

## OPTICAL IMMERSION PROBES – TRANSMISSION FOR THE UV/VIS/NIR RANGE

### EXCALIBUR LAB

#### All-Round Probe

This classic transmission probe features a broad range of possible applications. Whether for use in the lab, for online monitoring in process environments or even for TDA measurements – it is always the right choice.



|   |   |
|---|---|
| Optical Path Length mm (tolerance ± 0.01) | 1 mm, 2 mm, 5 mm, 10 mm, 20 mm  |
| Outer Diameter                            | probe head: 15 mm<br>probe shaft: 20 mm<br>protective sleeve: 20 mm   |
| Optical Material                          | Quartz  |
| Probe Body Material                       | Stainless steel (316 L)   |
| Sealing Technology                        | Viton<br>Kalrez® 4079   |
| Spectral Range                            | UV/Vis (210 nm – 1100 nm, low solarization)<br>NIR (400 nm – 2300 nm) |
| Fiber Optic Connection                    | 1.8 m external fiber optic cables with SMA connectors                 |
| Temperature Range                         | 5 °C to 150 °C  |
| Pressure Range                            | -1 bar to 6 bar   |
| Immersion Depth                           | 100 mm (10 mm optical path length)                                    |

|                | UV                  | NIR                 |
|----------------|---------------------|---------------------|
| Path Length mm | <b>ARTICLE NO.</b>  |                     |
| 1              | <b>LEIX01UE20AN</b> | <b>LEIX01NE20AN</b> |
| 2              | <b>LEIX02UE20AN</b> | <b>LEIX02NE20AN</b> |
| 5              | <b>LEIX05UE20AN</b> | <b>LEIX05NE20AN</b> |
| 10             | <b>LEIX10UE20AN</b> | <b>LEIX10NE20AN</b> |
| 20             | <b>LEIX20UE20AN</b> | <b>LEIX20NE20AN</b> |

### EXCALIBUR ALL-QUARTZ

#### All-Quartz Probe

These Hellma Analytics all-quartz probes are outstanding due to their unique design which makes additional sealing material superfluous. This makes them the ideal tool for measuring aggressive samples even at the lowest temperatures – measuring beyond the limits.



|   |   |
|---|---|
| Optical Path Length mm (tolerance ± 0.01) | 1 mm, 2 mm, 5 mm, 10 mm, 20 mm  |
| Outer Diameter                            | Probe head: 15 mm<br>Quartz barrel: 18 mm                             |
| Optical Material                          | Quartz  |
| Probe Body Material                       | Quartz  |
| Sealing Technology                        | Directly fused  |
| Spectral Range                            | UV/Vis (210 nm – 1100 nm, low solarization)<br>NIR (400 nm – 2300 nm) |
| Fiber Optic Connection                    | 1.8 m external fiber optic cables with SMA connectors                 |
| Temperature Range                         | 5 °C to 150 °C<br>(-180 °C to 150 °C with vacuum jack)                |
| Pressure Range                            | -1 bar to 6 bar   |
| Immersion Depth                           | 210 mm (10 mm optical path length)                                    |

|                | UV                  | NIR                 |
|----------------|---------------------|---------------------|
| Path Length mm | <b>ARTICLE NO.</b>  |                     |
| 1              | <b>LQID01UE20AN</b> | <b>LQID01NE20AN</b> |
| 2              | <b>LQID02UE20AN</b> | <b>LQID02NE20AN</b> |
| 5              | <b>LQID05UE20AN</b> | <b>LQID05NE20AN</b> |
| 10             | <b>LQID10UE20AN</b> | <b>LQID10NE20AN</b> |
| 20             | <b>LQID20UE20AN</b> | <b>LQID20NE20AN</b> |

#### WITH VACUUM JACK FOR LOW TEMPERATURE APPLICATIONS

|                | UV                  | NIR                 |
|----------------|---------------------|---------------------|
| Path Length mm | <b>ARTICLE NO.</b>  |                     |
| 1              | <b>LQID01UE20AY</b> | <b>LQID01NE20AY</b> |
| 2              | <b>LQID02UE20AY</b> | <b>LQID02NE20AY</b> |
| 5              | <b>LQID05UE20AY</b> | <b>LQID05NE20AY</b> |
| 10             | <b>LQID10UE20AY</b> | <b>LQID10NE20AY</b> |
| 20             | <b>LQID20UE20AY</b> | <b>LQID20NE20AY</b> |

### EXCALIBUR ALL-QUARTZ NS19/35

#### All-Quartz Probe, tapered version with ground glass joint NS 19/35

|   |   |
|---|---|
| Optical Path Length mm (tolerance ± 0.01) | 1 mm, 2 mm, 5 mm, 10 mm, 20 mm  |
| Outer Diameter                            | Probe head: 15.5 mm<br>Taper: NS 19/35                                |
| Optical Material                          | Quartz  |
| Probe Body Material                       | Quartz  |
| Sealing Technology                        | Directly fused  |
| Spectral Range                            | UV/Vis (210 nm – 1100 nm, low solarization)<br>NIR (400 nm – 2300 nm) |
| Fiber Optic Connection                    | 1.8 m external fiber optic cables with SMA connectors                 |
| Temperature Range*                        | 5 °C to 150 °C  |
| Pressure Range                            | -1 bar to 6 bar   |
| Immersion Depth                           | 130 mm (10 mm optical path length)                                    |



|                | UV                  | NIR                 |
|----------------|---------------------|---------------------|
| Path Length mm | <b>ARTICLE NO.</b>  |                     |
| 1              | <b>LQID01UE20DN</b> | <b>LQID01NE20DN</b> |
| 2              | <b>LQID02UE20DN</b> | <b>LQID02NE20DN</b> |
| 5              | <b>LQID05UE20DN</b> | <b>LQID05NE20DN</b> |
| 10             | <b>LQID10UE20DN</b> | <b>LQID10NE20DN</b> |
| 20             | <b>LQID20UE20DN</b> | <b>LQID20NE20DN</b> |

\*With vacuum connection for use at low temperatures possible, from -180 °C to 150 °C

#### Immersion Probe Configurator

Hellma offers the world's largest product selection and the highest level of expertise to support your online measurements from UV to IR.

Find the right immersion probe/measuring cell quickly and easily or configure your individual solution at:

[www.mypatprobe.com](http://www.mypatprobe.com)