

# Cold gas IR analyser




• QAL1 certification according  
DIN EN 15267-1 (2009),  
DIN EN 15267-2 (2009),  
DIN EN 15267-3 (2008) in  
progress

## Cold gas analyser for measurement of pollutants in flue gas and for process control using IR-technology

### FUNCTION

A high-precision infrared photometer is used to determine the concentration of up to 8 gas components by means of infrared absorption.

Furthermore an electrochemical cell, zirconium dioxide sensors or paramagnetic sensor can be configured for oxygen measurement.

The analyser MGA 20 includes a high precision optical bench (infrared photometer) consisting mainly of an IR light source with chopper wheel, a measuring cell, a motordriven filter wheel and a detector.

### YOUR BENEFITS AT A GLANCE

- 7" touch colour display and an app-based menu
- automatic zero point setting by means of ambient air; no need of compressed air
- Filtercal technology for reference point adjustment; without gas consumption
- high sensitivity due to optical path length
- remote access
- internal pump (external pump on request)

### PRECONDITIONS ON SITE

- ambient temperature: 5...40 °C (with air conditioner 5...45°C)
- installation place indoors and dust-free
- protection against wetness
- protection against percussions/vibrations

MEASURING RANGES *		
	Meas. range 1	Meas. range 2
CO:	0...75 mg/m <sup>3</sup>	0...300 mg/m <sup>3</sup>
CO <sub>2</sub> :	0...25 vol. %	0...50 vol. %
NO:	0...80 mg/m <sup>3</sup>	0...400 mg/m <sup>3</sup>
NO <sub>2</sub> :	0...50 mg/m <sup>3</sup>	0...500 mg/m <sup>3</sup>
N <sub>2</sub> O:	0...50 mg/m <sup>3</sup>	0...3000 mg/m <sup>3</sup>
SO <sub>2</sub> :	0...75 mg/m <sup>3</sup>	0...300 mg/m <sup>3</sup>
CH <sub>4</sub> :	0...50 mg/m <sup>3</sup>	0...500 mg/m <sup>3</sup>
O <sub>2</sub> :	0...25 vol. %	-

\* suitability test in progress



## CEMS USING MGA 20



## OPTICAL BENCH

- includes a broadband infrared (IR) emitter with chopper wheel, measuring cell with zirconium oxide probe, detector unit with pyroelectric broadband detector and filter wheel, preamplifier and evaluation electronics
- constantly temperature regulated at 60 °C
- length of measuring path with direction changes: 7,200 mm
- spectral range: 2 µm to 12 µm

## TECHNICAL DATA

Analyser:	robust housing with compact 19" format 3RU, IP40; 483 mm x 133 mm x 350 mm (w x h x d)
Measuring methods:	<ul style="list-style-type: none"> <li>• bi-frequency measuring method (NO<sub>2</sub>, SO<sub>2</sub>, CO<sub>2</sub>)</li> <li>• gas filter correlation (CO, NO, N<sub>2</sub>O, CH<sub>4</sub>)</li> <li>• zirconium dioxide sensor (O<sub>2</sub>)</li> <li>• electrochemical cell (optional for O<sub>2</sub>)</li> <li>• paramagnetic measuring method (optional for O<sub>2</sub>)</li> </ul>
Accuracy:	< 2% of the respective measuring range
Sensitivity correction:	manual, with test gas; optional: automatic
Response time:	T <sub>90</sub> < 180 s (depending on plant and chosen component)
Ambient conditions:	5...40 °C; relative humidity: max. 90% (non-condensing)
Display / Operating:	7" capacitive touch color display, with intuitive menu navigation display possibility in mg/m <sup>3</sup> , ppm and vol. %; languages (factory-set): German, English, French, Chinese
Analogue outputs:	8 active analogue outputs, 4...20 mA, potential-free, burden max. 500 Ohm
Digital inputs:	14 inputs (optocoupler; e.g. for error signal, sample probe, measuring gas pipe, gas cooling unit)
Digital outputs:	16 outputs, potential-free, 24 V DC with max. 0.4 A (max. 10 W); amongst others: <ul style="list-style-type: none"> <li>• output signals for failure, maintenance, maintenance request, limit values, measuring range change-over, Autocal</li> <li>• control of automatic probe back-purging</li> <li>• control of metering</li> <li>• control cabinet air conditioning and cabinet fan</li> </ul>
Interfaces:	<ul style="list-style-type: none"> <li>• RS232 (Modbus)</li> <li>• RJ45 (Remote access Ethernet/VNC), RJ45 (Modbus TCP/IP), RJ45 (Service Interface)</li> <li>• USB Typ A (USB Stick data exchange), USB Typ B (Service Interface)</li> </ul>
Power supply:	110...230 V AC / 50-60 Hz, 250 W
Other functions:	<ul style="list-style-type: none"> <li>• standard: temperature regulated infrared photometer; automatic zero point correction with ambient air</li> <li>• data logging function</li> <li>• visualization using the display, extensive visualization possibilities &amp; diagnostic options</li> </ul>