

# SWG

## 300-1

# CONTINUOUS EMISSIONS MONITORING SYSTEM

The Right System for Every Application



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



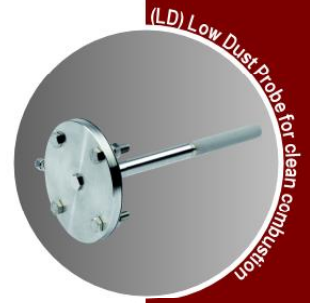
# DESIGNED FOR THE TOUGHEST APPLICATIONS

- 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 filter/back purge*



*Heated Teflon sampling line*

**Control unit with display and keyboard**

**Gas flow indicator**

**Ventilation filters**

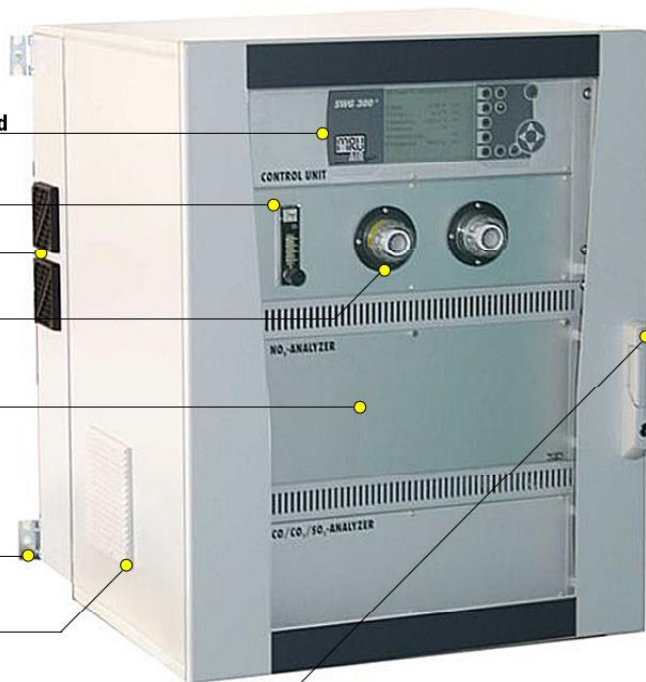
**Sample gas filters**

**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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