

The ZÜLLIG logo is presented in a bold, white, sans-serif font, centered within a solid blue rectangular box. The background of the entire page is a dynamic, high-speed photograph of a white cylindrical object, likely the sensor, moving through clear blue water, creating a white wake and ripples. The sensor's circular face is visible, showing several small, dark, spherical particles. The text 'COSMOS®-25' is embossed on the sensor's face.

ZÜLLIG

**The Self-Cleaning Sensor for Turbidity
and Suspended Solids Measurement**

- **Enormous Measuring Range from Minimal Turbidity to Viscous Suspended Solids**
- **Scratch-Proof Sapphire Windows**
- **Reliable Measuring Values**
- **Optional Self-Cleaning**

Reliable and Precise Long-Term Measurement



The mechanical self-cleaning guarantees the long lasting availability of the measurement values.

The Züllig COSMOS®-25 sensor fulfils the high demands on any turbidity and suspended solids measurement in liquid media. Its enormous measuring range guarantees precise results, from spring water to heavy sludge or emulsions - with only one instrument.

Features

- Turbidity 0,001...9999 FNU
- Suspended solids up to 400 g/L
- Very high accuracy
- High stability by extensive compensation of interferences.

Constant Quality of Measuring Results

The adjustable cleaning cycle ensures a constant measurement quality. The relevant measuring range is automatically adjusted. The display in the transmitter is done in FNU, NTU or EBC for turbidity and for suspended solids in g/L, mg/L, % and ppm. Thus, you are informed on the procedure of the process in your usual unit of measurement.

Worldwide Patents

With the COSMOS®-25, Züllig is setting new standards in the measurement of suspended solids and turbidity. International patents protect the technological lead.

Turbidity According to DIN Norm

The turbidity measurement works according to the DIN norm EN 27027 (ISO 7027). The measurement does not need calibration and is thus very easy to be handled. Therefore, a high measuring quality is guaranteed at all times.

Suspended Solids According to Application Specific Curves

Internal optimizing routines allow an exact reproduction of the media-related curve with only a few calibration points. Usually, a single calibration point is sufficient. Should the media fluctuate very much, three calibration points can be defined. The media can be registered even more precisely,

due to the combined multi-beam pulsed light-system.

Not Irritable by Air Bubbles

COSMOS®-25 has a unique compensation system against air bubble influences. Additionally, the measuring values are verified by the six-channel multi-angle measuring.

An enormous simplification is the new one-point calibration for dried substance measurement. This is made possible by an algorithm which has been developed in cooperation with an university. This was done with the inclusion of neuronal networks and adaptive software elements.



Modell XL for use in the food industry



Example of an installation of a XL version with Tri-Clamp® fast mounting

Reliable High-Tech Sensors

Design and Mode of Operation

The sensor casing exists of highly alloyed, stainless steel. In the sensor head there are six scratch resistant sapphire windows.



Scratch-proof sapphires in a stainless steel casing

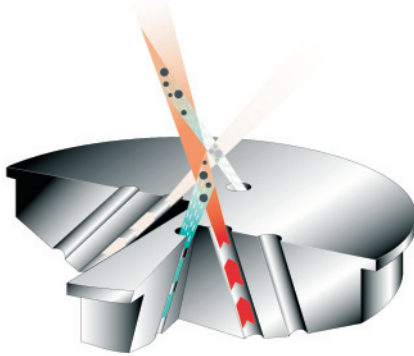
The infrared beams (wave length 860 nm), which are bundled by the beam focusing, are transmitted and received to and from the media through these «windows». The special arrangement of the windows and the pulsed light source prevent disturbances. Thus, the measuring result is not depending on window pollution, temperature influences, suspended dye, etc. The exemplary material and manufacturing quality has also proven to be a success in corrosive media.

Technology

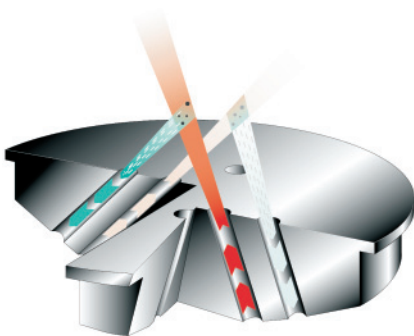
The turbidity measurement is based on the combined multi-beam pulsed light system with the infrared system and the beam focusing. The 2-channel 90° scattered-light-measurement meets the DIN norm EN 27027 (ISO 7027). An additionally modified absorption measurement is integrated in the dried substance measurement. Due to the multi-angle measurement, the system is very robust and resistant to various disturbances.

User-Friendly Design

The control and support are tremendously simplified by the planar design. The two-piece sensor head is exchangeable and can be reused. Therefore, it is very easy to be maintained and serviced. This ensures a long-term and user-friendly operation.

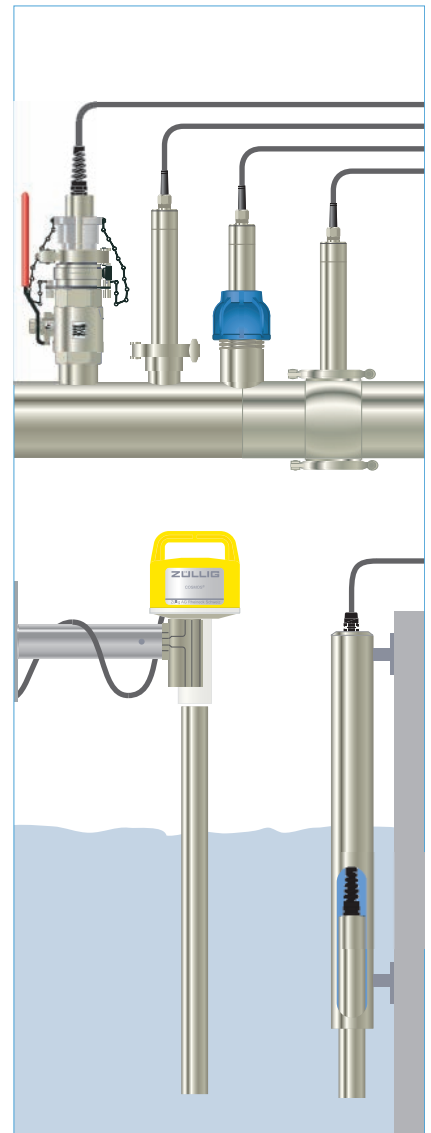


Beam Mode 1



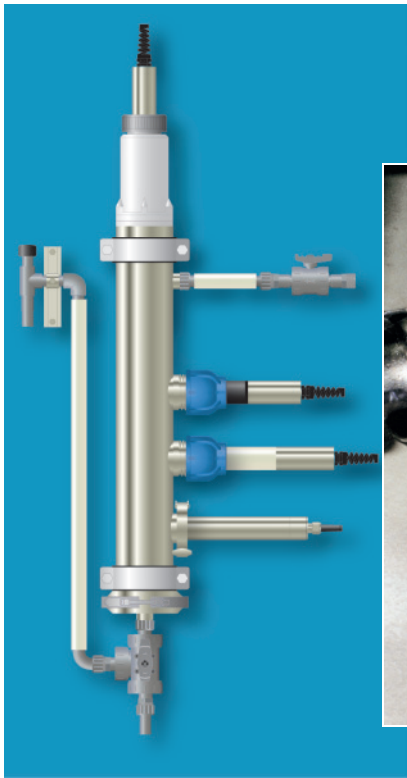
Beam Mode 2

Ways of Installation



From top left: Installation with ball valve system Z-KWA, Tri-Clamp®, with screw connection and Varivent® as well as the standard models with hood and the immersion version.

Successful in Daily Use



COSMOS®-25 XL in a water quality station

Application

Water Industry:

- Spring Water Source
- Drinking Water Reservoir
- Filtering Station
- Ground Water Pumping Station

Waste Water Treatment Plants:

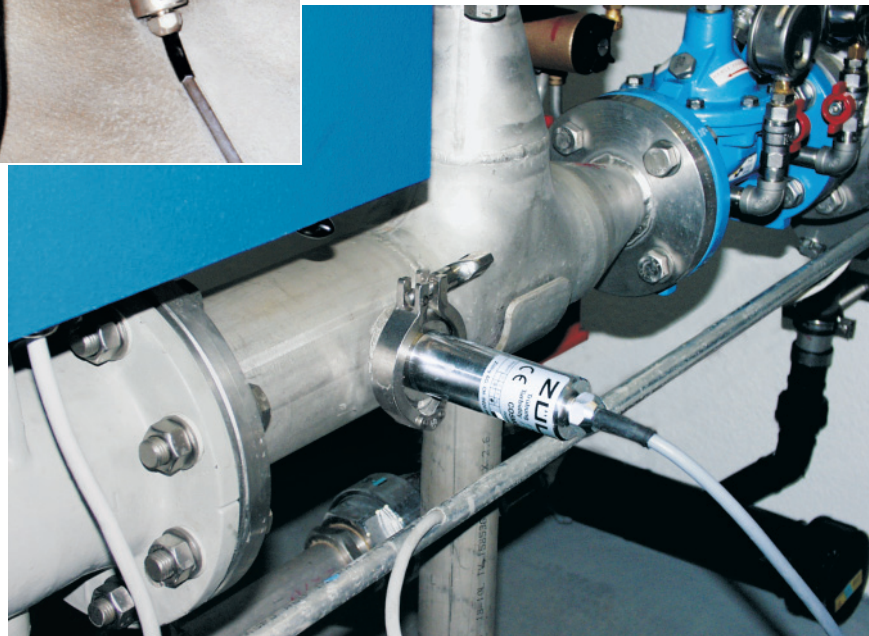
- Control of Flow Influent
- Biology
- Sludge Treatment
- Control of Flow Effluent

Food Industry:

- Filtration Process



COSMOS®-25 in waste water treatment plants



COSMOS®-25 in the food industry (above) and in the drinking water industry

Subject to technical changes

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and waste water control**

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