Multi gas analyser

Dr. Födisch
Umweltmesstechnik AG

TÜVRheinland
CERTIFIED

- suitability tested
- EN 15267-3
- QAL1 certified
- regular surveillance
- TUV approved
- ID 0000039321
- TUV-approved CEMS for combustion plants (as system part)

MCERTS

- certified in compliance with MCERTS Performance Standards
- certificate no.: CSA MC180342/02

- certification of Republic of Kazakhstan
- certificate no.: KZ.02.01.02192-2023

Cold gas measuring system for continuous emission measurement of pollutants in flue gas and for process control

APPLICATION

In the MGA 12 four independent, selectively working measuring methods apply: infrared absorption (NDIR), electrochemical cell and paramagnetic measuring method as well as thermal conductivity sensor.

MEASURING RANGES

	Meas. range 1	Meas. range 2
CO:	0...125 mg/m³ (0...100 ppm)	0...1000 mg/m³ (0...800 ppm)
CO_2:	0...20 vol. %	-
NO:	0...300 mg/m³ (0...225 ppm)	0...1000 mg/m³ (0...750 ppm)
NO_2 [1]:	0...200 mg/m³ (0...95 ppm)	0...1000 mg/m³ (0...485 ppm)
N_2O [1]:	0...300 mg/m³ (0...155 ppm)	0...1000 mg/m³ (0...510 ppm)
SO_2:	0...200 mg/m³ (0...70 ppm)	0...1000 mg/m³ (0...350 ppm)
CH_4 [1]:	0...300 mg/m³ (0...420 ppm)	0...1000 mg/m³ (0...1400 ppm)
H_2 [1] [2]:	0...5 vol. %	0...100 vol. %
H_2S [1] [3]:	0...75 mg/m³ (0...50 ppm)	-
O_2 [3] [4]:	0...25 vol. %	-

[1] *not part of the suitability test*
[2] *measurement via thermal conductivity sensor* [1]
[3] *measurement via electrochemical cell*
[4] *measurement via paramagnetic sensor* [1]
*Other components and measuring ranges on request.*

YOUR BENEFITS AT A GLANCE

- simultaneous measurement of up to eight gas components with limit value signalling and measuring range change-over
- two separated gas paths possible
- local diagnosis of the system state
- display of bar diagram for every component
- flow control as well as display of flow rate
- reduced cross-sensitivities by internal spectral filter
- internal monitoring for condensate ingress with switch contact for pump switch-off
- control of a back-purging probe (interval and pulse time)
- control of zero point drift
- low maintenance requirement

PRECONDITIONS ON SITE

- ambient temperature: 5...30 °C (with air conditioner 5...45°C)
- installation place indoors and dust-free
- protection against wetness
- protection against percussions/vibrations

OPTICAL BENCH

(dual bench as option)
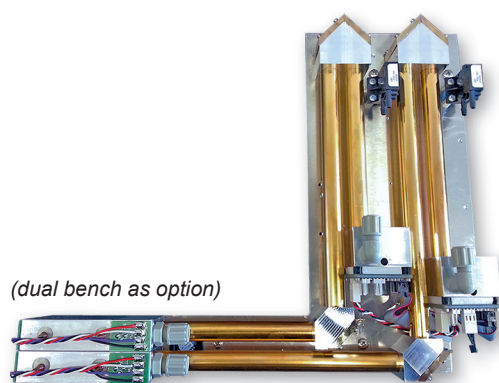
PHOTOMETER

- consisting of: emitting module, measuring cells, reflector modules, 4-channel pyrodetector with pre-amplifier electronics, detector module

- free-selectable length of the measuring path with direction changes: 50 mm to 700 mm

- spectral range: 1 µm to 9 µm

- no mechanically moved parts

- power supply: 5 V DC

- power consumption in operation: approx. 20 W (at ambient temperature of 30 °C)

TECHNICAL DATA

Analyser:	robust housing with compact 19" format 3RU, IP40; 483 mm x 133 mm x 350 mm (w x h x d), approx. 11 kg
Analyser cabinet:	800 mm x 2100 mm x 600 mm (w x h x d), approx. 170 kg
Measuring methods:	• infrared absorption (CO, CO_2, SO_2, NO, NO_2 [1], CH_4 [1], H_2O [1]) • electrochemical cell (O_2, H_2S [1]) • paramagnetic measuring method [1] (optional for O_2) • thermal conductivity sensor [1] (H_2)
Accuracy:	< 2% of the respective measuring range
Sensitivity correction:	manual, with test gas; optional: automatic
Response time:	T_{90} < 180 s (depending on plant and chosen component)
Ambient conditions:	5...30 °C (with air conditioning unit 5...45 °C); relative humidity: max. 90% (non-condensing)
Display / Operating:	graphic display (LCD), 240 x 128 Pixel, background-lighted; menu-driven operating; display possibility in mg/m³, ppm and vol. %; languages (factory-set): German, English, French, Polish; membrane keyboard
Analogue outputs:	5 active analogue outputs, 4...20 mA, potential-free, burden max. 500 Ohm
Digital inputs:	8 inputs (optocoupler; e.g. for 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: • output signals for failure, maintenance, maintenance request, limit values, measuring range change-over, Autocal • control of automatic probe back-purging • internal humidity monitor for function „Pump off" • control of metering of phosphoric acid (H_3PO_4)
Service interface RS232:	for remote software, compatible for all Windows operating systems (XP or higher version): • visualisation of all data by intuitive user surface • data storage on PC in TXT format • loading/saving of all relevant configuration data
Power supply:	110 V AC, 230 V AC / 50-60 Hz, 40 W
Other functions:	• standard: thermostatted infrared photometer; automatic zero point correction with ambient air; internal air pressure correction • optional: two separated gas paths; analyser-specific PC user software for visualisation, (remote) control and recording of data via interface RS232

[1] *not part of the suitability test*
Special models are possible on request.