



EMISSION MONITORING SYSTEMS

We *care* about the environment

PROFESSIONAL CONTINUOUS MONITORING OF PROCESS GASES



SWG 200-1

MODULAR ANALYSIS SYSTEM WITH 19" RACK TECHNOLOGY

INNOVATIVE · ECONOMICAL

- O₂
- CO
- CO₂
- NO
- C_xH_y
- CH₄
- H₂
- H₂S

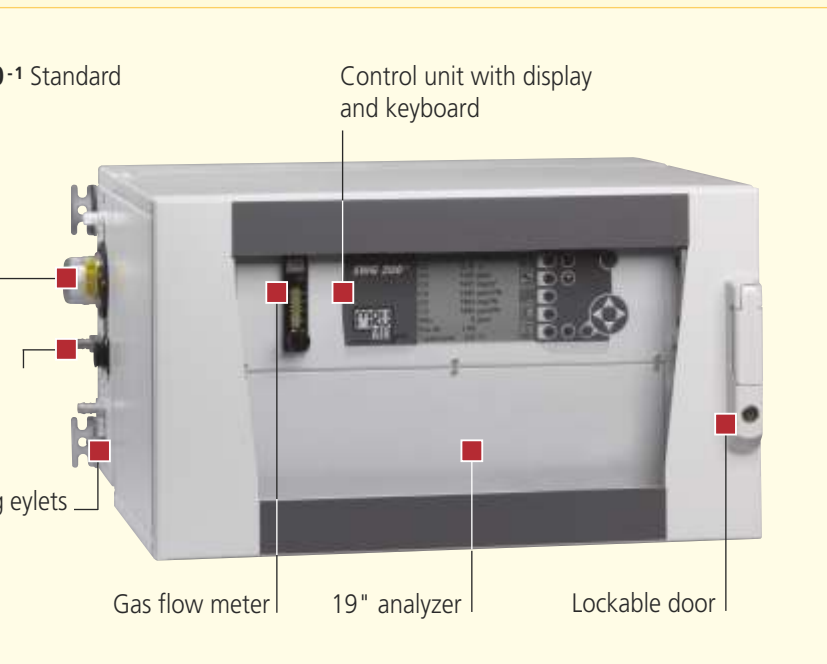
200-1

Gas analyzer

Effective analysis technology
Compact design.
Simple and efficient.



Modules and electrochemical sensors commonly operate
200-1
Component analyzer is used everywhere where efficient
analysis is required. Within small unit size, IR-active modules
and electrochemical sensors, measure continuous, selectively and
accurately in ppm and %-range.



Hardware

The 19" racks are mounted in a steel metal enclosure with mounting eyelets
for easy installation. The enclosure is equipped with lockable, transparent door,
control unit with backlit graphical LCD and keyboard.
The gas conditioning system is processor-controlled and continuously
operates an electric gas cooler with automatic condensate draining pump;
gas conditioning with sample flow monitoring and alarm; auto-zero calibration,
data communication and 8 channel analog outputs 4... 20 mA.

Analyzer... easy to service!

The 200-1 is
easy to open.
All parts are
replaceable and
easy to service.



Individual applications

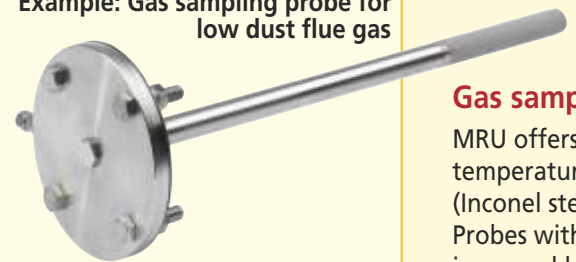
- Ex-zone2 (special model)
- Up to simultaneous 7 gas components
- Weather proof enclosure
- Complete- / partial air conditioning
- Automatic calibration with test gases
- Sample gas conditioning, also direct at the sampling point
- Easy to service and maintain
- Customized solutions on request

Measuring components

O ₂	0
CO	0
NO	0
NO ₂	0
SO ₂	0
H ₂ S	0
CO ₂	0
NO	0
CO	0
CO	0
CO ₂	0
C _x H _y	0
H ₂	0

Additional measuring components on request

Example: Gas sampling probe for low dust flue gas



Stainless steel probe up to 900 °C with flange DN 65 PN 6 with sintered metal filter 3 μ

Gas sampling

MRU offers individual gas sampling probes for high temperatures up to 900 °C (Inconel steel) and stainless steel. Probes with anodized aluminum in several lengths.

■ see separate literature



Application:

Biomass gasification

Measured flue gas components:
O₂ · CO · CO₂ · CH₄ · H₂



Application:

Oil refinery

Measured flue gas components:
O₂ · CO · CO₂ · CH₄



Application:

Combustion of solid fuels

Measured flue gas components:
O₂ · CO



Application:

Steel heat treatment

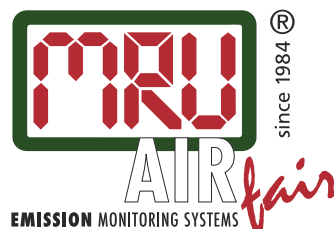
Measured flue gas components:
O₂ · CO · CO₂ · CH₄

Technical specifications

Measured components	measuring range	accuracy	measuring cell
Oxygen O ₂	0... 25 %	±0,2 Vol.-% abs.	paramagnetic
Oxygen O ₂	0... 25 %	±0,2 Vol.-% abs.	Circonium oxide
Oxygen O ₂	0... 21 %	±0,2 Vol.-% abs.	electrochemical
Carbon monoxide CO	0... 4.000 ppm (*)	±20 ppm or 5 % reading	electrochemical
Nitric monoxide NO	0... 1.000 ppm (*)	± 5 ppm or 5 % reading	electrochemical
Nitric dioxide NO ₂	0... 200 ppm (*)	± 5 ppm or 5 % reading	electrochemical
Sulfur dioxide SO ₂	0... 2.000 ppm (*)	±10 ppm or 5 % reading	electrochemical
Hydrogen sulfide H ₂ S	0... 500 ppm (*)	± 5 ppm or 5 % reading	electrochemical
	*) with high measuring range a discontinuous measurement is recommended.		
1-gas infrared bench	min. measuring range	max. measuring range	linearity error
Carbon monoxide CO	0... 100 ppm	0... 1.000 ppm	2 % of full scale
Nitric monoxide NO	0... 200 ppm	0... 1.000 ppm	2 % of full scale
3-gas infrared bench	min. measuring range	max. measuring range	linearity error
Carbon monoxide CO	0... 1.000 ppm	0... 100 %	3 % of full scale
Carbon dioxide CO ₂	0... 3 %	0... 100 %	3 % of full scale
Hydrocarbons (as Methane CH ₄)	0... 1.000 ppm	0... 100 %	3 % of full scale
THERMAL CONDUCTIVITY DETECTOR	min. measuring range	max. measuring range	linearity error
Hydrogen H ₂	0... 1 %	0... 100 %	2 % of full scale
Calculated values	mg/Nm ³ , reference to O ₂		
Repeatability	1 % of smallest measuring range		
Response time T90	approx. 30 seconds of the analyzer sample gas inlet port		
Detection limit	1% of current measuring range		
Zero drift	with AUTOZERO: neglectable		
Span drift	without AUTOCAL (option): <2% of measuring range / 2 weeks		
Temperature influence	max 2% of measuring range per 10°K		
Measured value stability	The aforementioned data are valid provided that ambient conditions (e.g. sample flow, air temperature and pressure) are constant.		
General specification			
Warm-up time	1h minimum		
Sample gas conditioning	integrated gas cooler with dew point = +5 °C		
Sample gas filtration	filtering particle size <2µ		
Sample gas monitoring	flow regulation and supervision, 30 ... 50 l/h		
Calibration	By software, calibration gases for every gas required, instrument air or clean ambient air for auto-zero		
Operating temperature	+ 5 °C ... +40 °C, max. 90 % rh, non condensing		
Storage temperature	-20 °C ... +50 °C		
Ambient conditions	not for use in aggressive, corrosive or very high dust atmosphere hazardous area use only with special equipment (on request).		
Display	full graphic LCD display with backlight		
Resolution	depends on range selection, ppm or %		
Data transfer	8 channel analog output 4 ... 20 mA, RS 485 digital (modbus RTU)		
Alarm relays	3x potential free NO contacts		
Power supply	110 ... 230 Vac / 50 ... 60 Hz / 100 ... 500 W, with heated hose control (option) add 100 W/ meter		
Internal main fuse	10 A standard (other for long heated sampling line)		
Protection class	IP 52 (P 65 / enclosures for outdoor mounting)		
Weight	approx. 20 ... 50 kg, depending on system configuration and construction		
Dimensions	(W x H x D) 345 x 600 x 575 mm = steel enclosure for indoor mounting (6 U) (W x H x D) 480 x 600 x 575 mm = steel enclosure for indoor mounting (9 U) (W x H x D) 800 x 1.000 x 600 mm = fiber glass enclosure für outdoor mounting		

Data subject to change without notice.

Dealer:



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