



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

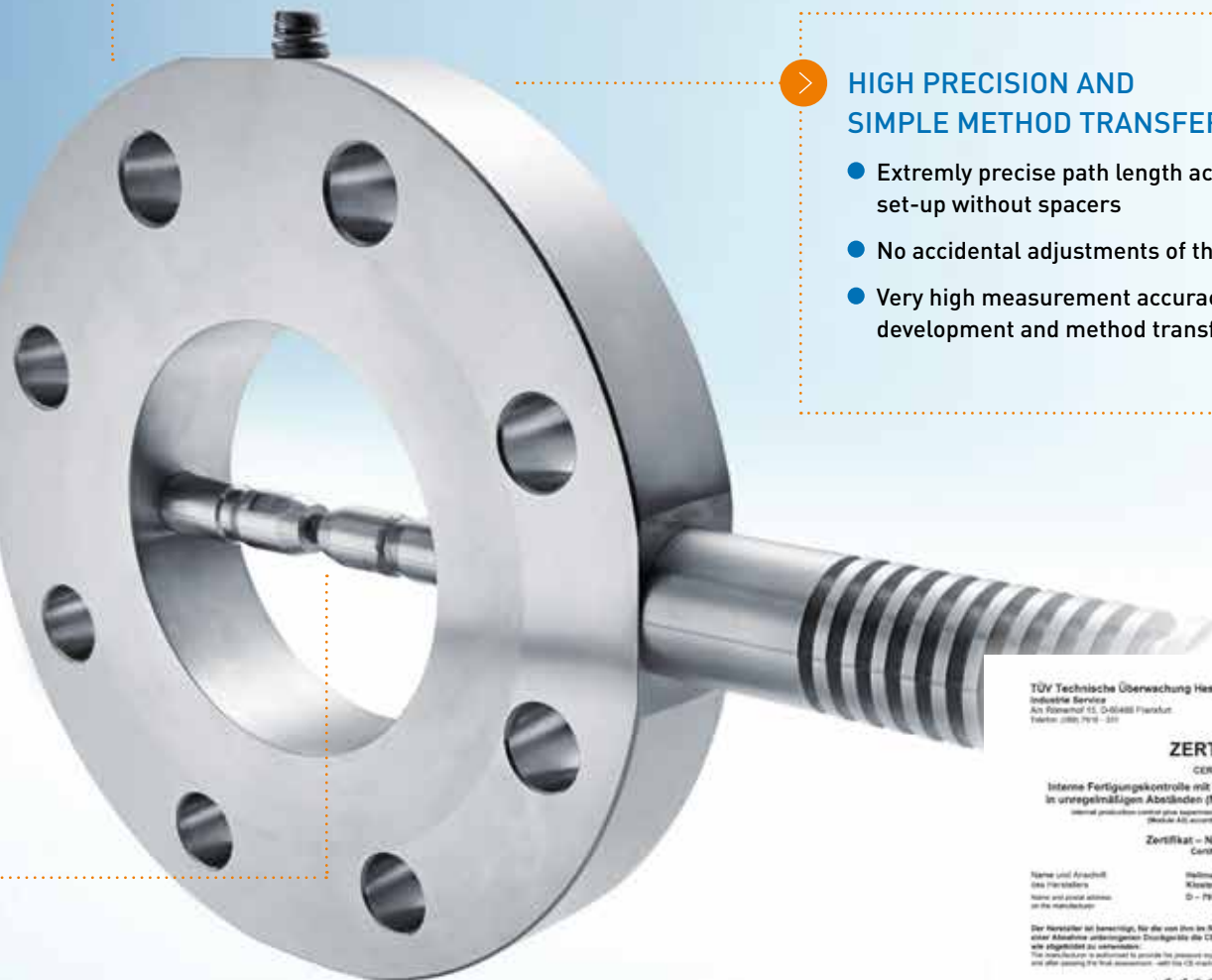
- Best Hellma quality and very high transmission
- Robust metal sealings instead of elastomere sealings
- Firmly welded sapphire optics instead of screwed optics
- Extremely high chemical, thermal and mechanical resistance
- No wear parts, maintenance-free and very long service life





## 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 15, D-65468 Frankfurt  
Telefon: 069 7578 - 333



### ZERTIFIKAT

CERTIFICATE

Interne Fertigungskontrolle mit überwachten Druckgeräteprüfungen  
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 directive 2014/68/EU)

Zertifikat - Nr.: ISF-22-19-0039

Certificate - No.:

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

Helm Analytics GmbH  
Klostermünsterstraße 5  
D - 79279 Müllheim

Der Hersteller ist berechtigt, für die von ihm im Rahmen des Geltungsbereichs hergestellten und  
einer Maschine anliegenden Druckgeräte die CE-Kennzeichnung auf unserer Kennzeichnung  
wie angegeben zu verwenden.  
The manufacturer is authorized to provide his pressure equipment - manufactured within the scope of the directive  
and after passing the final assessment - with the CE marking and his identification number as shown:

CE 0091

Druckgerätemodul  
Issue of examination:

Herstellung von drucktragenden Ausstattungsgeräten der  
Kategorie I und II (Durchflussmesszellen, Exaktur I/O  
Flange)

Prüfername Nr.  
Test report No.:

10268036-2016

Fertigungsstätte:  
Production place:

Helm Analytics GmbH  
Klostermünsterstraße 5  
D-79279 Müllheim

Gültig bis  
Valid:

11-12-2022

Bemerkungen / Hinweise  
Remarks / Info:

The rules and comments in the report on the inspection of the  
manufacturing plant No. 10268036-2016 must be observed.  
The design, inspection of the pressure equipment that are to be  
produced using module A2 issued with this certificate must be  
carried out by the notified body of TÜV Hessen.

Anlagen-  
document:  
Relevant to the inspection of the manufactur-  
ing plant No. 10268036-2016 of 2016-11-02  
at TÜV Hessen

TÜV Technische Überwachung Hessen GmbH  
Notified Body No. 0001

Frankfurt, 2019-12-22  
Date, Year



*Udo Stegmann*  
Dipl.-Ing. Udo Stegmann, Leiter

Übersichtliche Hinweise beachten - read rules carefully

Produktions-Nr. 0000000000

# USE THE »EXCALIBUR HD FLANGE« FOR VARIOUS APPLICATIONS

## Chemistry



## Petrochemistry



## Cosmetics / Body Care

## Agriculture

### > 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



### Many other applications possible

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



## 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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