



Hellma[®] Analytics
High Precision in Spectro-Optics



Efficient control of production processes

FOOD AND BEVERAGES

WITH THE WORLD'S FIRST
3-A CERTIFIED UV/Vis/NIR
IMMERSION PROBE



UNIQUE
HYGIENIC
DESIGN



Lower costs – higher quality ^W

INCREASE YOUR COMPETITIVENESS
WITH EFFICIENT PROCESSES

The food and beverage industry is facing many challenges

Consumer and trade demand for higher product quality at lower prices is on the rise. Modern companies are responding to these market requirements by streamlining their production processes to give themselves a competitive edge, focusing on the following two aspects, for example:

Automation technology // Process Analytical Technology (PAT)

Equipped with the right automation technology, companies can use the pressure to remain competitive and keep prices low to their advantage. By measuring relevant parameters online, production processes can be actively controlled in real time, thus improving quality and production flexibility, as well as maximizing capacity resource utilization.

Hygiene regulations // 3-A certification

Hygiene requirements are becoming increasingly strict for production processes, especially in the food and pharmaceutical industries. 3-A certification is an established hygiene standard in the USA. The hygiene criteria, which were originally defined for the dairy industry, set some of the highest standards for technical plant equipment. This certification guarantees that all surfaces that come into contact with products are very easy to clean and sterilize according to 3-A standards, i.e. that plants are compatible with CIP (cleaning in place) and SIP (sterilization in place).





Hygienic Inline monitoring TM

OF MANUFACTURING PROCESSES THANKS
TO THE FIRST 3-A CERTIFIED UV/Vis/NIR IMMERSION PROBE

To meet the hygiene requirements for production units, Hellma has developed a 3-A certified UV/Vis/NIR optical immersion probe that is currently used in dairy and cheese manufacture, but has many other applications where a hygienic and sterilizable design is critical. Optical immersion probes perform spectroscopic analyses, allowing manufacturing processes to be monitored inline and in real time.

This makes it very easy for planners, production managers and process owners to integrate measuring points when designing or retrofitting plants. The 3-A certificate serves as proof that the plant in question meets hygiene requirements.

Description of the optical immersion probe Excalibur 25 Hygienic 3-A

- // Optical UV/Vis/NIR immersion probe EXCALIBUR
- // Hygienic design
- // 3-A certified (No. 46-03)
- // Suitable for CIP (cleaning in place) and SIP (sterilization in place)
- // Easy to use and clean
- // FDA and USDA-compliant
- // Leakage detection
- // Reduced risk of impurities and cross-contamination

Typical applications

- // Quantitative and qualitative analysis of protein, fat, water, lactose, sugar, and vitamins in manufacturing or mixing processes
- // Turbidity and color measurements
- // Monitoring of colorants and flavoring agents
- // Disinfectant management
- // Phase separation
- // Separator management

ISSUE DATE: FEBRUARY 19, 2015

CERTIFICATE AUTHORIZATION NUMBER: 1807



THIS IS TO CERTIFY THAT

Hellma GmbH & Co. KG
Klosterrunstrasse 5 Muelheim, 79379 GERMANY

is hereby authorized to continue to apply the
3-A Symbol to the models of equipment, conforming to 3-A Sanitary Standards for:

Number 46-03
Refractometers and Energy-Absorbing Optical Sensors
set forth below

CIP and SIP Optical Immersion Probe: Excalibur 25 Hygienic, PEH*****X*****
where "X" stands for process adapter codes V, S, or T.

VALID THROUGH: December 31, 2015

Timothy R. Rugh
Executive Director
3-A Sanitary Standards, Inc.

3-A certification

PLAY IT SAFE WITH A HYGIENIC DESIGN
AND TESTED MANUFACTURING PROCESS

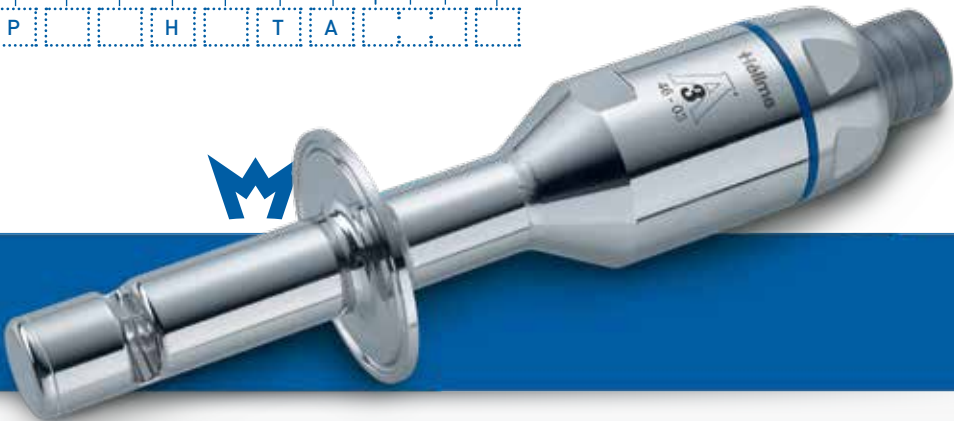
Areas of use

- // Dairy products
- // Beer, spirits
- // Soft drinks and juices
- // Cooking oils
- // Sweeteners
- // Pharmaceuticals



TECHNICAL SPECIFICATIONS AND MODEL CONFIGURATION

BASE MODEL	E H Excalibur 25 Hygienic 3-A														
MEASURING METHOD	Transmission														
OUTER DIAMETER	25 mm														
OPTICAL PATH LENGTH	G	0,5 mm													
	A	1 mm													
	B	2 mm													
	H	3 mm													
	I	4 mm													
	C	5 mm													
OPTICAL MATERIAL	Q	Quartz													
	S	Sapphire													
PROBE BODY MATERIAL	P	Stainless Steel (316 L) electro polished													
SEALING TECHNOLOGY	K	Kalrez 6221®													
	P	Perlast G75S													
SPECTRAL RANGE	N	NIR (400 nm – 2300 nm)													
	U	UV/Vis low solarization (190 nm – 1100 nm for quartz / 240 nm – 1100 nm for sapphire)													
FIBER OPTICAL CONNECTION	H	Female sockets for SMA (no external fibers)													
PROCESS CONNECTION	V	Varivent Typ N													
	S	1,5" Sanitary pipe fitting													
	T	2" Sanitary pipe fitting													
TEMPERATURE RANGE	T	5 °C to 140 °C (max. temperature at hose connection 85 °C)													
PRESSURE RANGE	A	-1 bar to 10 bar													
IMMERSION DEPTH	X	X	X	038 mm – 600 mm											
PURGING	N	No													
	Y	Yes													
ARTICLE NO.	P	E	H			P			H		T	A			



Cleaning functions

Cleaning and sterilization at the measuring point provided that temperature and pressure specifications are met

Autoclavable

Provided that the protective buffer (item No. 661B01EH04-11-V2-749) is used and temperature and pressure specifications are met

Scope of delivery

Optical immersion probe, transport case, user manual, technical drawings provided by the customer, pressure test certificate, transmission curve, material certificate 3.1; 2.1; 3-A certificate



We take Responsibility.[®]



Home to precision solutions, Hellma Analytics lays the foundation for reliable, high-quality end products. Our efficiency and advisory skills make us the favored partner among our customers.

As a key supplier, we are an inherent part of our customers' supply chains. Reliability, trust and continuity are important core values, and we see it as both our duty and responsibility to ensure that these are met. Thanks to our global presence, extensive product portfolio and engineering competence, we guarantee to fulfill your requirements. With Hellma as your partner, you have all the right ingredients to ensure your success:

- // Only company in the market to unite specialist knowledge in raw material production and component manufacturing, as well as competence in technology and providing solutions all under one roof
- // Well-coordinated portfolio of services and products "made exclusively in Germany"
- // Global network of service and sales partners
- // Reliability and trustworthiness of a world market leader
- // Experienced specialists who understand your industrial requirements and create solutions tailored to your needs

Hellma GmbH & Co. KG

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