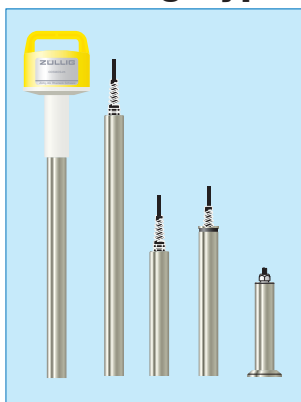


Züllig Turbidity and Suspended Solids Probe COSMOS®-25

Features

With the internationally patented measuring instrument COSMOS®-25, Züllig is setting new standards in the measurement of turbidity and suspended solids in watery media. Due to the use of the latest technology, which is able to analyse 8 different measuring signals, it has become possible to register turbidity as well as suspended solids values for the whole measuring range with only one sensor! Due to its planar measuring system (no cams nor slots) the COSMOS®-25 sensor can be used in open channels and basins as well as in pipelines. This sensor has been designed for use in waste water treatment plants and in the water industry as well as in the chemical industry and other industrial plants.

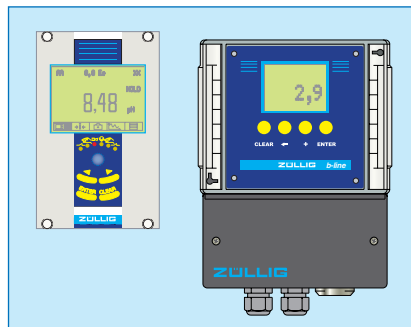
Mounting Types



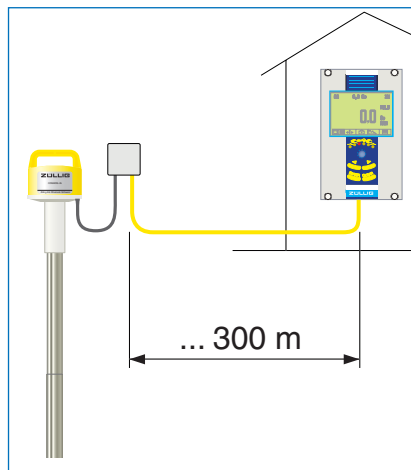
From left: Shaft version with hood, built-in type, submersion type, insertion mounting type and sanitary version.

Optimized Measuring Chain

To analyse the measuring signals we recommend to use the precise Züllig transmitters SPACE A and b-line.



Optimized measuring chain with the Züllig transmitters SPACE A and b-line



Long transmitting distance

Features

- High quality materials and precise Swiss manufacturing
- Steady construction
- Big signal transmitting distances without intermediate transmitter
- Replaceable components
- Flexible construction through modular units
- Extendable with additional components
- Extensive accessories

Accuracy

- Plausibility test of the measuring value
- Recalibration to non-ISO-standardised units
- From 0,001...9999 FNU with one measuring range
- Mechanical self-cleaning device (optional)
- Suitable for the food industry (optional)

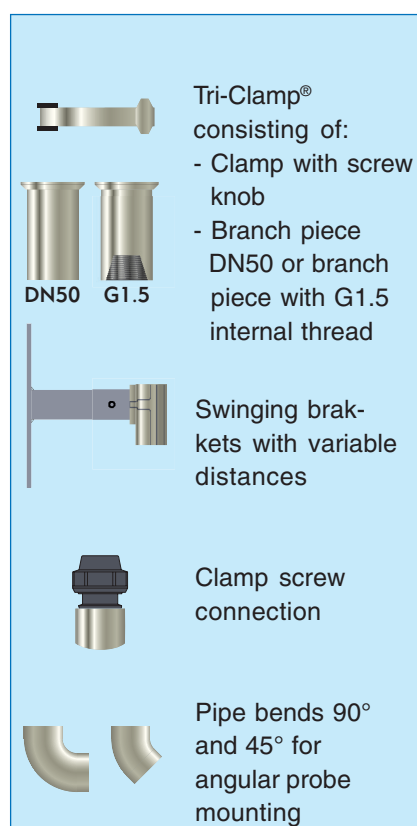
Easy Calibration

COSMOS®-25 can be easily calibrated with little effort. Should you want to measure turbidity, the COSMOS®-25 is immediately ready for use. In case you want to measure suspended solids, in most cases only one calibration point is sufficient. For special applications various calibration points are available.

System Informationen

Accessories

- Tri-Clamp® System
- Brackets
- Clamp screw fastening
- Shafts in various lengths
- Connection System 2000 with various plugs as well as installation cables.

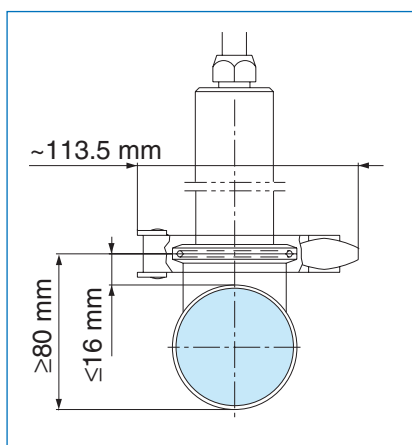
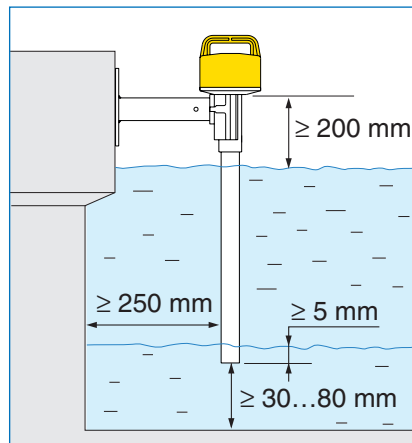


Genuine Züllig accessories guarantee an optimal functionality

Options

- XL version with Tri-Clamp® for food industry
- Wiper
- Connecting System Züllig 2000

Installation Distance



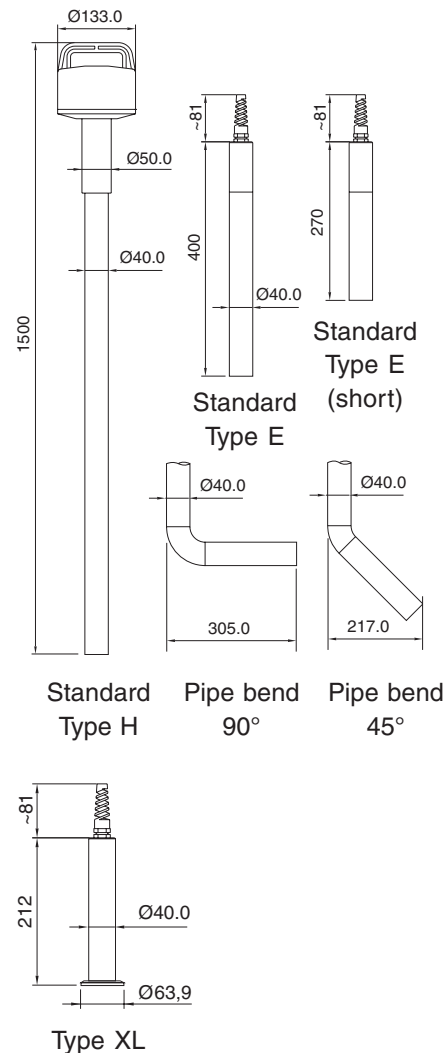
Minimum clearances

Advices for Installation

Please pay attention to the following installation advices:

- The optimal measurement location is, where the measured value shows an average content.
- The self-cleaning device should not be left run dry.

Dimensions



All dimensions in mm

From top left: Hood version, submersion version, short version, version with optional pipe bend 90° or 45° and XL type

Technical Data

Technical Specification COSMOS®-25

General

Measuring principle	combined multiple-beam concept with infrared-diode system and beam focusing
Turbidity	2-channel-90° scattered light measuring according to DIN/EN 27027/ISO7027, wavelength = 860 nm additional measuring value verification by six-channel multi-angle measuring
Dried solid matter	modified absorption measurement: six-channel multi-angle measuring, wavelength = 860 nm
Sensor cleaning	self-positioning mechanical wiper
Air bubble compensation	by software
Quality of the measuring value	by software

Measuring Range (Auto-Ranging)

Turbidity 0.001...10000 FNU¹⁾

- Resolution	better than DIN/EN 27027/ISO7027: ...0.999 FNU: 0.001 FNU 1...9.99 FNU: 0.01 FNU 10...99.9 FNU: 0.1 FNU as from 100 FNU: 1 FNU
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Dried solid matter 0.001 g/L upwards (upper limit depending on medium) e.g.:
Biological sludge > 200 g/L
Digested sludge ...100 g/L
SiO₂ > 400 g/L

- Resolution :	better than DIN 38414 part 2 ...0.999 g/L: 0.001 g/L 1...9.99 g/L: 0.01 g/L 10...99.9 g/L: 0.1 g/L as from 100 g/L: 1 g/L
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Characteristic Process Values (according to DIN38402 part 51)

Turbidity (operating range 1-1000 FNU):

Accuracy

(as standard deviation) typical < 3% of measuring value

Reproducibility

(as repeating standard deviation) . . . typical < 4% of measuring value

Dried solid matter (operating range 0.5-20 g/L):

Accuracy depending on the quality of the calibration and the medium

(as standard deviation) typical < 5 % of measuring value

Reproducibility depending on homogeneity of the probe

(as repeating standard deviation) . . . typical < 4 % of measuring value

Transition Time minimal 1 s

¹⁾ 4000 upwards FNU internal manufacturer norm

Technical Data

Application Data

Constant use temperature 0...60 °C (short term ...80 °C), with wiper: 0...50 °C
Pressure range max. 10 bar
Application in watery media

Electrical Data

Supply voltage 24 VDC
Current input approx. 60 mA
Signal type digital, RS 485
Cable 5 m, PUR ø 8.3 mm, 3x2x0.34 mm² (System 2000), customised lengths optional
Cable length external supply line . . . max. 300 m for SPACE, max. 240 m for b-line
Plug(optional) Lemo Gr.2, 6 pol., IP 65

Other Information

Turbidity units FNU, NTU, EBC
Dried solid matter units g/L, %, mg/L, ppm
Number of calibration curves for turbidity . . . 1; calibrated by manufacturer
Number of calibration curves
for dried solid matter 2

Mechanical Data

-E/-H version

Diameter 40 mm
Connection thread G 1"
Probe length short version with end piece 270 mm
short version with hood 500 mm
Customised lengths (optional) with end piece 400...4000 mm
with hood 600...4000 mm
Fast mounting (optional) TriClamp®
Installation in Züllig ball valve fitting . possible

-XL version

max. Diameter 63 mm
Probe length 212 mm

Materials

Wetted parts stainless steel DIN 1.4460 (head), DIN 1.4435 (body), DIN 1.4571 (shaft),
sapphire
Sealings FKM (Viton), optional Zalak®
Wiper (optional) PA (GF), TPU
Transmitter SPACE A (CO measurement)
b-line (DS and TM measurement)

Subject to technical changes

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**Instrumentation for water
and waste water control**

Headquarter in Switzerland:
Züllig AG
CH-9424 Rheineck/Switzerland
Phone +41(0)71 886 91 11
Telefax +41(0)71 886 91 66
www.zuellig.ch
Representatives worldwide

Züllig Germany GmbH
Moselstrasse 27
D-63452 Hanau/Germany
Phone 06181/ 90 08 0
Telefax 06181/ 90 08 20
Offices: München, Stuttgart,
Hamburg, Plau/Thüringen