

Self-cleaning D.O. Probe (Smart)



D.O. Probes in Sewage Treatment Application

Characteristics

- Mechanically self-cleaning with diamond grindstone
- Exchangeable electrodes
- High quality materials and precise Swiss manufacturing
- Integrated temp. measurement
- Digital data transfer
- Connection cable up to 100 m
- Bus system capable

Advantages

- High calibration stability (no drift)
- Long lifetime
- Submersion of up to 10 m
- Simple maintenance
- Low maintenance costs
- Rugged design (Swiss made)
- Multiple connections with Züllig transmitters



S15-S-25

Permanent self-cleaning

S15-S-25 Ex-Zone 2 Ex II 3G EEx nL IIC T4



Parameters

- Oxygen
- Oxygen saturation
- Oxygen saturation index
- Temperature

Applications

- WWTP (municipal and industrial)
- Activated sludge with nitrification/denitrification
- Air supply control in activation tanks
- Sewage Treatment Applications
- Waste site sewage
- Potable water
- Lakes, rivers, brackish and sea water
- Application under extreme fouling conditions. (e.g. fats, lubrication films etc.)
- Waste water plants in cellulose, paper, food and petrochemical industries

Sticky sludge - No problem

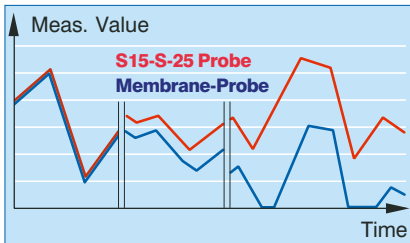
The cleaning is achieved by a continuously polishing grindstone, which consists of diamond fragments. This results in a long life span and a high reliability of the measuring value.

The Secret of Liability – Superior Technology

Fast and stable

The S15-S-25 carries out its duty with high accuracy. The sensor does not react to:

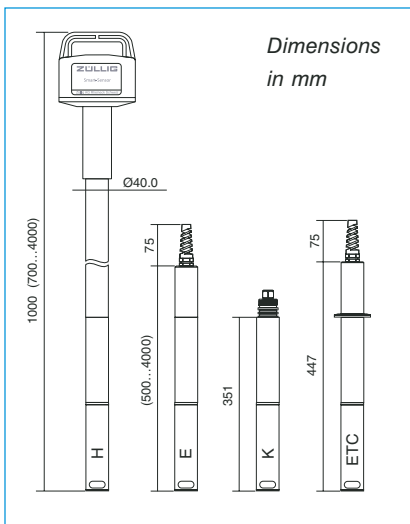
- Air pressure
- Long term measurement
- Change of temperature



- Red:** Long term measurement stability S15-S-25
- Blue:** Deviations through drift (membrane sensors)

The oxygen measurement with the exposed electrode continues to be absolutely stable with regard to the zero point and variations of pressure and has a fast response time.

Dimensions



From left: Type H, Type E, Type K and Type ETC

Ex Zone 2 S15-S-25

General Information

Measuring principle	galvanic acc. to Toedt, internat. patented
Self-cleaning	rotating diamond grindstone
Temperature	PT1000
Temperature compensation	by software
Process wetted materials	PVC-U, stainless steel DIN 1.4571/ 1.4435, epoxy resin, filler metals

Process characteristics (as per DIN 38404, part 51)

Measuring ranges	0...15 mg/l with anode type FE
Resolution	0,05 mg/l
Repetitive error	e.g. 0,2 mg/l at 5 mg/l

Operative range

Temperature range of environment	-20...40 °C
Use temperature	0...45 °C (inside of Ex-Zone 0...40 °C)
Pressure	max. 1 bar
pH-range	pH 6...9
Conductivity	min. 200 µS/cm
Permissible foreign ionic concentration	special documentation upon request
Application	in watery media
Submerge at least	180 mm
Classification Ex Zone	Group II, category 3, to use only up to Ex Zone 2

Type of protection **CE** II 3G EEx nL IIC T4

Life expectancy

Electrodes	2...3 years
Grindstones	8...18 months

Electrical data and dimensions

Power supply for motor	24 VDC ±15 %, 130 mA, fuse 180 mA
Measuring value (O ₂ and temperature)	Digital signal RS485
Cable length external supply line	max. 100 m (cable min. 0,5 mm ²)
Connection plug	System 2000-S
Shaft diameter	40 mm
Total probe length	Version E: 500...4000 mm Version H: 900...4000 mm (in 100 mm steps)

Measuring Principle

The measurement is carried out following a chemical principle applied by Toedt. The depolarization current of this galvanical element results from the following reaction:

