

# EXCALIBUR LAB

## Optical Transmission Probe

Highly precise immersion probe for spectroscopic laboratory measurements



The Excalibur Lab is a classic transmission immersion probe for use in laboratories or for online measurements in pilot plants. It is characterized by high transmission and high flexibility. The optical material of all laboratory probes is quartz glass.

### WIDE RANGE OF APPLICATIONS

Possible applications for this probe are:

- Incoming goods inspection
- Method development, setup for online measurements
- Quality assurance
- Measurement of known products from research

### HIGHEST PRECISION DUE TO MONOLITHIC QUARTZ MEASURING HEAD MADE OF QUARTZ

The probe has an elastomer-sealed, monolithic measuring head made of quartz, in which several functions are combined in one optical component by **thermal bonding**. The number of phase transitions of the measuring beam is reduced to a minimum, resulting in a high light yield. Probes manufactured in this way are characterized by unsurpassed precision and high reproducibility of the path length.

### HIGH ADAPTABILITY

With the help of the [Hellma Online Configurator](#), the pre-configured basic version of the probe can be easily adapted to individual application conditions depending on the application. The probe is compatible with all common NIR spectrometers.

### HIGHER AVAILABILITY

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

### BENEFITS

- Optical protection of the measuring head and minimization of stray light
- Use of FFPM (perfluoroelastomer) O-rings with high chemical resistance.
- High adaptability

**PRODUCT CONFIGURATION**

<b>Model series</b>	<b>Excalibur Lab</b>
Measuring Principle	Transmission
Outer Diameter	15 mm Probe Head 15 mm; Probe Shaft 18 mm; Protective Sleeve 20 mm
Optical Path	1 mm/ 2 mm / 5 mm / 10 mm / 20 mm Optical tolerance: Quarz ±0,01 mm
Optical Material	Quartz Glass
Sealing Technology	Kalrez 4079 In the sealed version, the measuring head Kalrez is sealed, the protective sleeve is fixed with Viton (no sealing function).
Probe Material	Probe shaft and protective sleeve made of stainless steel (316 L)
Spectral Range	NIR UV/Vis
Wavelength	UV/Vis: 210 - 1100 nm; NIR: 400 - 2300 nm
Device Connection	Glass Fiber with F-SMA Connector / Glass Fiber with Collimator (Ø 5mm))
Light Guides	2 m / 3 m / 5 m / 8 m Glass Fiber / No Glass Fibers
Process Connection	No Flange
Probe Barrel	Not suitable for Swagelok
Minimum Immersion Depth	30 mm + optical path length
Length of Probe Barrel	163 mm + path length
Additional Functions	None
Temperature	5 °C to 150 °C
Pressure	0 bar to 6 bar
Delivery	Optical immersion probe, manual, pressure test certificate, transmission test protocol, transport packaging