



# EMISSION MONITORING SYSTEMS

We *care* about the environment

## MOBILE GAS ANALYZER FOR CONTINUOUS EMISSION MONITORING



MGA5+

O<sub>2</sub>

CO<sub>2</sub>

CO

NO

SO<sub>2</sub>

NO<sub>2</sub>

T<sub>AIR</sub>

T<sub>GAS</sub>

PRESSURE

FLOW VELOCITY

# MGA5+

**Suitable for continuous emission and monitoring measurements at all industrial combustions sources (power utilities, refineries, chemical plants, laboratories, heating/drying stations etc) and for compliance testing at engines, turbines, boilers and furnaces.**

- Mobile emission monitoring
- Back-up system for CEMS
- Third-party instrumentation
- Measurement according to EN 14181, QAL 3 AST annual surveillance test

## FLUE GAS ANALYSIS

### OPTIONS:

- Differential pressure measurement +/- 100 hPa
- Flow velocity measurement including mass flow calculation
- Automatic calibration by means of integrated calibration gas cells
- Paramagnetic cell for oxygen measurement
- RS 232 / RS 485 converter for long distance data transfer
- RS 232/ USB converter for data transfer to PC/notebook
- Interface for MMC (SD) card with Multi Media Card 1 GB
- Combustion air temperature probe 300 mm
- Handheld remote control incl. 10 m transmission cable
- Data transmission cable, length 20 m
- RS232 external printer

Large backlit graphic type display



Sample gas conditioner and main control unit



Differential pressure for gas flow velocity monitoring



8 channel analog output



Exchangeable sampling tube, with integrated NiCrNi thermocouple



Multi-gas, high accuracy infrared bench



Rough, aluminium framed cabinet

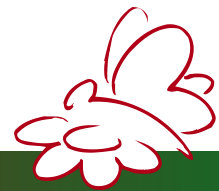


Heated, temperature regulated sampling line with PTFE tube



Heated, easy replaceable quartz glass wool filter





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## Basic equipment

- 19" rack, aluminium enclosures, mounted in rugged transport cases
- **1-st transport case** with sample gas conditioning system and main control unit (19" rack, 6U height), dimensions: 500 x 520 x 295 ( H x W x D ), weight 17 kg
- **2-nd transport case** with high accuracy multi-gas infrared analyzer (19" rack, 4U height), dimensions: 500 x 520 x 205 ( H x W x D ), weight 20 kg

## Features, configuration of analysis system

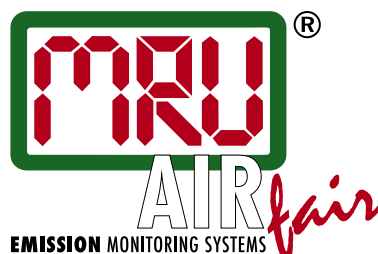
- Long life electrochemical cell (estimated 5 years) for oxygen measurement
- Integrated NO<sub>2</sub> to NO converter for true NO<sub>x</sub> measurement
- Including multi-gas, low range, high accuracy analyzer for CO-CO<sub>2</sub>-NO-SO<sub>2</sub> measurement
- Automatic internal test and control of soft- and hardware functions
- Large, high-contrast and lighted graphical display with zoom function
- All measured data at one sight
- Individual, user definable display and printout settings
- Large fuel type list including self choose fuels with user definable parameters
- Variable O<sub>2</sub> referencing for emission reports
- RS 232 interface and internal data memory for approx. 8.500 measurements
- RS 485 interface for external MRU smart sensor (transmitter) connection
- Automatic interval measurement program
- Data-visualization and evaluation software for WINDOWS XP (32-bit DataLogger)
- Integrated, double stage electrical gas cooler
- Automatic condensate draining pump
- Automatic zeroing by means of 3-way solenoid valve
- Universal analog input (4-20 mA or 0-10 V ) or NiCrNi thermocouple input
- 8 channel analog output 4-20 mA with user free signal configuration
- Universal power supply: mains 100-240 Vac / 300 W

## Standard accessories

- Combustion air temperature sensing element, short "K" type thermocouple
- Double Viton hose 3m length, to connect the sample conditioner to gas analyzer
- Communication cable 3m length, to connect the sample conditioner to gas analyzer
- Water bubbler required for zero setting at cold ambient temperatures (below +5°C)
- 100 g glass wool filter, lasting for 50 times filtering (2 g / filter)
- 3 m RS 232 interface cable
- CD-Rom with PC software for data visualisation and user manuals
- Mains power supply cable
- User manual (English)
- Soft case (nylon) for transport of probe, sampling line and accessories

SPECIFICATIONS	
<b>O<sub>2</sub> electrochemical cell</b>	
Range	0 - 25,0 Vol-%
Accuracy / Resolution	± 0,2 Vol-% abs. / 0,01 %
<b>NDIR Multi-gas bench</b>	
<b>CO</b> Range	0-200 ppm up to 0-1000 ppm
Accuracy	± 2 % FS or 5 % reading
Resolution	1 ppm
<b>CO<sub>2</sub></b> Range	0-20 %
Accuracy	± 2 % FS or 5 % reading
Resolution	0,01 %
<b>NO</b> Range	0-200 ppm up to 0-1000 ppm
Accuracy	± 2 % FS or 5 % reading
Resolution	1 ppm
<b>SO<sub>2</sub></b> Range	0-200 ppm up to 0-1000 ppm
Accuracy	± 2 % FS or 5 % reading
Resolution	1 ppm
<b>Catalytic conversion of NO into NO<sub>2</sub></b>	
Range	0 - 100 ppm
<b>Stack gas temperature T<sub>g</sub></b>	
Range	0 - 650 °C (stainless steel sampl. tube)
Range	0 - 1.100 °C (Inconel steel sampl. tube)
Range	0 - 1.750 °C (ceramic sampling tube)
Accuracy	± 2 °C ≤ 200 °C / 1 % > 200 °C
<b>Combustion air temperature T<sub>a</sub></b>	
Range / Accuracy	0 - 100 °C / ± 1 °C
<b>Differential pressure (option)</b>	
Range	± 100 hPa
Accuracy	± 0,03 hPa or 1 % reading
<b>Flow</b>	
Range	± 1 m/sec up to 100 m/sec
Accuracy	± 1 m/sec or 1 % reading
<b>General specifications</b>	
Operation temperature	+ 5 °C - + 45 °C max. 95 % humidity, not condensing
Storage temperature	- 20 °C - + 50 °C
Power supply	100 - 240 Vac / 300 W
Main fuse	10 A
Response time	20 sec. from analyzer inlet port
Warm-up time	0,5 hour minimum
Display	full grafical LCD display with backlight
Output signals	8 x analog outputs, 4-20 mA, RS 232 digital data transmission
Sample gas conditioning	integrated gas cooler with dewpoint = + 5 °C filtering particle size < 1 micron
Sample gas monitoring	flow regulation and supervision
Calibration by software, calibration gases for every gas required clean ambient air for zero settings	
Protection class	IP 21
Dimensions / weight	
SGC main unit	500 x 520 x 295 mm / 17 kg
IR analyzer	500 x 520 x 205 mm / 20 kg

Dealer's stamp:



MRU

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