending on light guide and sealing technology) / blazed up to 300 °C
Pressure	-1 bar to 40 bar
Scope of Delivery	Optical immersion probe, path length insert(s), manual, pressure test certificate, transmission test protocol, transport packaging