

Sensors for Oxygen Measurement

Chem

Energy

Food



SE 707 Oxygen Sensor

Reliable measurement of oxygen traces, also under sterile and hygienic conditions; signal-stable and robust

High resolution of low oxygen concentrations, simple and cost-efficient sensor calibration in ambient air. No calibration gases. High signal stability, also in the presence of high CO₂ partial pressures.

FDA-conforming material with extremely smooth polished surface.

Simple maintenance due to modular design.

Sterilizable, autoclavable, and CIP capable.

Also suitable for hazardous locations.

Applications

Beverage filling (e.g. milk, beer), measurement in boiler feed water (detection limit 1 ppb)

Facts

- high level of process safety
- durable materials
- robust design
- easy to clean thanks to extremely smooth surface
- very simple calibration in air without calibration gases
- cost-efficient service due to easy-to-replace membrane module and interior body
- hygienic design
- very high resolution of 1 ppb in the trace range
- low cross-sensitivity to CO₂
- operation also in hazardous locations
- VP screw cap

Specifications

Range:	pO ₂ < 1200 mbar
Detection limit:	1 ppb (3 ppb in liquids containing CO ₂)
Accuracy:	1 % + 1 ppb (1 % + 3 ppb in liquids containing CO ₂)
Response time at 25 °C (air → N ₂):	98 % full scale < 90 s
Signal in ambient air:	290 ... 500 nA
Residual signal:	in O ₂ -free medium: ≤ 0.01 % of signal in ambient air in CO ₂ : ≤ 0.03 % of signal in ambient air
Flow dependence:	≤ 5 %
Permissible pressure range (measurement):	0.2 ... 6 bar absolute
Mechanical pressure resistance:	max. 12 bar absolute
Permissible temperature range (measurement):	0 ... 80 °C
Temperature range (stability):	-5 ... +121 °C (steam sterilizable/autoclavable)
O-ring material (process-wetted):	silicone (FDA&USP Class VI tested)
Membrane material:	PTFE/silicone/PTFE, FDA comp. (reinforced w. steel mesh)
Process-wetted sensor parts:	1.4404 stainless steel (material certificate 3.1B)
Surface roughness:	N 5 (RA < 0.4 μm)
Temperature detector:	NTC 22 kohms
Interior body incl. electrodes:	replaceable (ZU 0568)
Sensor cap:	VP (VarioPin)
ATEX Certificate:	II 1/2 GD Ex ia IIC T6/T5/T4/T3
Certificates:	3A, 3.1B (EN 10204/3.1.B)

Product Line

SE 707 oxygen sensor

Length 120 mm

Length 220 mm

Order No.

SE 707/1

SE 707/2

Cable

VP6-ST cable

3 m

5 m

10 m

20 m

Order No.

ZU 0313

ZU 0314

ZU 0315

ZU 0584

Accessories

O₂ membrane module

separate

Order No.

ZU 0563

O₂ membrane kit

membrane module (4 x), O-ring set (1 x), 25 ml electrolyte (1 x)

ZU 0564

O₂ electrolyte

25 ml

ZU 0565

Interior body for SE 707

ZU 0568

O-ring set

silicone FDA

ZU 0679

Dimension Drawing

