Oxygen measuring device

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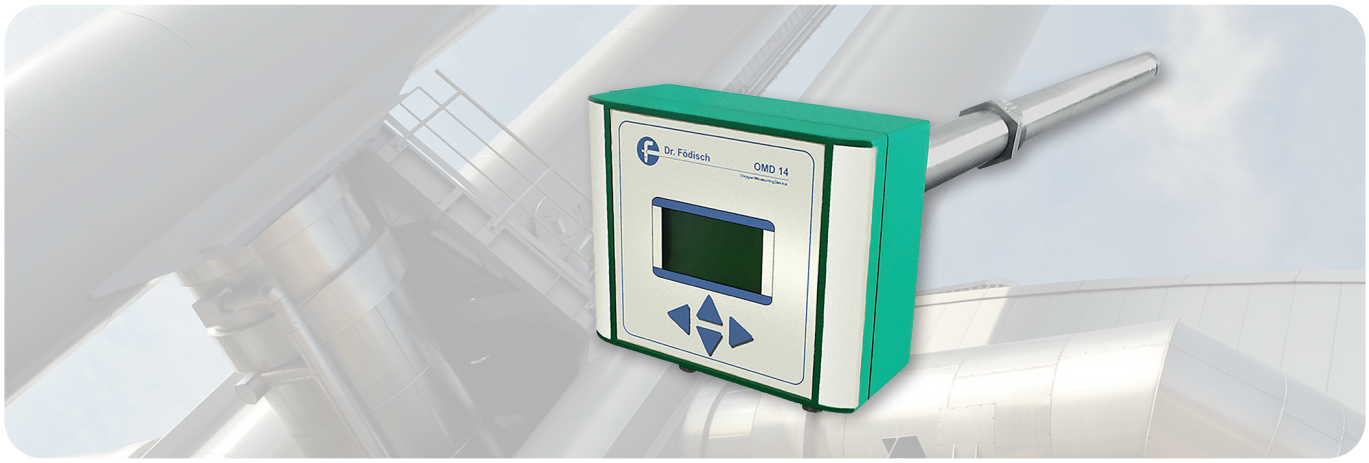


In-situ measuring device for continuous measurement of the concentration of free oxygen in flue gases and process gases

APPLICATION

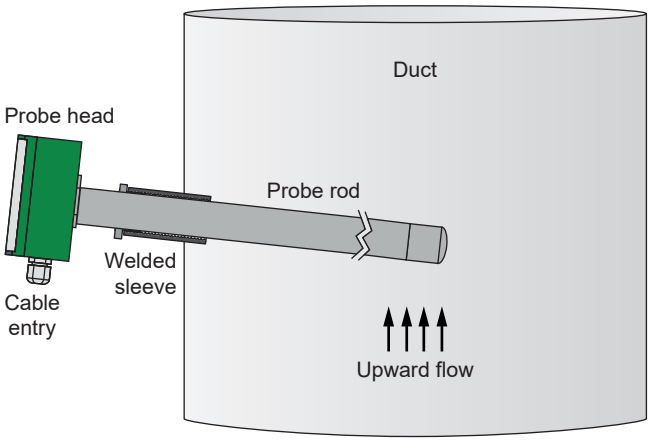
The oxygen measuring device OMD 14 is used for the measurement of the oxygen concentration in flue gases and process gases. It is a compact system with integrated control unit. The probe length can be adapted to the channel dimensions.

Optionally there is the possibility to measure the humidity content (H_2O) or to include a signal for an integrated temperature measurement (PT100).

YOUR BENEFITS AT A GLANCE

- compact device consisting of probe and operating unit → easy installation
- integrated graphic display for ease of operation
- display of O_2 (and optionally H_2O) in vol. %
- very low maintenance requirement
- easy manual calibration with test gases in separate adjustment device
- extremely low operational costs
- different probe lengths possible

INSTALLATION EXAMPLE



PRECONDITIONS ON SITE

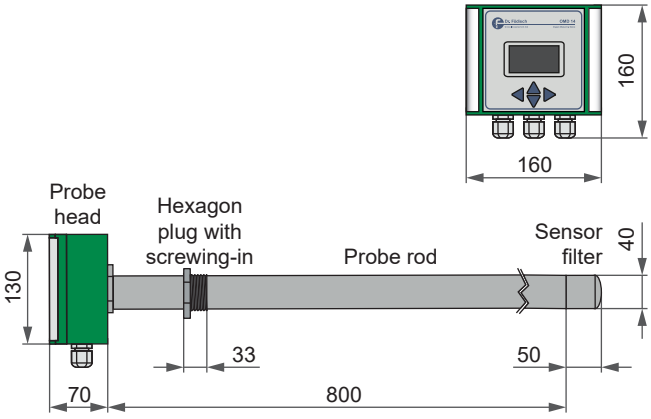
- ambient temperature: -20...+55 °C
- ambient humidity: max. 90% (non-condensing)
- homogenous dust and stack gas distribution
- installation place with run-in/run-out zone of min. 5-fold length of duct diameter
- media temperature: max. 250 °C (optional: max. 350 °C)

DESIGN AND FUNCTION

The 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 two-cell zirconium dioxide sensor. This measures the oxygen concentration by means of the amperometric measuring method. By the provision of the sensor with a higher reference voltage, a measurement of the water vapour content is additionally realised.

DESIGN & DIMENSIONS



TECHNICAL DATA

Housing:	compact device (integrated operating unit); IP65; 1 ½" fitting; approx. 160 mm x 160 mm x 930 mm (w x h x d); approx. 5.3 kg
Probe:	in-situ probe with zirconium dioxide sensor; probe rod length: 1000 mm (standard)
Measuring range:	• O_2: 0...25 vol. % (other measuring ranges on request), accuracy: ± 0.2 vol. % • H_2O: 0...40 vol. %, accuracy: ± 2 vol. % • temperature (optional): 0...300 °C (standard)
Response time:	T_{90} < 60 s (dependent on application)
Ambient conditions:	-20...+55 °C; relative humidity: max. 90% (non-condensing)
Media temperature:	max. 250 °C (optional up to 350 °C)
Operational availability:	approx. 15 min (at 20 °C ambient temperature)
Manual calibration:	by optional adjustment device with test gas connection
Maintenance interval:	12 months (standard)
Display:	graphic display in text mode with momentary value display
Inputs:	For connection of one external device for calculation of additional measurands (e.g. temperature) the following inputs are existent: • 1x analogue input (4...20 mA), potential-free • 1x digital input (status)
Outputs:	• 2x analogue output (4...20 mA), potential-free (1x oxygen concentration, 1x optional measurement of H_2O or temperature) • 5x digital output (failure, maintenance, maintenance request, limit value 1 and 2), potential-free, max. switching capacity 25 W, rated voltage 60 V
Interface:	RS485 (Modbus)
Process connection:	1 ½" welding sleeve
Power supply:	12-24 V DC or 100-240 V AC (depending on model); max. 25 W
Optional:	• available sensors: PT100, thermocouple • media temperature up to 350 °C (measuring range: 0...400 °C)

Special models are possible on request.

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