

EXCALIBUR Lab All-Quartz

Optical Transmission Probe

High-precision immersion probe for spectroscopic laboratory measurements in the UV/Vis and NIR range



The Hellma [Excalibur Lab All-Quartz](#) has a measuring head made of the quartz glass "Extended Range", which is fused liquid-tight with a quartz tube. This makes these probes particularly suitable for transmission measurements in aggressive media. The collimated light beam penetrates the medium to be examined only once, as in a cuvette measurement. The typical Hellma monolithic measuring head offers high transmission and low stray light values.

WIDE RANGE OF APPLICATIONS

Possible areas of application for this probe are

- measurement in a glass flask (laboratory reactor)
- calibration setup for online measurements (method development)
- research and development

MAXIMUM RESISTANCE TO AGGRESSIVE ACIDS AND MEDIA

The Excalibur Lab all-quartz is characterized by the complete absence of sealing materials and is therefore particularly suitable for use in the laboratory when handling aggressive media that preclude the use of metal probes. The combination of quartz glass as the probe material, which is insensitive to temperature fluctuations, and a vacuum connection means that it can also be used with very cold media and extremely low temperatures down to -180 °C.

HIGHEST PRECISION DUE TO MONOLITHIC QUARTZ MEASURING HEAD

The probe has a monolithic measuring head made of quartz, in which several functions are combined in one optical component by [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 AVAILABILITY

The components of this probe model are kept in stock. This ensures rapid availability. The supply of spare parts is guaranteed.

BENEFITS:

- All media-contacting parts are made of high-purity, temperature-resistant quartz glass
- The measuring head is fused liquid-tight with a quartz tube
- Stable path length even with strong temperature fluctuations
- Can be used at up to -180° C

Model	Excalibur Lab All-Quartz
Measurement Principle	Transmission
Outer Diameter	Probe head 15 mm, Probe Shaft 18 mm or 15,5mm (with NS 19/35);
Optical Path	1 mm/ 2 mm / 5 mm / 10 mm / 20 mm Opt. Tol.: ±0,01 mm
Optical Material	Quartz Glass
Sealing Technology	No sealing – directly bonded quartz
Probe Material	Probe shaft and measurement head made of quartz glass
Spectral Range	UV/Vis / NIR
Wave Length	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 / 5 m Glass Fiber / No Glass Fibers
Process Connection	No Flange NS 19/35
Probe Barrel	Not suitable for Swagelok
Minimum Immersion Depth	10 mm + optical path length
Sondenrohrlänge	220 mm + optical path length
Additional functions	Without / with Vacuum Connection
Temperature	5 °C to 150 °C / -180 °C to 150 °C (with Vacuum Connection)
Pressure	-1 bar to 6 bar
Delivery scope	Optical immersion probe, manual, pressure test certificate, transmission test protocol, transport packaging