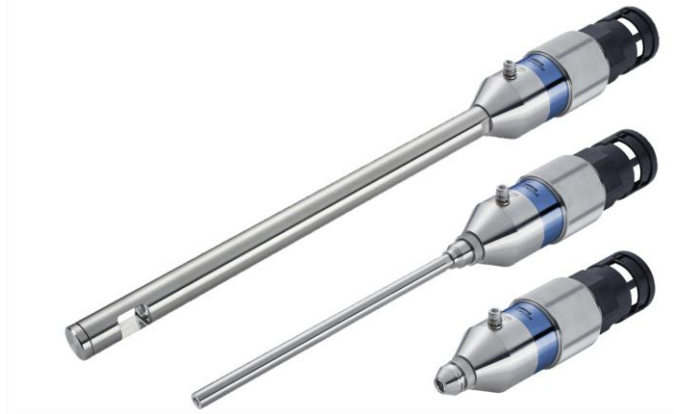


TIDUS Flex

Optical Immersion Probe For Raman Measurements

Versatile spectroscopic probe with flexible optical design for Raman measurements of various applications in the field of solid, liquid and gas analysis



The probes of the »Hellma Tidus Flex« product family are based on the same optical module. The probe body can be equipped with a lens for the measurement of solids (Tidus Flex Beam), with a robust probe barrel for liquids (Tidus Flex HD 12) or a barrel for gas analysis (Tidus Flex Gas).

This spectroscopic Raman probe offers a rigid and robust design paired with extremely high configuration flexibility of the process interface designed for gas, liquid and solid applications as well as for immersed or non-contact measurements for laboratory and scale-up processes.

MAIN APPLICATIONS

- Reaction monitoring or endpoint determination for chemical synthesis
- Chemistry and polymers with main applications of polymerization in solvents
- Bio-Pharmaceutical industry upstream and downstream processing
- Quality control of raw materials or end products

HIGH FLEXIBILITY

The process interface of this probe model is detachable and can be exchanged. The »Hellma Tidus Flex« probe can therefore be applied in multiple industries and applications with challenging process conditions.

The optical filters can also be exchanged and the probe thus adapted to multiple laser sources.

HIGH RAMAN SIGNAL EVEN IN VERY LOW CONCENTRATIONS

This probe model provides a unique multipath probe barrel for fast and accurate measurements even with low concentrations, for example in gas measurement applications.

MODULAR DESIGN

Due to its modular design and high degree of standardization, a wide range of different configurations are available from stock and the probe can be easily adjusted to different requirements.

BENEFITS:

- Robust construction for maximum reliability
- Easy connection to common spectrometers
- Non-contact measurement through closed flasks or sight glasses possible
- Autoclavable probe barrel ensures easy SIP Process without the need to extract the probe

PRODUCT CONFIGURATION



Model	Tidus FLEX Beam	Tidus FLEX HD 12	Tidus FLEX Gas
Measurement Principle	Raman		
Outer diameter	N.A.	12 mm	25 mm
Focus	9; 15 or 26 mm	1 or 6 mm	N.A.
Optical Material	Sapphire		
Probe Barrel Material	Stainless steel 1.4571 (316Ti)		
Sealing	Epoxy Sealing	Gold coated High-Nickel Alloy C-ring	Kalrez 6375
Excitation Wavelength	532 nm or 785 nm		
Optical Connection	FC/PC (Excitation) F-SMA (Detection) Plugs and ATEX PMA Housing.		
Fibre	Core diameter 400µm or 600 µm, NA 0,22 Excitation to Detection Ratio 1:4		
Fibre Cable Technology	Standard Fibre Optic Cables		
Process connection	Without flange		
Probe barrel	Swagelok suitable		
Max Immersion depth	N.A.	200 mm	300 mm
Min Immersion depth	N.A.	0 mm	51 mm
Additional functions	None		
Interlock	No		
Temperature restrictions:	T max: optical connection 150 °C (w/o ext. fibre optic cables), Copex PMA 130 °C (85 °C for ATEX)		
Temperature	5 °C to 120 °C	5 °C to 250 °C	5 °C to 250°C
Max Pressure	N.A.	200 bar	50 bar
Scope of Supply	Probe, manual, customer information drawing, pressure test protocol, transmission test protocol, transport packing.		