

# SWG

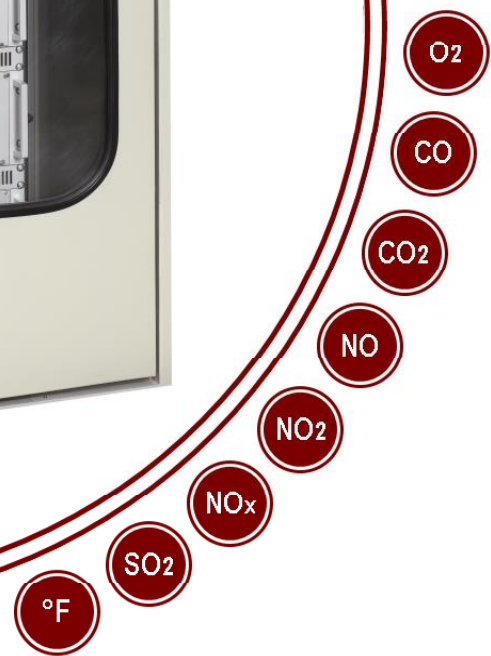
## 300-1

# CONTINUOUS EMISSIONS MONITORING SYSTEM

The Right System for Every Application



Up to 5 sites monitoring via Time Sharing



since 1984 ®

**AIR** fair

EMISSION MONITORING SYSTEMS

Over 30 years of innovative gas analysis!

- High Accuracy & Reliability
- Dry Extractive for the Toughest Applications
- Using complete gas sample conditioning system
- Available in Standard, Weather-proof, and Ex Enclosures
- Easy Service and Maintenance

# COMPLETE CEM SYSTEM EMISSIONS MONITORING

PC Data Visualization Software



The multi-component gas analyzer SWG 300-1 is based on extractive, cold-dry method and uses NDIR modules, which measure continuously, selectively and highly accurately within the ppm range.

NO<sub>2</sub> is catalytically converted into NO for true NO<sub>x</sub> measurements.

Oxygen analysis is based on zirconium oxide cell, paramagnetic cell or “long-life” electrochemical cell.

Control unit with display and keyboard



## KEY FEATURES:

- Sampling probes for high temperature or high dust installations
- Single and Dual Heated Sample Lines
- Gas Conditioning Systems with heated acid mist catch
- 19” rack Main Control Unit
- Multi-stack sampling with auto or manual sequential switching
- Internal flow rate monitoring and alarming
- Auto Zero & Auto Calibration
- 8 Analog and RS485 Modbus outputs
- PC Data Visualization Software
- Easy access, lockable enclosures
- Rack, weather-proof, or Ex Zone 2
- Compliance level performance

Gas conditioning system



Air conditioning system



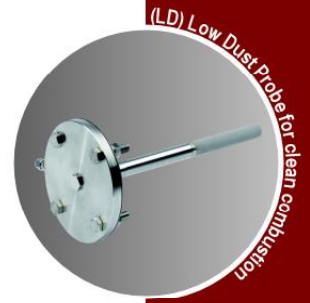
# DESIGNED FOR THE TOUGHEST APPLICATIONS

- Boilers
- Refineries & Petro-Chemical
- Power Plants
- Blast Furnace Ovens
- Steel Reheating Furnaces
- Gas Incinerators



**Easy to service!**

The SWG 300 is easy to swing-open. All important parts are easy accessible and easily serviced.



(LD) Low Dust Probe for clean combustion



(HD-GW) High Dust probe with glass wool filter



High Dust probe with ceramic filterback purge



Heated Teflon sampling line

Control unit with display and keyboard

Gas flow indicator

Ventilation filters

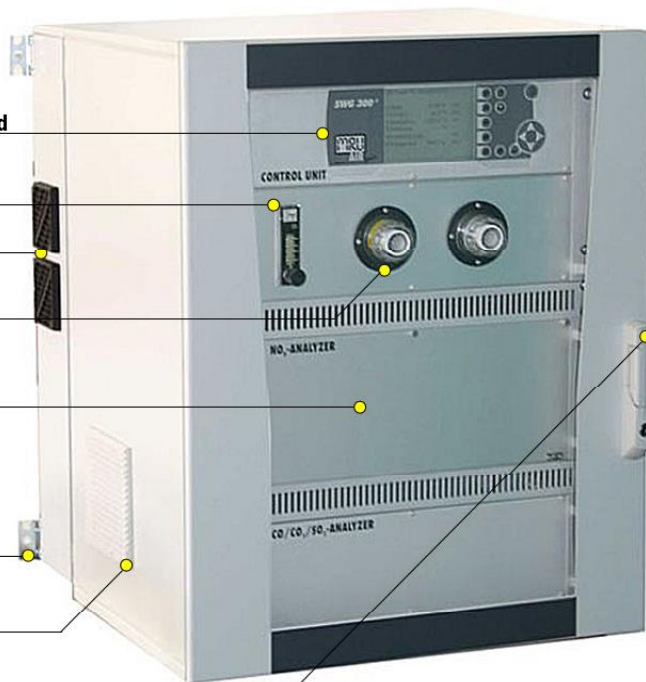
Sample gas filters

19" analyzer

Mounting eyelets

Ventilation filter

Lockable door





# SWG-300 GEMS

## TECHNICAL SPECIFICATIONS

DATA SUBJECT TO CHANGE WITHOUT NOTICE

Measurement components		Measuring range	Accuracy	Measuring cell
O2	Oxygen	0 ... 25.0 Vol-%	± 0.2 Vol-% abs.	paramagnetic
O2	Oxygen	0 ... 25.0 Vol-%	± 0.2 Vol-% abs.	zirconium
O2	Oxygen	0 ... 21.0 Vol-%	± 0.2 Vol-% abs.	electrochemical
NO2	Nitrogen dioxide	catalytic conversion in NO min. 90% conversion efficiency (option)		
<b>1-gas infrared bench</b>		<b>min. measuring range</b>	<b>max. measuring range</b>	<b>linearity error</b>
CO	Carbon monoxide	0...100ppm	0.....500ppm	2 % of full scale
NO	Nitric oxide	0...200ppm	0....2,000ppm	2 % of full scale
SO2	Sulfur dioxide	0...100ppm	0....1,000ppm	2 % of full scale
<b>2-gas infrared bench</b>		<b>min. measuring range</b>	<b>max. measuring range</b>	<b>linearity error</b>
NO	Nitric oxide	0...2,500ppm	0...5,000ppm	3 % of full scale
NO2	Nitrogen dioxide	0.....500ppm	0....1,000ppm	3 % of full scale
<b>3-gas infrared bench</b>		<b>min. measuring range</b>	<b>max. measuring range</b>	<b>linearity error</b>
CO	Carbon monoxide	0...1,000ppm	0...30,000ppm	3 % of full scale
CO2	Carbon dioxide	0 ... 3 %	0 ... 30 %	3 % of full scale
SO2	Sulfur dioxide	0...1,000ppm	0.....5,000ppm	3 % of full scale
<b>4-gas infrared bench</b>		<b>min. measuring range</b>	<b>max. measuring range</b>	<b>linearity error</b>
CO	Carbon monoxide	0...200ppm	0....1,000ppm	2 % of full scale
CO2	Carbon dioxide	0 ... 4 %	0 ... 20 %	2 % of full scale
NO	Nitric oxide	0...200ppm	0....1,000ppm	2 % of full scale
SO2	Sulfur dioxide	0...200ppm	0....1,000ppm	2 % of full scale
CH4	Methane instead of SO2	0...200ppm	0....1,000ppm	2 % of full scale
<b>Calculated values</b>		mg/Nm3, reference to O2, NOx as mg/m3NO2		
<b>Repeatability</b>		1 % of smallest measuring range		
<b>Response time T90</b>		approx. 30 seconds of the analyzer sample gas inlet port		
<b>Detection limit</b>		1% of current measuring range		
<b>Zero drift</b>		with AUTOZERO: negligible		
<b>Span drift</b>		without AUTOCAL(option): <2% of measuring range / 2 weeks		
<b>Temperature influence</b>		max 2% of measuring range per 10°K		
<b>Measured value stability</b>		The aforementioned data are valid on condition that ambient conditions (e.g. sample flow, air temperature and pressure) are constant.		
<b>General specification</b>				
<b>Warm-up time</b>		1h minimum		
<b>Sample gas conditioning</b>		integrated gas cooler with dew point = +3 °C		
<b>Sample gas filtration</b>		filtering particle size < 1µ		
<b>Sample gas monitoring</b>		flow regulation and supervision, 30 ... 50 l/h		
<b>Calibration</b>		By software, calibration gases for every gas required, instrument air or clean ambient air for auto-zero		
<b>Operating temperature</b>		41 °F ... +104 °F, max. 90 % rh, non condensing		
<b>Storage temperature</b>		-4 °F ... +120 °F		
<b>Ambient conditions</b>		no use in aggressive, corrosive or very high dust environments hazardous area use only with special equipment (on request).		
<b>Display</b>		full graphic, backlit LCD display		
<b>Resolution</b>		depends on range selection, ppm or %		
<b>Data transfer</b>		8 channel analog output 4 ... 20 mA, RS 485 digital (modbus RTU)		
<b>Alarm relays</b>		3x potential free NO contacts		
<b>Power supply</b>		110 ... 230 Vac / 50 ... 60 Hz / 500 ... 750 W, with heated hose control (option) add 100 W/3.28' (meter)		
<b>Internal main fuse</b>		10 ... 32 A 10 ... 32 A (dependent upon length of the heated gas sampling line)		
<b>Protection class</b>		IP 52 (IP 65 for outdoor mounting cabinet)		
<b>Weight</b>		approx. 88 lbs. ... 264 lbs. (40 ... 120 kg), depending on system configuration and construction		
<b>Dimensions</b>		(H x W x D) 39.83" x 23.61" x 22.63" (1012 x 600 x 575 mm) = steel enclosure for indoor mounting (H x W x D) 51.16" x 31.48" x 23.61" (1300 x 800 x 600 mm) = fiber glass enclosure for outdoor mounting		

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