Product Datasheet

GOEL 370 / GOEL 381

Oxygen-sensor element

- electrochemical replacement element
  e.g. for ECO 410, G 1690, GMH 369x/GMH 569X
- long service life
- maintenance-free

DESCRIPTION

GOEL 370 (acidic electrolyte): Features a long service life (>3 years in air).

Designed for oxygen measurements in diving gas ("Nitrox"), recommended for a measuring range of 0.2 to 35 vol.-% O2.

In addition, the GOEL 370 is suitable for inert gas measurements which have a high CO2 content, or which are almost exclusively CO2 gas. The acidic electrolyte ensures that the sensor is insensitive to the CO2 gas and retains its stability.

GOEL 381 (alkaline electrolyte): Sensor for low oxygen concentrations close to 0.0 up to 100 vol.% O2.

Best choice for immersion gas measurements > 35 vol.% O2.

ORDERING ARTICLES

GOEL370-GE	Art.-Nr. 601490
GOEL381-GE	Art.-Nr. 610035

SCOPE OF DELIVERY

- Sensor element
- Flow-Diverter ESA 369

ESA369

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INSTRUCTIONS FOR USE

Best mounting/measuring position: sensor opening downwards.

After opening the packaging, a waiting time of 2 hours must be observed.

Due to different temperatures at the sensor opening and the rear housing area around the connector socket, a measurement error may occur; ensure sufficient adjustment time (e.g. 5 min, do not heat up, e.g. by holding in the hand).

Excessive flow at the sensor opening can lead to dynamic pressure, resulting in overly high values being measured in the absence of compensation.

SAFETY INSTRUCTIONS

1. 

The product must not be used for diagnostic or other medical purposes on patients.

2. 

The product is not suitable for use in potentially explosive atmospheres!

3. 

Do not use in safety / emergency stop devices!
Not suitable for application with functional safety requirements, e.g. SIL!

4. 

The product is not suitable for underwater use (rebreather)!

5. The sensor contains KOH (GOEL 381) or acid (GOEL 370).
KOH and acids cause chemical burns!
In case of leaking liquid, avoid contact at all costs!
In case of contact:
- with skin: wash off immediately with plenty of water for several minutes.
- with clothing: remove contaminated, soaked clothing immediately.
- with eyes: rinse under running water for several minutes, consult a doctor.
If swallowed:
- drink plenty of water immediately, do not induce vomiting!
- Consult a doctor.

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TECHNICAL SPECIFICATIONS

	GOEL 381	GOEL 370 (Rev 2)
Field of application	Immersion gas *1) Inert gases in general, precise measurements at very low measured values (e.g. <0.5 vol.% O_2) and above 35 vol.% O_2	Immersion gas *1) Inert gases with high CO_2 concentration and oxygen content < 35 vol.% O_2
Continuous use with increased CO_2	-	+++
Short-term use in CO_2 *2)	+	+++
up to 100 vol.% O_2	+++	-
Measurement below 0.2 vol.-% O_2	+++	+
Speed /t_{90}	++ / <10s	++ / <10s
Lifespan hrs. per vol.% O_2, / in air	+ /500,.000 %h/ >2 years	++ /1,200,000 %h/ max. 6 years
Measuring range O_2 partial pressure	0 ... 1100 hPa	0 ... 350 hPa
Measuring range oxygen concentration	0.0 ... 100.0 Vol.-% O_2	0,0 ... 100 % Vol. O_2, recommended 0.2 ... 35 % vol. O_2 (beyond reduced precision)
Accuracies[1] < 35 Vol.-% O_2 35 - 100 Vol.-% O_2	 ±0.25 Vol.-% O_2 ±2.0% * (Measurement value - 20,9 Vol.-% O_2)	 *-0.2 ... +0.35 Vol.-% O_2* *Not specified*
Electrolyte	Alkaline	acidic
Storage temperature	-15 ... +60 °C	
Operating temperature	0 ... +45 °C	
Environmental pressure	0.6 ... 1.75 bar abs.	
over-/negative pressure:	max. 0.25 bar *(Pressure difference sensor diaphragm to environment - in screwed-in state)*	
Material in contact with the medium	PA, PPS, PTFE, stainless steel	ABS, PPS, PTFE, stainless steel, NBR
Cross-sensitivity	None to He, H2 and CO	<20 ppm O_2 response to 100 Vol.-% CO, 100 Vol.-% CO_2, 100 Vol.-% C_3H_8, 1000 ppm Benzene balance N_2 3000 ppm NO_2 balance to N_2 1000 ppm H_2 balance to N_2 2000 ppm H_2S balance to N_2 1000 ppm SO_2 balance to N_2
Sensor signal: (in dry air, 1013 hPa, 25°C)	8.0 ... 12.0 mV	9.0 ... 14.0 mV
weight	26 g	22 g
measurements	Approx. Ø 30 x 44 mm M16 x 1-screw thread	

1All characteristics are based on conditions at 25°C, 50% RH and 1013 hPa and gas flow > 2.5 L/min

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