## CLOSED SENSOR TYPE GGO



## GGO 581

Art. no. 610029
Atmospheric oxygen sensores, closed sensor type, incl. GOEL 381, precise even at $20.2 \%$ and $35 \%$, suitable for GMH 569x

## GGO 570

Art. no. 607480
Atmospheric oxygen sensores, closed sensor type, incl. GOEL 370 recommended for high $\mathrm{CO}_{2}$ concentrations of up to $35 \% \mathrm{O}_{2}$, immersion gas, longlife, suitable for GMH 569 x

## GGO 381

Art. no. 610030
Atmospheric oxygen sensores, closed sensor type, incl. GOEL 381, precise even at $20.2 \%$ and $35 \%$, suitable for GMH 369x

## GGO 370

Art. no. 601224
Atmospheric oxygen sensores, closed sensor type, incl. GOEL 370 recommended for high $\mathrm{CO}_{2}$ concentrations of up to $35 \% \mathrm{O}_{2}$, immersion gas, longlife, suitable for GMH 369 x

## General:

- suitable for under and over pressure
- for using in gas-tight systems


## Application:

Suitable for measuring in normal atmosphere and in systems without or with slight under or over pressure. The sensor type features a screw thread and can be built in gas-tight in almost every system directly resp. with tube-adapter.
longer cable length 4 m and 10 m on demand

## OPEN SENSOR TYPE GOO

OPEN


GOO 581
Art. no. 610033
Atmospheric oxygen sensor, open sensor type, incl. GOEL 381,
precise even at $20.2 \%$ and $35 \%$, suitable for GMH $569 x$
GOO 570
Art. no. 607482
Atmospheric oxygen sensor, open sensor type, incl. GOEL 370 recommended for high $\mathrm{CO}_{2}$ concentrations of up to $35 \% \mathrm{O}_{2}$, immersion gas, longlife, suitable for GMH 569 x

## GOO 381

Art. no. 610034
Atmospheric oxygen sensor, open sensor type, incl. GOEL 381, precise even at $20.2 \%$ and $35 \%$, suitable for GMH $369 x$

## GOO 370

Art. no. 601228
Atmospheric oxygen sensor, open sensor type, incl. GOEL 370 recommended for high $\mathrm{CO}_{2}$ concentrations of up to $35 \%_{2}$, immersion gas, longlife, suitable for GMH 369x

## General:

- suitable for air- or gas-stream
- quick temperature compensation


## Application:

Because of the special sensor construction the measuring gas streams optimally around the sensor and escapes through holes in the housing into the air. No pressure build-up at slight streaming of the probe, that falsify the result of measurement. Particularly suitable for measuring of gas out of gas-bottle etc. Even measuring indoor-gas concentration is possible.
longer cable length 4 m and 10 m on demand
Note: not suited for „under water"-applications (rebreather, etc.)

## CLOSED SENSOR TYPE WITH PRESSURE CONNECTION GGA

GGA 581
Art. no. 610031
Atmospheric oxygen sensor with pressure connection, incl. GOEL 381, precise even at $20.2 \%$ and $35 \%$, suitable for GMH $569 x$

## GGA 570

Art. no. 607486
Atmospheric oxygen sensor with pressure connection, incl. GOEL 370 recommended for high $\mathrm{CO}_{2}$ concentrations of up to $35 \% \mathrm{O}_{2}$, immersion gas, longlife, suitable for GMH 569 x

## GGA 381

Art. no. 610032
Atmospheric oxygen sensor with pressure connection, incl. GOEL 381, precise even at $20.2 \%$ and $35 \%$, suitable for GMH $369 x$

## GGA 370

Art. no. 607484
Atmospheric oxygen sensor with pressure connection, incl. GOEL 370 recommended for high $\mathrm{CO}_{2}$ concentrations of up to $35 \% \mathrm{O}_{2}$, immersion gas, longlife, suitable for GMH 369 x

## General:

For devices with external pressure port (GMH 5695/3695) is this housing optimal. Especially for systems with high or low pressure or with existing back pressure by flow.

## Application:

It can be screwed airtight (Attention: Observe permissible operating pressure!). The device-pressure port is connected to the sensor pressure port. The device measures and compensates for the actual pressure at the sensor.
longer cable length 4 m and 10 m on demand

| Specifications: | GGA/GGO/G00 570/370 | GGA/GGO/G00 581/381 |
| :---: | :---: | :---: |
| Sensor element: | GOEL 370 | GOEL 381 |
|  | Oxygen-partial pressure probe, mounted in external sensor housing replaceable (temperature sensor mounted in housing) |  |
| Specific features: | Long service life For protective gases with a high $\mathrm{O}_{2}$ concentration and oxygen content $<35 \mathrm{vol}$. $\% \mathrm{O}_{2}$ | for the lowest $\mathrm{O}_{2}$ concentrations; For protective gases, in general, precise and very small measurements and above 35 vol. $\% \mathrm{O}_{2}$ |
| Measuring range |  |  |
| Partial oxygen pressure | 0 ... $1100 \mathrm{hPa} \mathrm{O}_{2}$ | $0 . . .1100 \mathrm{hPa} \mathrm{O}_{2}$ |
| Oxygen concentration: | 0.0 ... $100.0 \% \mathrm{O}_{2}$ | 0.0 ... $100.0 \% \mathrm{O}_{2}$ |
| Response time: $\mathrm{T}_{90}$ | $<10 \mathrm{~s}$ | $<10 \mathrm{~s}$ |
| Accuracy (at $25^{\circ} \mathrm{C}, 1013 \mathrm{hPa}$ ) |  | <1.5\% O ${ }_{2}$ |
| $<2 \% \mathrm{O}_{2}$ | $\pm 0.2 \% \mathrm{O}_{2}$ | $\pm 0.1 \% \mathrm{O}_{2}$ |
| $<25 \% \mathrm{O}_{2}$ | $\pm 0.5 \% \mathrm{O}_{2}$ | $\pm 0.5 \% \mathrm{O}_{2}$ |
| >25 \% O ${ }_{2}$ | $\pm 0.5 \% \mathrm{O}_{2}$ | no information |
| Operating conditions: | $\begin{aligned} & 0 . . .45^{\circ} \mathrm{C} \\ & 0 . . .95 \% \mathrm{RH} \text { (non-condensing) } \end{aligned}$ | $\begin{aligned} & 0 . . .45^{\circ} \mathrm{C} \\ & 0 . . .95 \% \mathrm{RH} \text { (non-condensing) } \end{aligned}$ |
| Ambient pressure: | 0.6 ... 1.75 bar abs. |  |
| Over-/under-pressure: | max. 0.25 bar (pressure difference sensor membrane to ambient - sensor screwed-in) |  |
| Storage temperature: | $-15 . . .+60^{\circ} \mathrm{C}$ |  |
| Operation life: | on air: >4 years (warranty for sensor element: 12 months) | on air: >2 years (warranty for sensor element: 12 months) |
| Connection: | GGA/GGO/GOO 3...: <br> approx. 1.2 m cable with Mini-D GGA/GGO/GOO 5...: <br> approx. 1 m cable with 7-pole bay | DIN-plug. <br> bayonet connector |
| Dimensions of housing: | GGA.../GGO...: approx. $\varnothing 36 \mathrm{~mm}$ ( 150 mm incl. anti-buckl. gland GOO..: approx. $\varnothing 40 \mathrm{~mm} \times 105$ ( 160 mm incl. anti-buckl. gland Housing with M16 $\times 1$-screw th to line tubes by means of an ad | $\begin{aligned} & \mathrm{m} \times 95 \mathrm{~mm} \\ & \text { ding), } \\ & \mathrm{mm} \\ & \text { ding) } \\ & \text { read (sensor can be connected } \\ & \text { dditional adapter) } \end{aligned}$ |
| Weight: | approx. 135 g (GGO...) or approx | x. 145 g (GOO.../GGA...) |
| Scope of supply: | GGA.../ GGO...: sensor, flow dive GOO...: sensor, flow diverter | erter, T-piece |

