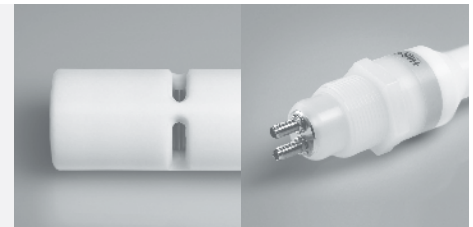


Hellma. Where precision becomes an art.

Immersion probe for wet chemistry processes



This **Hellma immersion probe** was especially developed for analysing and monitoring wet processes in photovoltaic and semiconductor industries. Design your process control fast and efficient.



■ **Monolithic measuring head made of sapphire** applicable in a broad spectral range

■ **Compatible** with the most established spectrometers

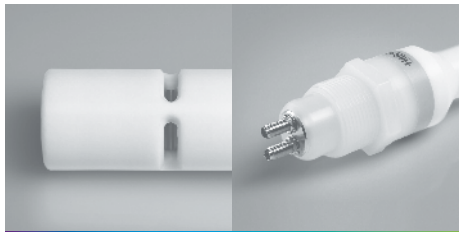
■ **Use of FFKM (perfluoroelastomer) O-rings** especially for wet chemistry

■ **Longer life time** of the process bathes due to optimized process control

■ **Less reject costs** and lower chemical consumption at the same time

■ **Applicable** for both **acidic and alkaline texturing**

■ **Virtually maintenance free online analysis** for best possible process control



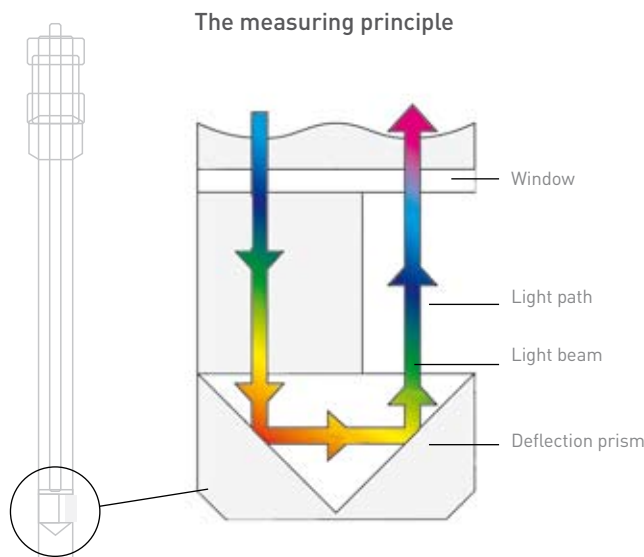
Immersion probe 661.2310

Immersion probe for wet chemistry processes

Type	661.2310-NIR
Sensing head material	Sapphire (Al ₂ O ₃)
Probe barrel material *	PTFE
Sealing of sensing head	Perfluorelastomer FFKM
Outer-Ø	25 mm
Total length	353 mm (incl. SMA socket)
Max. immersion depth	240 mm
Light path	2 mm, 5 mm, 10 mm (others upon request)
Typical transmission	NIR: > 40 % in air at 1.500 nm
Max. pressure	10 bar
Max. temperature	80 °C
Optical fibres	Built in can be changed at Hellma NIR 400 nm – 2.300 nm (25.000cm ⁻¹ - 4.348 cm ⁻¹) UV/Vis and UV/Vis low solarisation upon request
Optical fibre connections	Sockets for FSMA Type 905

*other materials optional

These probes have a monolithic probe head made of high-purity sapphire (Al₂O₃). By using a total reflection prism, the light beam passes through the sample only once, as with a cuvette measurement. The stray light is minimised.



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