



The membrane covered oxygen sensor MF441 is ideal for direct control of the oxygen level in any gases even under extreme conditions. Monitoring of oxygen level in the ventilation of composting plants and direct measurement in the composting pile for control of aeration are the most important applications of the MF441. In addition, the sensor is successfully used in oxygen monitoring and control of storage processes, fuel gas generation and inert gas generation. The sensor consists of the sensor body with incorporated temperature probes and the electrochemical electrode system as well as the membrane head with an extreme rugged polymer membrane and the membrane protection.

High Operating Reliability

The patented special design of the electrode system in connection with the pressure compensation concept guarantee the highest degree of operating reliability because of the sealing of the electrode system against the measuring medium. This makes possible to use the sensor at high temperatures and in extreme aggressive atmospheres.

Easy Mounting, Maintenance and Air Calibration

The special sealing concept of the sensor, the rugged membrane secured by a stain-less steel gauze and the extended operation secures maintenance free operation of the sensor over several months period. The membrane head is completely changeable and the packing unit of the electrolyte volume is efficient for one sensor head. Due to the zero current free technology of the electrode system, a simple one-point calibration in the ambient air is all that is required for calibration.

Incorporated Temperature Sensor

The sensor MF441 incorporates as standard a Pt1000 temperature sensor for automatic temperature compensation and temperature measurement in connection with the monitoring and controlling instrumentation. The extremely heavy-duty fixed cable features a four-wire connection of the temperature sensor to prevent deviations due to longer cable connections. Special versions of the sensor with different temperature sensors, cable connections or plugs are available upon request for best adaptation to different applications.

Sensor shaft	FEP, stainless steel, POM, Ø 18 mm
Shaft length	105 mm
Temperature range	-5...80 °C
Measuring range	0...20 mg/l at 25 °C; 0...200 % air saturation
Resolution	0.1 mg/l
Response time	$t_{90} < 180$ s at 25 °C (for change between ambient air to nitrogen)
Pressure	pressure of medium < 1 bar (it depends on mounting conditions)
Temperature probe	Pt1000 for automatic temperature compensation and temperature measurement
Electrical connection	▪ fixed cable
Mounting	▪ mounting in stick-in housing (laterally 30...60° from vertical)

- Electrical connections of the sensor:
 - MF441-K010-F: 1 m fixed cable, stripped ends

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