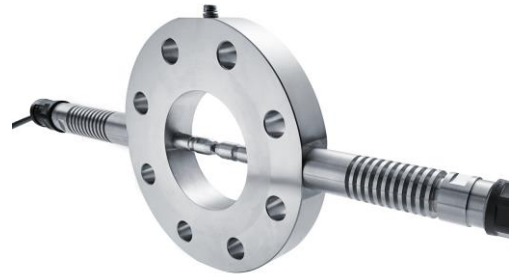


EXCALIBUR HD FLANGE

For Transmission

Measurements under Harsh

Process Conditions



Optical flange measurement cell for use in industrial Process Analytical Technology (PAT)

The compact and durable Excalibur HD Flange measurement cell consists of a reinforced flange with side optics. It can be integrated into an existing plant with little effort.

ROBUST DESIGN

The materials used are resistant to organic solvents and a wide range of acids and alkalis. Metal seals are used instead of elastomers. This provides the measurement cell with a high chemical, thermal and mechanical resistance. The measurement cell has no wear parts and is therefore maintenance-free with a very long service life.

CONFORMITY

All Hellma products are developed according to good engineering practice, for probes and measurement cells in accordance with the Pressure Equipment Directive 2014/68/EU. The requirements for the measurement cells are higher above a certain size. On request, a corresponding test and CE marking can then be carried out.

HIGH-QUALITY OPTICS

The optical measuring fingers have a very high transmission. Welded sapphire optics are used instead of screwed optics. This provides a high level of protection against accidental leakage of the measured medium.

AREAS OF APPLICATION

- Identification of reactants, checking the quality of raw materials
- Control of the mixing ratio and homogeneity of the components of mixtures
- Monitoring of chemical reactions in tubular reactors
- Spectroscopic online process monitoring in petroleum production

HIGH PRECISION AND EASY METHOD TRANSFER

Due to its solid construction without spacers, the measurement cell has a very high path length accuracy. Accidental adjustment of the path length is not possible and the very high measuring accuracy facilitates the transfer of methods.

BENEFITS

- Compact design for easy integration
- High path length accuracy
- Wide range of applications due to high resistance
- Simple method transfer
- Maintenance-free and fail-safe thanks to robust metal seals, long service life
- Optional CE marking according to DGRL 2014/68/EU
- Use in ATEX zones 1,2,21,22

PRODUCT CONFIGURATION

Model series	Excalibur HD Flange
Measuring principle	Transmission
Flange Thickness	45 mm with cooling fins
Optical Path	1 mm / 2 mm / 5 mm / 10 mm
Pathlength Tolerance	± 0,1 mm
Optical Material	Sapphire
Flange Material	Stainless Steel 1.4435/1.4404 (316L) / Hastelloy C-22 on request
Sealing Technology	Gold coated High-Nickel Alloy C-ring
Spectral Range	NIR (400 nm - 2300 nm) or UV/Vis (280 nm - 1100 nm)
Optical Connection	F-SMA sockets and ATEX PMA housing (NW 17) or 2 m fiber optical cables with stainless steel sleeve
Connection	Diameter of fiber core 600 µm and numerical aperture 0.22
Process Connection	Matching EN 1092-1/05/A/DN 50/PN 40 (CE) or ASME 1,5 to 2 inch
Inner Diameter	Selectable (depending on the selected flange)
Light Guide Technology	Standard glass fiber / High temperature glass fiber
Temperature Restrictions	T max: optical connection 150 °C (without external glass fiber) / Copex PMA 130 °C (85 °C for ATEX)
Temperature	5 °C to 300 °C
Pressure	-1 bar to 40 bar (Class 300, overpressure at RT, 29,2 bar at 200 °C, 26,1 bar at 300 °C, 24,2 bar at 400 °C), depending on the selected flange
Delivery	Optical measurement cell, manual, customer information drawing, pressure test certificate, transmission test report, transport packaging optional: CE certificate (flange larger DN25 / ASME 1")

You can create your individual product in our [online configurator](#).