



## OMD 14 Product Information

The oxygen measuring device OMD 14 is used for the measurement of the oxygen concentration in flue gases and process gases. Thereby the concentration of the free oxygen is measured.

### Design and function

The oxygen measuring device OMD 14 consists of an in-situ probe and a probe head. The probe is equipped with a regulated sensor heating and electronics for operating and visualisation. In the probe head the evaluation electronics and the measuring value display are located. Centrepiece of the device is a potentiometric zirconium dioxide sensor.

The measuring gas diffuses through the measuring cell of the probe rod. Thereby the oxygen concentration is detected. By dint of electronics the analogue sensor signal is converted and as mA signal provided on transfer clamps.

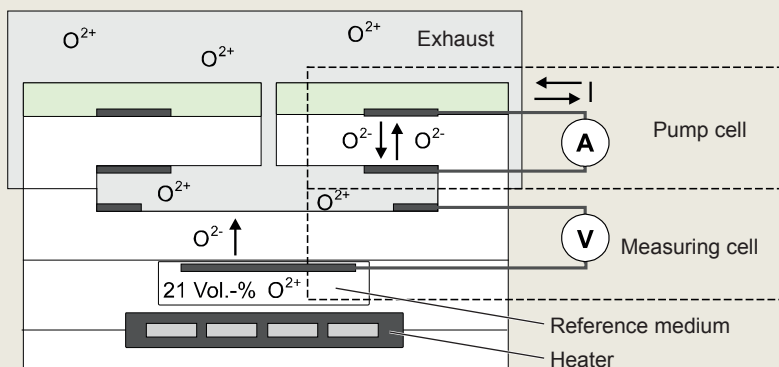


### Oxygen measurement

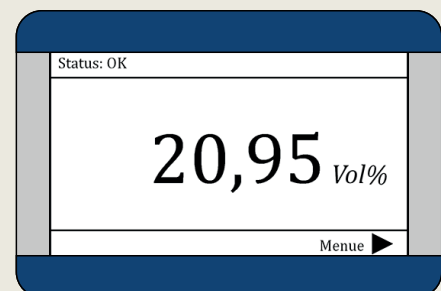
The oxygen measurement is carried out by means of a zirconium dioxide cell (see down left). Inside the cell the measuring gas is separated from the reference gas (ambient air) via a zirconium membrane. Depending on the oxygen partial pressure the oxygen ions move through the membrane. This results in an electric potential difference.

The used oxygen sensor consists of a measuring cell and a pump cell which provides a constant oxygen concentration in the measuring cell. The thereby spent energy is a degree for the oxygen concentration.

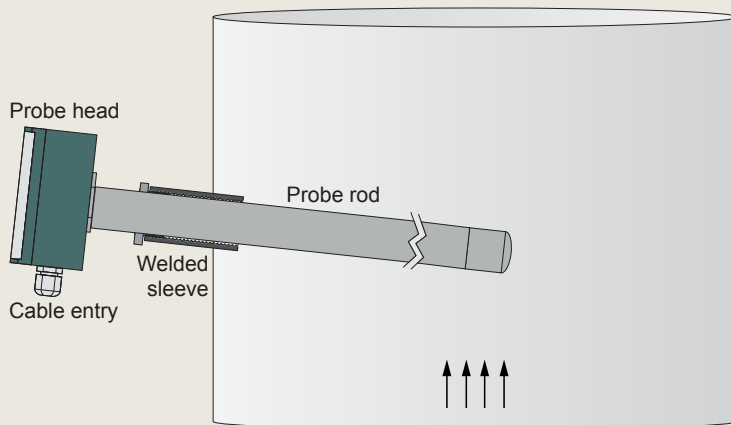
Due to the proven proportionality of the signal to the concentration a steady exactness in all oxygen concentration ranges is ensured.



### Graphic display



### Installation example



### Highlights of the device

- compact device consisting of probe and control unit → easy installation
- integrated graphic display for ease of operation
- display of O<sub>2</sub> in vol. %
- very low maintenance requirement
- easy manual calibration with test gases in separate adjustment device
- extremely low operational costs
- first-class price-performance ratio

### Technical data

Housing:	compact device (integrated control unit); IP65
Dimensions:	approx. 160 mm x 160 mm x 930 mm (w x h x d), weight: approx. 5.3 kg
Probe:	in-situ probe with zirconium dioxide sensor; probe rod length: 1000 mm (Standard)
Fitting:	1 ½"
Measuring range:	0...25 vol. % (other measuring ranges on request)
Accuracy:	± 0.2 vol. %
T <sub>90</sub> time:	60 s (dependent on application)
Display:	graphic display in text mode with momentary value display
Media temperature:	max. 250 °C (optional: max. 350 °C)
Ambient temperature:	-20...+55 °C
Ambient humidity:	max. 90% (non-condensing)
Heating-up time/ operational readiness:	approx. 15 min (at 20 °C ambient temperature)
Outputs:	- 2x analogue output (4...20 mA), potential-free (1x oxygen concentration, 1x optional temperature measurement or measurand signal of extra device) - 5x digital output (failure, maintenance, maintenance request, limit value 1 and 2), potential-free, max. switching capacity 25 W, rated voltage 60 V
Inputs:	For connection of one external device for calculation of additional measurands (e.g. H <sub>2</sub> O) the following inputs are existent: - 1x analogue input (4...20 mA), potential-free - 1x digital input (status)
Optionally available sensors:	- PT100 - thermocouple
Bus communication:	Modbus RTU (RS485)
Power supply:	12-24 V DC or 100-240 V AC (depending on model)
Power consumption:	max. 25 W
Manual calibration:	by optional adjustment device with test gas connection
Maintenance interval:	12 months (standard)
<i>Special models are possible on request.</i>	