

EXCALIBUR HD FET

Spectroscopic transmission measurement cell for extreme conditions



Optical measurement cell for spectroscopic analysis of demanding process applications

The Hellma [Excalibur HD FET](#) enables high-performance monitoring of the chemical composition of ingredients, even for particularly difficult applications.

ROBUST DESIGN

The stainless steel measurement cell with welded process connection is designed for use at high temperatures (up to 400°C), high pressure (up to 200 bar) and high viscosity.

HIGH-QUALITY AND DURABLE OPTICS

By using stable sapphire windows enclosed in the measurement cell, this model provides an extremely robust and durable optical seal that virtually eliminates the possibility of window breakage, chemical attack or failure of the mechanical seal. The optics have a very high transmission.

POSSIBLE AREAS OF APPLICATION

Due to its robust design, the measuring cell is suitable for a wide range of applications, especially for analyzing hot polymer melts. In these applications, the cells are often mounted in series with a die on a small extruder or in a rheometer loop on a larger extruder.

BENEFITS

- Metal seals for extreme robustness
- Compatible with high temperature, pressure, and viscosity
- Minimum possible flow restriction
- Customized flow fixtures to meet individual needs

PRODUCT CONFIGURATION

Model series	Excalibur HD FET
Measurement Principle	Transmission
Optical Pathlength	0,5 mm / 1 mm / 2 mm / 3 mm / 5 mm / 10 mm
Optical Material	Sapphire
Cell Material	Stainless Steel 1.4435 / 1.4404 (316L)
Sealing Technology	Permanent welded-in gold plated high nickel alloy C-ring
Spectral Range	NIR
Optical Connection	F-SMA female connector and housing connection (0.75" NPT male thread) / FC/PC type N socket and housing connection (0.75" NPT external thread)
Process Connection	0.25" Swagelok / 0.5" Swagelok
Pressure Range	-1 to 200 bar
Additional Functions	Fittings for cartridge heaters and a temperature sensor (to be ordered separately)