



NOW WITH  
CE-CERTIFICATION



## Excalibur HD Flange

UV / VIS / NIR MEASUREMENT CELL FOR USE IN INDUSTRIAL  
PROCESS ANALYTICAL TECHNOLOGY **(PAT)**

FLANGE MEASUREMENT  
CELL FOR ONLINE  
SPECTROSCOPY

DIRECT USE IN  
PIPELINES

INCREASED PRODUCT  
CONTROL AND  
TRANSPARENCY

# MODERN ONLINE ANALYTICS USING UV/VIS/NIR SPECTROSCOPY

## Process Optimization and Cost Reduction

Manufacturing companies in the chemical, petro chemical and pharmaceutical sector constantly have to keep an eye on process optimization and cost reduction. Increasing regulation and stricter requirements to protect men and environment when dealing with chemicals also require a closer process monitoring and a better understanding of the individual production processes.

## Little Effort – Great Effect

Modern spectroscopic inline analytics is first made possible through optical probes and measurement cells. The flange measurement cell from Hellma can be integrated into production systems with little effort thanks to their small space requirement. The cell is made up of a reinforced flange with lateral optics.

Patented maintenance-free metal seals and robust materials make the measurement cell thermally stable and inert to organic solvents and a large number of acids and alkalis. A long service life with the best results is guaranteed.

### SIMPLE INSTALLATION

- Very compact design
- Space-saving installation in pipe systems
- Flanges up to DN50 possible – well suited for large media flows

### UNIQUE MEASUREMENT HEAD

- Best Hellma quality and very high transmission
- Robust metal sealings instead of elastomere sealings
- Firmly welded sapphire optics instead of screwed optics
- Extremely high chemical, thermal and mechanical resistance
- No wear parts, maintenance-free and very long service life





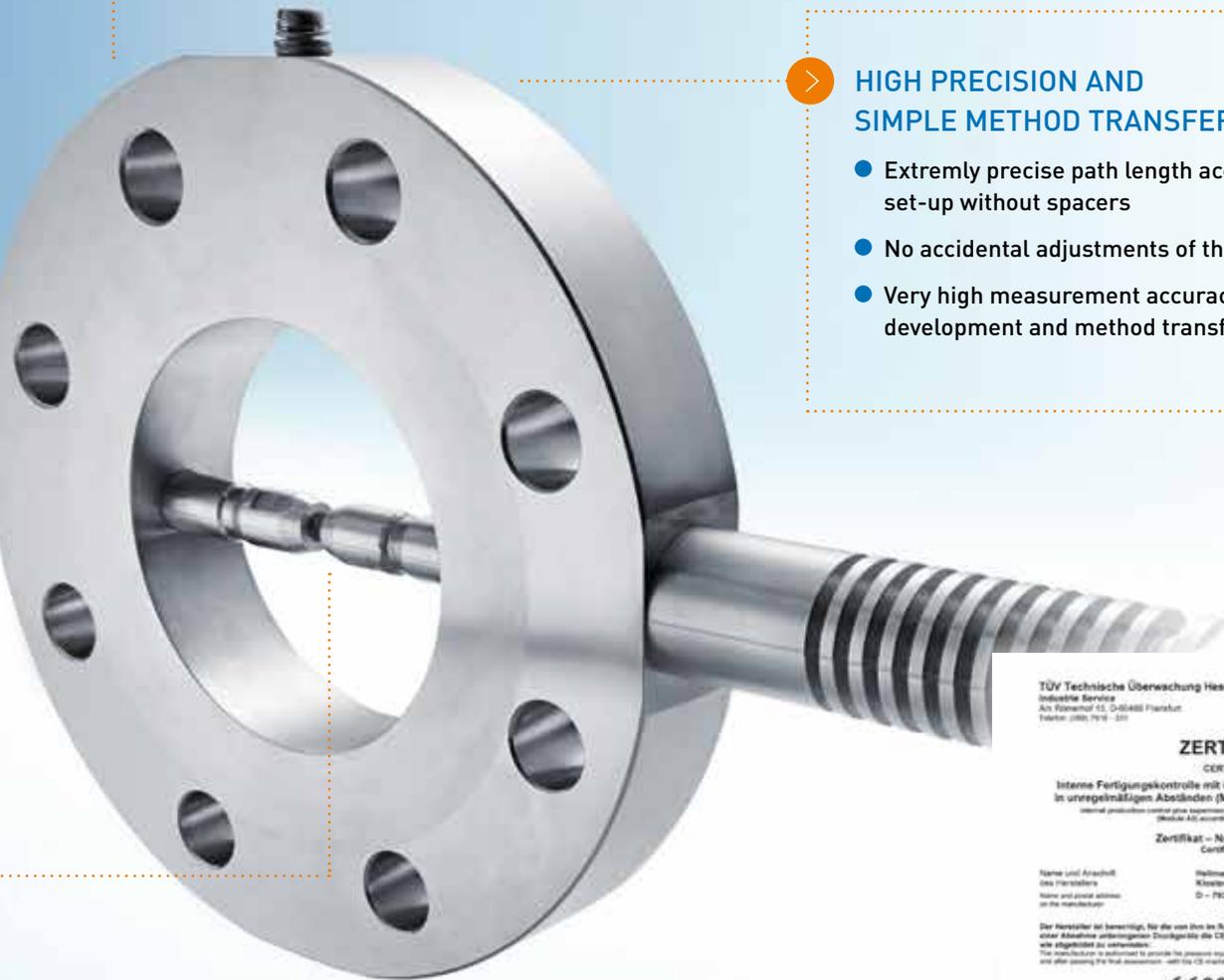
## CE CERTIFICATION ACCORDING TO DGRL 2014/68/EU AND SAFETY ACCORDING TO INTERNATIONAL STANDARD

- Only measurement cell of this type with CE certification according to DGRL 2014/68/EU
- Can be used in pressure vessels without additional certification
- Operation in ATEX-zones 1, 2, 21, 22 possible
- Periodic process and product TÜV audits
- Very robust design, optimal heat protection of optics and light guides
- Maximum safety for employees and plant - no accidental opening possible due to the firmly welded design



## HIGH PRECISION AND SIMPLE METHOD TRANSFER

- Extremely precise path length accuracy through fixed set-up without spacers
- No accidental adjustments of the path length possible
- Very high measurement accuracy simplifies method development and method transfer



TÜV Technische Überwachung Hessen GmbH  
 Industrie Service  
 Am Römerhof 11, D-60488 Frankfurt  
 Telefon: 069 79 18 - 300



### ZERTIFIKAT

CERTIFICATE

**Interne Fertigungskontrolle mit Überwachten Druckkräfteprüfungen in unregelmäßigen Abständen (Modul A2) nach Richtlinie 2014/68/EU**  
Internal production control plus supervised pressure equipment checks at random intervals (Module A2 according to pressure Directive)

Zertifikat - Nr.: ISF-22-19-0039  
 Certificate - No.:

Name und Anschrift  
 des Herstellers  
 Name and postal address  
 of the manufacturer:

Helma Analytica GmbH  
 Kriemhildstraße 5  
 D - 79279 Mühlheim

Der Hersteller ist berechtigt, für die von ihm im Rahmen der Gefährdungsrisiko hergestellten und einer Abnahme unterliegenden Druckgeräte die CE-Kennzeichnung mit unserer Kennnummer auszugeben zu unterstützen.  
The manufacturer is authorized to provide the pressure equipment - manufactured within the scope of the examination and after passing the final assessment - with the CE marking and our identification number as shown:

CE 0091

Gefäßarten/-

typen / equipment

Herstellung von drucktauglichen Ausstattungsgeräten der Kategorie I und II (Durchflussmesszellen, Exaktflur RD Flangen)

Prüfung/Nr.:

1026630-2016

Fertigungsstelle:

Helma Analytica GmbH  
 Kriemhildstraße 5  
 D-79279 Mühlheim

Herstellungsjahr:

11-12-2022

Gültig bis:

unb.

Bemerkungen / Hinweise:

Remarks / Note:

The notes and comments in the report on the inspection of the manufacturing plant No. 1026630-2016 must be observed. The design inspections of the pressure equipment that are to be produced using module A2 awarded with this certificate must be carried out by the notified body of TÜV Power.

Anliegen / Remark on the inspection of the manufacturing plant No. 1026630-2016 of 2016-01-02 of TÜV Hessen:

TÜV Technische Überwachung Hessen GmbH  
 Notified Body No. 0001

Frankfurt, 2019-12-22  
 page: 001



*Manfred...*  
 Zertifizierungsstelle für Druckgeräte  
 Dr.-Ing. Udo Stange-Gahleitner

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Produktions-Nr. 02-2019

# USE THE »EXCALIBUR HD FLANGE« FOR VARIOUS APPLICATIONS

## Chemistry



## Petrochemistry



## Cosmetics / Body Care

## Agriculture



### Many other applications possible

Talk to us – we will help you to find  
the right Hellma product.

### > FOCUS APPLICATIONS

- Identification of educts, monitoring the quality of raw materials
- Controlling the mixing ratio and the homogeneity of major constituents in mixtures
- Monitoring chemical reactions in tube reactors
- Controlling chemical reactions in the bypass or at the exit of the reactor
- A variety of other applications

## Product standard configuration

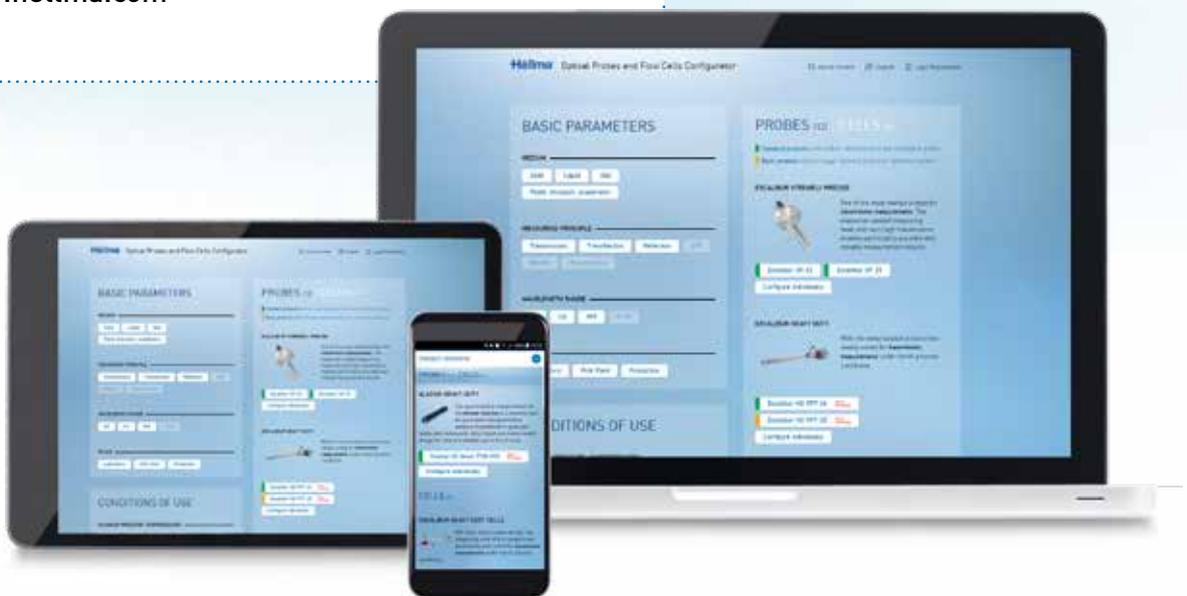
Model series	Excalibur HD Flange
Measuring principle	Transmission
Flange thickness	45 mm
Optical Path	5 mm; +/- 0.1 mm
Optical material	Sapphire
Flange material	Stainless steel 1.4435/1.4404 (316L)
Sealing Technology	Gold coated high nickel alloy C-ring
Spectral range	NIR
Optical connection	F-SMA sockets and ATEX PMA housing (NW17) Fiber core Ø 600 µm; NA 0.22 "
Process connection	Matching EN 1092-1/05/A/DN 50/PN 40
Maximum pressure	-1 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)"
Temperature	5 °C to 180 °C
Article no.	FEBCSSGNIC062SLNN



### Optical Probes and Flow Cells Configurator

Hellma offers the world's largest product selection and the highest level of expertise to support your online measurements from UV to IR. Find the right immersion probe/flow cell quickly and easily or configure your individual solution at

► [configurator.hellma.com](https://configurator.hellma.com)



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