



# OPTICAL IMMERSION PROBES

## USAGE

Immersion Probes support engineers, researchers and analysts in several fields where process efficiency is required.

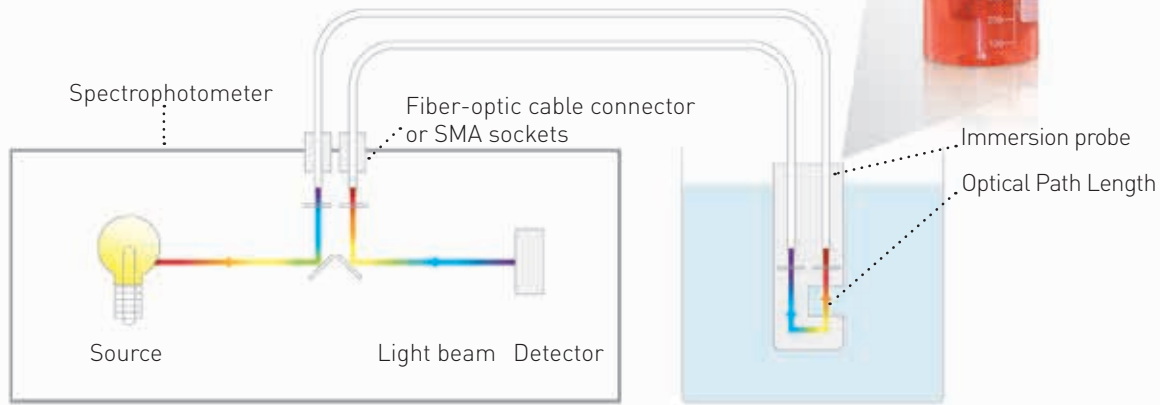
For example:

- // Chemical and Petrochemical Industry
- // Pharmacy and Life Science
- // Food and Beverage
- // Polymers

Hellma Analytics offers a broad product range and utmost competence to support your UV/VIS & NIR measurements.

## BENEFITS

- // Higher process efficiency and performance
- // Simple and safe process monitoring
- // Optimal control of complex reaction processes
- // Proactive process and quality management
- // Provable enhanced product and measurement quality
- // Fast return on investment
- // Professional consulting from highly educated Engineers



## EXCALIBUR STANDARD IMMERSION PROBE

### 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 environment or even for TDA -measurements – it is always the right choice.

Optical Path Length mm (tolerance $\pm 0.01$ )	1 mm, 2 mm, 5 mm, 10 mm, 20 mm
Outer Diameter	probe head 15 mm probe shaft 20 mm protective sleeve 20 mm
Optical Material	Quartz
Probe Body Material	Stainless steel 1.4404 (316 L)
Sealing Technology	Viton Kalrez® 4079
Spectral Range	UVS/Vis (190 nm to 1,100 nm) NIR (400 nm to 2,300 nm)
Fiber Optical Connection	1.80 m external fiber optical 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)



	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
1	661-002-1-S-46	661-002-1-N-46
2	661-002-2-S-46	661-002-2-N-46
5	661-002-5-S-46	661-002-5-N-46
10	661-002-10-S-46	661-002-10-N-46
20	661-002-20-S-46	661-002-20-N-46

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 Configuration, requests, ordering  
 and much more information.  
[www.myPATprobe.com](http://www.myPATprobe.com)

## EXCALIBUR STANDARD IMMERSION PROBE

### All-Quartz Probe

These Hellma Analytics all-quartz probes are outstanding due to its 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 Quartz barrel: 18 mm
Optical Material	Quartz
Probe Body Material	Quartz
Sealing Technology	Directly fused
Spectral Range	UVS/Vis (190 nm to 1,100 nm) NIR (400 nm to 2,300 nm)
Fiber Optical Connection	1.80 m external fiber optical cables with SMA connectors
Temperature Range	5 °C to 150 °C (-180 °C to 150 °C with vacuum jack)
Pressure Range	-1 bar to 6 bar
Immersion Depth	210 mm (10 mm optical path length)

	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
1	661-302-1-S-46	661-302-1-N-46
2	661-302-2-S-46	661-302-2-N-46
5	661-302-5-S-46	661-302-5-N-46
10	661-302-10-S-46	661-302-10-N-46
20	661-302-20-S-46	661-302-20-N-46

#### WITH VACUUM JACK FOR LOW TEMPERATURE APPLICATIONS

	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
1	661-202-1-S-46	661-202-1-N-46
2	661-202-2-S-46	661-202-2-N-46
5	661-202-5-S-46	661-202-5-N-46
10	661-202-10-S-46	661-202-10-N-46
20	661-202-20-S-46	661-202-20-N-46

## EXCALIBUR STANDARD IMMERSION PROBE

### 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	15.5 mm (probe head) Taper NS 19/35
Optical Material	Quartz
Probe Body Material	Quartz
Sealing Technology	Directly fused
Spectral Range	UVS/Vis (190 nm to 1,100 nm) NIR (400 nm to 2,300 nm)
Fiber Optical Connection	1.80 m external fiber optical 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)



	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
1	661-500-1-S-46	661-500-1-N-46
2	661-500-2-S-46	661-500-2-N-46
5	661-500-5-S-46	661-500-5-N-46
10	661-500-10-S-46	661-500-10-N-46
20	661-500-20-S-46	661-500-20-N-46



# OPTICAL IMMERSION PROBES

These transfection immersion probes have been specifically designed for laboratories and small volume analyses. They are available with fixed path lengths and very small outer diameters e.g. 3.2 mm/4 mm/6 mm. The 6 mm version offers increased flexibility due to interchangeable path length tips.

## FALCATA STANDARD IMMERSION PROBE

### with 3.2 mm and 4 mm diameter

These micro immersion probes have been specifically developed for measurements in small volumes. Due to their slim form, less sample material is required for a measurement to be taken.



Optical Path Length mm (tolerance $\pm 0.02$ )	5 mm, 10 mm
Outer Diameter	3.2 mm/4 mm
Optical Material	Quartz
Probe Body Material	Stainless steel 1.4404 (316 L)
Sealing Technology	Epoxy glue
Spectral Range	UVS/Vis (190 nm to 1,100 nm) NIR (400 nm to 2,300 nm)
Fiber Optical Connection	1.80 m external fiber optical cables with SMA connectors
Temperature Range	5 °C to 150 °C
Pressure Range	-1 bar to 6 bar
Immersion Depth	75 mm/130 mm (10 mm path length)

### FALCATA STANDARD IMMERSION PROBE 3.2 mm DIAMETER

	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
5	661-610-5-S-46	661-610-5-N-46
10	661-610-10-S-46	661-610-10-N-46

### FALCATA STANDARD IMMERSION PROBE 4 mm DIAMETER

	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
5	661-611-5-S-46	661-611-5-N-46
10	661-611-10-S-46	661-611-10-N-46

## FALCATA STANDARD IMMERSION PROBE

### with 6 mm diameter

Increased flexibility due to interchangeable path length tips.



Optical Path Length mm (tolerance $\pm 0.02$ )	1 mm, 2 mm, 5 mm, 10 mm, 20 mm through interchangeable tips
Outer Diameter	6 mm
Optical Material	Quartz
Probe Body Material	Stainless Steel 1.4435 (316 L)
Sealing Technology	Epoxy glue
Spectral Range	UVS/Vis (190 nm to 1,100 nm) NIR (400 nm to 2,300 nm)
Fiber Optical Connection	1.80 m external fiber optical cables with SMA connectors
Temperature Range	5 °C to 150 °C
Pressure Range	-1 bar to 6 bar
Immersion Depth	175 mm (10 mm optical path length)

	UVS	NIR
Path Length mm	<b>ARTICLE-NO.</b>	
1/2/5/10/20	661-622-set-S-46	661-622-set-N-46
1	661-622-1-S-46	661-622-1-N-46
2	661-622-2-S-46	661-622-2-N-46
5	661-622-5-S-46	661-622-5-N-46
10	661-622-10-S-46	661-622-10-N-46
20	661-622-20-S-46	661-622-20-N-46

### ACCESSORIES INTERCHANGEABLE PATH LENGTH TIPS

	Path Length Tips
Path Length mm	<b>ARTICLE-NO.</b>
1	665-622-1-40
2	665-622-2-40
5	665-622-5-40
10	665-622-10-40
20	665-622-20-40