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CONTINUOUS EMISSIONS MONITORING

# MGA 20

## Cold gas IR analyser



### Product Information

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



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#### APPLICATION

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.

#### MEASURING RANGES\*

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

#### 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



**MGA 20**

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#### 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 Qm to 12 Qm

#### YOUR BENEFITS AT A GLANCE

|                          |                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:           | T90 < 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<br>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 and diagnostic options</li> </ul>                                                                                                  |

