

# DO9709SG

## Galvanic dissolved oxygen probe

### Technical data:

Measuring range:

Oxygen: 0...60 mg/l; 0...600% air saturation

Temperature: -5...50 °C

Electrodes: Platinum/lead, integrated NTC sensor

Response time: 90% in 10 s (changes with temperature)

Life time: ≥ 3 years (depending on application and maintenance)

Maximum pressure: 3 bar

Stem dimensions: Ø 12 mm x L=100 mm approx.

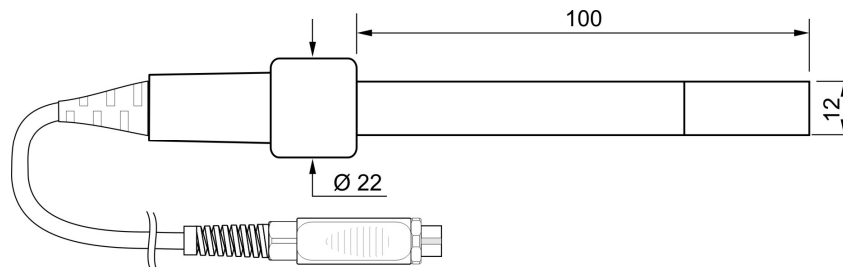
Total length: 170 mm with cable gland

Cable length: 2 m (DO9709SG) or 4 m (DO9709SG.4)

Operating temperature: 0...+40 °C

Storage temperature: 0...+60 °C

Material: ABS



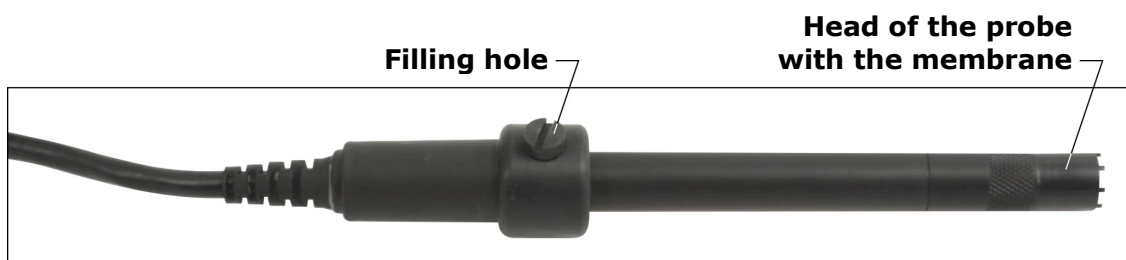
### Scope of supply:

- Probe
- 1 spare membrane
- KOH Electrolyte 30 ml
- Filling pipette
- Zero solution
- DO9709/20 calibrator

### Filling the electrolyte solution:

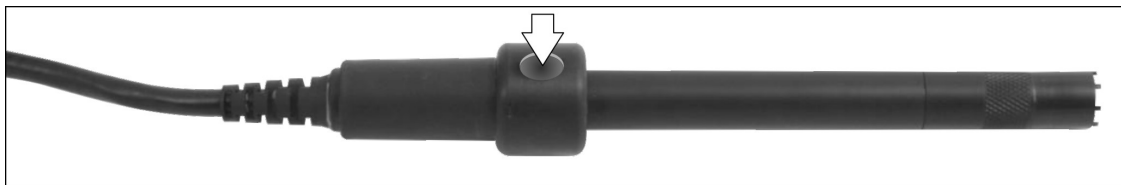
The probe is supplied already filled with electrolyte solution and is ready for use. The electrolyte solution is consumed due to the reaction with oxygen, and it is necessary to add it periodically. In order to fill the probe, proceed as follows.

1. Remove the protective flask from the head of the probe.
2. Unscrew the cap of the filling hole and the head of the probe with the membrane permeable to oxygen (check that the membrane is in good condition).



3. Fill the head of the probe up to  $\frac{3}{4}$  with KOH electrolyte solution.
4. Screw the head of the probe with the electrolyte solution to the probe. Rinse any excess electrolyte solution with water.

5. Pour the electrolyte solution in the filling hole (the probe filling requires about 5 ml of solution). From time to time, gently tap the probe stem to remove any air bubbles.



6. When the filling hole is full, screw the cap back on. Rinse any excess electrolyte solution with water.
7. Place the probe with the membrane upwards and check that there are no air bubbles under the membrane. If you notice air bubbles, further fill the probe with electrolyte solution.
8. Wait approximately 2 hours before using the probe, then calibrate.



**ATTENTION:**

**The electrolyte solution contains Potassium Hydroxide (KOH) and is caustic! Avoid contact with skin, use suitable gloves and protect the eyes. In case of contact, rinse immediately and thoroughly with water.**

**Operating notes:**

The optimum measuring position is with the membrane pointing downwards.

The probe and the measuring sample must be at the same temperature. For the best accuracy, calibrate the probe at the same temperature of the measuring sample.

The measuring sample must be in motion.

**Maintenance of the probe:**

Some residues (lead oxide and carbonate) due to the reaction of the electrolyte solution with oxygen can be visible inside the membrane; such residues do not compromise the probe operability and can be removed by unscrewing the head of the probe and rinsing the membrane during the regular periodic maintenance. The accumulation of many residues in a short time (few days) may indicate the presence of air bubbles inside the probe due to an incorrect filling, to the cap not sufficiently closed or to leakage in the membrane.

**Storage of the probe:**

When no measurement is taken for long periods, disconnect the probe from the instrument and remove the electrolyte solution from the probe, to avoid useless consumption of the measurement electrodes.

Gently clean the membrane with a soft cloth, paying attention not to damage it. Always keep the membrane wet using distilled water and the appropriate flask provided with the probe.

**Probe life time:**

The following conditions adversely affect the nominal probe life time:

- Extreme operating or storage temperature.
- Measurement in dirty water.
- Mechanical stress of the membrane.
- Dry storage (without cap with water).
- Frequent use at high CO<sub>2</sub> concentrations.

**Disposal:**

The probe contains lead and caustic electrolyte. Do not dispose of in the environment but treat as special waste.

According to the Directive 2011/65/EU, the European users of electrical and electronic equipment can return it to the dealer or manufacturer upon purchase of a new one.

**Codici di ordinazione:**

- DO 9709 SG**      **Galvanic** combined oxygen and temperature probe with possibility of membrane replacement. Ø12 mm x 100 mm. 2 m cable. The code includes: probe, 1 spare membrane, zero point solution, KOH electrolyte solution (30 ml) and DO9709/20 calibrator.
- DO 9709 SG.4**      **Galvanic** combined oxygen and temperature probe with possibility of membrane replacement. Ø12 mm x 100 mm. 4 m cable. The code includes: probe, 1 spare membrane, zero point solution, KOH electrolyte solution (30 ml) and DO9709/20 calibrator.
- DO 9709 SGK**      Kit of accessories for probes DO 9709SG and DO 9709SG.4 including 1 membrane, zero point solution and KOH electrolyte (100 ml).
- DO 9701G**      KOH electrolyte solution (100 ml) for oxygen probes DO 9709SG and DO 9709SG.4.
- DO 9709/20**      Calibrator for DO 9709SG and DO 9709SG.4 galvanic probes.
- DO 9700**      Zero oxygen solution.