Multi component analyser

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

APPLICATION

The system design consists basically of three logic units:

- Multi component analyser MCA 10 HWIR
- Visualisation PC with user software
- PLC for analyser system

MEASURING RANGES

	Certific. range	Meas. range 2	Meas. range 3
CO:	0...75 mg/m³	0...300 mg/m³	0...5000 mg/m³
CO_2:	0...25 vol. %	0...50 vol. %	-
NO:	0...80 mg/m³	0...400 mg/m³	0...3000 mg/m³
NO_2:	0...50 mg/m³	0...500 mg/m³	-
N_2O:	0...50 mg/m³	0...3000 mg/m³	-
NH_3:	0...10 mg/m³	0…50 mg/m³	0…500 mg/m³
SO_2:	0...75 mg/m³	0...300 mg/m³	0...2500 mg/m³
CH_4:	0...50 mg/m³	0...500 mg/m³	-
CH_2O:	0...20 mg/m³	0…100 mg/m³	-
HCl:	0...15 mg/m³	0...90 mg/m³	0...5000 mg/m³
HF:	-	0...20 mg/m³	-
TOC:	0...15 mg/m³	0...30 mg/m³	0...500 mg/m³
H_2O:	0...40 vol. %	-	-
O_2:	0...25 vol. %	-	-

Other components and measuring ranges on request.

YOUR BENEFITS AT A GLANCE

- modularly structured hot gas analyser system (without gas cooler), compact 19" format
- up to twelve infrared components
- field-proven components, modern photometer technology
- long operation times, high reliability (6 months maintenance interval)
- pre-calibrated → immediately deployable
- integrated control, integrated zero gas provision
- self-control (additional control of inlet temperature)
- zero point drift control
- remote diagnosis and system setting via Ethernet
- connection of external device (TOC, Hg)

PRECONDITIONS ON SITE

- ambient temperature: 5...40 °C
- installation place indoors and dust-free with protection against percussions/vibrations
- power supply and PC/laptop/tablet* with USB interface (resolution min. 1024 x 768 Pixel; Windows XP Professional upwards for installation of delivered user software)
- instrument air according to ISO 8573.1, class 2
- appropriate gas sampling

** not necessary for system application*

TECHNICAL DATA

Analyser	
Housing:	steel sheet housing, 19" format; IP40; 480 mm x 220 mm x 350 mm (w x h x d), approx. 28 kg
Measuring methods:	• bi-frequency measuring method (NO_2, SO_2, CH_2O, HF, H_2O, CO_2) • gas filter correlation (CO, NO, HCl, NH_3, N_2O, CH_4) • zirconium dioxide sensor (O_2)
Number of meas. components:	up to 12 infrared components (dependent on application) and oxygen
Accuracy:	< 2% of the respective measuring range
Sensitivity correction:	with test gas, once in 6 months (sensitivity tests as standard with a concentration of 80% of the measuring range)
Standardisation:	dry, wet
Gas conveyance:	air-jet pump
Forced air supply:	1...4 bar depending on flow rate
Display / Operating:	PC connection via USB (e.g. to the control panel in the analyser cabinet)
Interfaces:	2x RS232, USB
Power supply:	110 V bis 230 V, 50/60 Hz, 300 W
Other functions:	gas path continuously heated (standard 185 °C, higher temperatures on request), cross-sensitivity correction, air pressure correction, automatic zero point correction
Analyser cabinet	
Housing:	steel sheet cabinet; 826 mm x 2100 mm x 600 mm (w x h x d), approx. 200...300 kg (dependent on application)
Display / Operating:	integrated 15“ control panel with touch surface, 1024 x 768 Pixel
System	
Ambient conditions:	5...40 °C; relative humidity: max. 90% (non-condensing)
Compressed-air supply:	4...6 bar (dependent on application)
Compressed-air consumption:	approx. 1 m³/h (dependent on application)
Calibration:	• zero point: automatical with instrument air; • span point: with test gas, optionally automatical
Interfaces:	analogue outputs, Modbus, Profibus, further on request
Inputs:	for analogue and digital signals
Outputs:	Analogue outputs: 4...20 mA; Digital outputs: failure, maintenance, maintenance requirement, measuring range switch-over, other
Remote control:	Ethernet, analogue modem
Power supply:	230 V or 400 V / 50 Hz, 350 W (dependent on application) / 4000 W (analyser cabinet, air conditioner, probe) + 125 W/m measuring gas pipe

Special models are possible on request.

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