



## Gas sensor GSE 416 Ex for detection of Oxygen O<sub>2</sub>



### Mode of operation

The principle of the measurement cell used is based on the diffusion of oxygen. The O<sub>2</sub> diffuses through the gas-permeable diaphragm onto the gold cathode, and is reduced on it. The current flowing between the electrodes is proportional to the concentration, and will then be amplified and be led to the evaluation device by the transmitter.

The measured gas concentration is linear to the electrical output signal of the gas measurement probe. The potentiometers and the 3.5 mm jack connection for the calibration are accessible from the outside, and permits a "one-man" calibration.

When used in a pump system, the service life can be heavily reduced, as the electrolyte evaporates more quickly through the porous diaphragm. The measurement cell is sensitive to solvent vapours.

The **calibration gas** should be 75% of the measurement range, and must contain synthetic air as the carrier gas.

**Performance Characteristics**

Measuring range:	0...100 Vol.% / linear
Standard calibration:	0...25 Vol.%
Response time t 90:	< 12 seconds
Operating temperature:	0 °C ... +40°C
Start up after reconditioning:	max. 1 h
Pressure range:	atmospheric ± 10%
Air humidity:	15...90% non condensing
Position sensitivity:	none
Long term output drift:	< 1 % / month
Life span at 20 °C:	about 5 years depends on the application

**Sensor electronic specification**

Cable:	2-core cable, shielded
Power supply:	13.5...30 VDC
Sensor current:	max. 60 mA
Output signal:	4...20 mA/ max. 60 mA
Operating temperature:	-40 °C ... +85 °C

**Explosion-proof construction  
(Eex ia II C T6)**

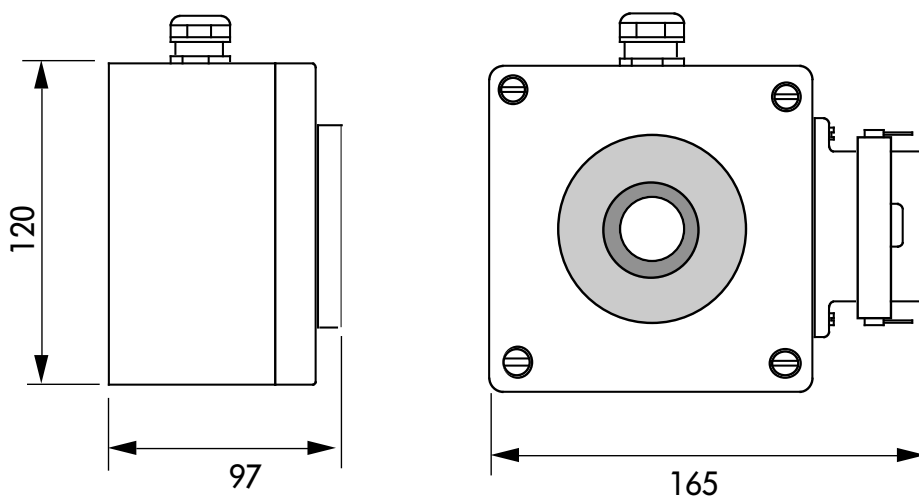
Certificate of conformity BVS No. 92.C.2008

The gas measurement probe of the series GSE ... Ex must be operated with a Zener barrier. The supply must be designed to be "intrinsically safe" and the colour must be blue.

**Inspection (Maintenance)**

The sensor and the electronic require an inspection. Routine calibration is recommended once or twice a year.

**Dimensions**



cover cap for:  
 - calibration potentiometer  
 - output signal connection  
 (3,5 mm jack)