

EXCALIBUR HY 25 (3-A)

Optical Transmission Probe in Hygienic Design



For spectroscopic online measurements in production processes with highest hygienic requirements

The [Excalibur HY 25 \(3-A\)](#) process probe is suitable for monitoring manufacturing processes with high hygienic requirements. It can be used for spectroscopic online measurements for the analysis and quality determination of liquids in the production of intermediate or end products.

COMPLIANT PRODUCTION

Due to its certification with the worldwide recognized US 3-A hygiene standard for production processes in the food industry, the »Excalibur HY 25« is particularly suitable for use in the manufacture of pharmaceutical products, food and especially dairy products, where the highest hygienic requirements are placed on product quality.

Examples of critical parameters that can be precisely determined with the »Excalibur HY 25« are:

- Concentration determination of fat, protein and water in dairy products
- Concentration determination of other ingredients in the single-digit percentage range in dairy products
- Concentration determination of ingredients in food and pharmaceutical products that require a hygienic system

HIGH PRECISION AND REPRODUCIBILITY

Due to the soldered windows, the probe has a high path length accuracy, which guarantees not only very precise, but also reproducible measurement results. This allows an easy method transfer to other probes or measuring points in the process.

HIGH SAFETY AND MAINTENANCE-FREE

The installation of soldered sapphire windows also significantly reduces the risk of contamination and cross-contamination. No elastomer seals are used; therefore, the probe is maintenance-free. Downtime can be avoided.

CLEANING WITHOUT INTERRUPTING THE PROCESS

The immersion probe is "Cleaning and Sterilization in place" (CIP and SIP) capable and can be cleaned very easily without having to interrupt the production process.

BENEFITS

- Safe and compliant production
- High lightpath accuracy
- Precise and reproducible measurement results
- Simple method transfer
- Easy cleaning thanks to CIP and SIP
- Maintenance-free due to soldered windows

STANDARD PRODUCT CONFIGURATION

Model Series	Excalibur HY 25 (3-A)
Measuring Principle	Transmission
Outer Diameter	25 mm (Hygienic)
Optical Path	1mm
Pathlength Tolerance	± 0,025 mm
Optical Material	Sapphire
Probe Body Material	Stainless Steel (316 L) electro polished
Spectral Range	NIR
Wavelength	For NIR: 800 nm - 2300 nm
Optical Connection	F-SMA socket and hygienic housing for 1" tube
Connection	Diameter of the fiber core 600 µm and numerical aperture 0.22
Lightguide technology	Standard fiber optic
Process Connection	Clamp fitting DIN32676-A-64,0 (DN50)
Probe material	Stainless steel (316 L) electro polished
Sealing Technology	Soft soldered (Au, Sn)
Maximum Pressure	16 bar (Class 150, overpressure at RT, 11 bar at 200 °C, 10 bar at 300 °C, 6,5 bar at 400 °C)
Maximum immersion depth	75 mm
Minimum immersion depth	38 mm
Additional functions	None
Cleaning options	CIP/SIP (Cleaning and Sterilization in Place), temperature and pressure specifications must not be exceeded, autoclavable only with the use of a protective cap
Temperature restrictions	T max at optical connection 150 °C (85 °C für ATEX, approval of flange up to 140 °C according to DIN 32676)
Temperature	5 °C to 140 °C
Pressure	-1 bar to 16 bar
Scope of Delivery	Optical immersion probe, manual, customer drawing, pressure test certificate, final optical inspection report, transport packaging, 3-A certificate (FO-3-A-001). * Please order 2.1 and 3.1 material certificates additionally!

For more configurations please refer to our [online configurator](#).