

## O<sub>2</sub> Sensors

... which you can rely on. Providing the organism with sufficient oxygen is the most important task when ventilating patients. Oxygen sensors clearly play a vital role here, as they continuously measure and monitor the oxygen content of the breathing gas, an essential respiratory parameter.



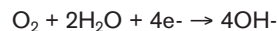
The importance of this parameter can be measured by the number of guidelines and recommendations which have been issued. Dräger oxygen sensors comply with both national and international requirements. Furthermore, the sensors have been designed and tested comprehensively to function perfectly with Dräger devices and systems. This is of particular importance in the context of minimizing risks for patient and operator. Even NASA has been convinced by Dräger's many years of experience in sensor development and production, and the high quality of the sensors themselves. For several years now Dräger O<sub>2</sub> sensors have been used in the NASA space shuttle.

### DESIGN AND FUNCTIONAL PRINCIPLE

Dräger O<sub>2</sub> sensors are electrochemical systems intended for the measurement of O<sub>2</sub> partial pressure.

The sensors work according to the galvanic cell principle. The gas mixture to be monitored diffuses through a plastic membrane into the sensor's liquid

electrolyte. The electrolyte contains a working electrode (gold electrode) and a counter-electrode (lead electrode). The oxygen to be monitored is electrochemically reduced at the working electrode:



Simultaneously the counter electrode is oxidized:



A resulting electrical current is proportional to the O<sub>2</sub> partial pressure in the monitored gas mixture.

### DRÄGER O<sub>2</sub> SENSORS OFFER A RANGE OF EXCELLENT BENEFITS, INCLUDING:

- 100% system compatibility with Dräger devices and systems
- High measurement accuracy with above-average quality standards and comprehensive testing
- Compliance with national and international requirements

MT-423-2002

O<sub>2</sub> sensor capsule

MT-0501-2007

Fast O<sub>2</sub> sensor

### O<sub>2</sub> SENSOR CAPSULE

The O<sub>2</sub> sensor capsule was introduced in 1977 as a means of measuring and monitoring the inspiratory O<sub>2</sub> concentration in anesthesia and intensive care devices. Since that time, more than 1,6 million\* sensors have been manufactured and shipped worldwide. The sensor is used in devices such as the Fabius family, Evita family, Incubator 8000, Cicero A/B and Oxydig. The O<sub>2</sub> sensor capsule has a lifetime of more than 12 months.

### FAST O<sub>2</sub> SENSOR

The fast O<sub>2</sub> sensor was launched into the market in 1994 as a means of measuring and monitoring with breath by breath resolution the inspiratory and expiratory O<sub>2</sub> concentrations. Since that time, more than 470,000 sensors have been shipped worldwide. This sensor is used in devices such as the Primus, Julian, Cicero EM, Cato, PM8060, PM8050. The fast O<sub>2</sub> sensor has a lifetime of more than 6 months.

### TECHNICAL DATA

	O <sub>2</sub> sensor capsule	Fast O <sub>2</sub> sensor
Measuring range:	0 to 100 % by vol. oxygen	0 to 100 % by vol. oxygen
Response time T <sub>10-90</sub>	16 sec.	0.5 sec.
Operating temperature:	15 to 40 °C	15 to 40 °C
Storage temperature:	-20 to 40 °C	-20 to 40 °C
Dimensions	Ø 28 mm, height 22 mm	Ø 11 mm, height 13 mm

### ORDERING INFORMATION

O <sub>2</sub> sensor capsule	68 50 645
Fast O <sub>2</sub> sensor	68 50 930

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The quality management system at Dräger Medical GmbH is certified according to ISO 13485, ISO 9001 and Annex II.3 of Directive 93/42/EEC (Medical devices).