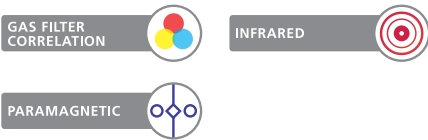




GAS	MEASURES	APPLICATION
MULTIPLE	PERCENT  TRACE PPM	EMISSIONS

### SENSING TECHNOLOGY



## AN ADVANCED DIGITAL MULTI-GAS CEMS ANALYZER

### UNRIVALLED PERFORMANCE

- Non-depleting sensors for ultra-stable, accurate and selective measurements
- Manufactured by Servomex - over 60 years' experience innovating and pioneering gas analysis and thousands of units used in the field every year

### FLEXIBLE

- Provides a complete continuous emissions monitoring solution for flue gas analysis
- Ideal for criterion pollutant and greenhouse gas monitoring:  
% level O<sub>2</sub>, CO<sub>2</sub> and CO, plus ppm level SO<sub>2</sub>, NO, CO, CH<sub>4</sub> and N<sub>2</sub>O
- Continuous multi-gas monitoring
- Digital communications for remote access: RS232/RS485 Modbus, PROFIBUS and Ethernet (Modbus TCP/IP)

### EASY TO USE

- Small and compact: designed for simplified integration into existing systems and easy fit into a cabinet
- Auto-calibration facility
- Intuitive-use icon-driven color touchscreen for easy device interaction and configuration
- USB serial port for data logging and software upgrades

### LOW COST OF OWNERSHIP

- Reduced ongoing operational needs facilitated by auto-calibration function
- Extended calibration periods from ultra-stable, industry-leading Paramagnetic, SBSW IR and GFx IR sensing technologies

### BENCHMARK COMPLIANCE

- In compliance with Low Voltage, EMC and applicable EU directives
- Certified to MCERTS (EN 15627-3) and QAL 1 (EN 14181) - O<sub>2</sub>, SO<sub>2</sub>, CO and NO

### KEY APPLICATIONS

- Utility boilers
- Chemical incinerators
- Crematoria
- Mobile labs

Learn more about the SERVOPRO 4900 Multigas  
Visit [servomex.expert/pb-4900mg](http://servomex.expert/pb-4900mg)

### A COMPLETE MONITORING SOLUTION FOR CEMS GAS ANALYSIS

For industries and processes including power generation, petrochemical, refining, waste incineration, iron and steel, pulp and paper, and cement manufacture, continuous emissions monitoring is a regulatory requirement.

The solution must be capable of offering the highest sensitivity and accuracy when dealing with multiple measurements for pollutants and greenhouse gases. No matter what your application needs, you'll want a solution that's easy to install and operate, while delivering attractive affordability. And we don't believe you should have to compromise.

### A NO COMPROMISE SOLUTION

The 4900 Multigas meets all your CEMS requirements through a specific design and feature set optimized to continuous flue gas emissions monitoring applications. This compact, small-footprint analyzer integrates effortlessly into your established systems and, when used with the correct sampling system, delivers high grade multi-gas monitoring of criterion pollutant and greenhouse gases (% O<sub>2</sub>, CO<sub>2</sub> and CO, plus ppm SO<sub>2</sub>, NO, CO, CH<sub>4</sub>, and N<sub>2</sub>O). The 4900 Multigas combines three sensitive and highly stable non-depleting technologies to deliver unsurpassed measurements you can rely on – Paramagnetic, Single Beam Single Wavelength NDIR and Gas Filter Correlation NDIR. In addition to its performance, the 4900 Multigas also comes with analog/serial outputs, with digital communications protocols Serial Modbus, PROFIBUS, and Ethernet (Modbus TCP/IP) for added flexibility in configuration and set-up. An external NOx converter can be used to analyze and speciate NOx, NO and NO<sub>2</sub>.

### SIMPLE MAINTENANCE AND REDUCED ONGOING COSTS

Added to its considerable measurement performance and stability, the 4900 Multigas delivers highly attractive cost reductions over product life. Not only is this device optimized for easy set-up and flexible integration, but an auto-calibration function permits easy, low-cost remote calibration. The 4900 Multigas allows diagnostic values to be exported for early detection of problems for preventative, or even predictive maintenance.

### USEFUL LINKS



PBIDS 4900MG Rev.1 Date: 03/21

*These analyzers are not intended for any form of use on humans and are not medical devices as described in the Medical Devices Directive 93/42/EEC.*

**Please note:** Whilst every effort has been made to ensure accuracy, no responsibility can be accepted for errors and omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards and guidelines. This document is not intended to form the basis of a contract.

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# TECHNICAL DATA SHEET

## SERVOPRO 4900 Multigas



### SPECIFICATIONS

GAS MEASURED	MULTIPLE - see below						
TECHNOLOGY	Paramagnetic for O <sub>2</sub> , Infrared (Gfx) for other gases						
PERFORMANCE							
Gas	% O <sub>2</sub>	SO <sub>2</sub> (high range)	SO <sub>2</sub> (standard sensitivity)	SO <sub>2</sub> (high sensitivity)	NO (high range)	NO (standard range)	N <sub>2</sub> O
Technology	Paramagnetic	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)
Range	0-25%	0-1,000/ 0-10,000 ppm	0-200/ 0-2,500 ppm	0-100 0-1,000 ppm	0-200/ 0-2,000 ppm	0-100/ 0-1,000 ppm	0-50/ 0-500 ppm
Linearity	<0.05% O <sub>2</sub>	1% of reading or 20ppm*	1% of reading or 5ppm*	1% of reading or 2ppm*	1% of reading or 3ppm*	1% of reading or 2ppm*	1% of reading or 0.5ppm*
Accuracy (intrinsic error)/repeatability	<±0.1% O <sub>2</sub> *	1% of reading or 20ppm*	1% of reading or 5ppm*	1% of reading or 2ppm*	1% of reading or 3ppm*	1% of reading or 2ppm*	1% of reading or 0.5ppm*
Lower detection limit (LDL) <sup>†</sup>	0.02% O <sub>2</sub>	0.41% of reading or 8.20ppm*	0.41% of reading or 2.10ppm*	0.41% of reading or 0.82ppm*	0.41% of reading or 1.2ppm*	0.41% of reading or 0.82ppm*	0.41% of reading or 0.21ppm*
Output fluctuation (peak to peak)	±0.05% O <sub>2</sub>	1% of reading or 20ppm*	1% of reading or 5ppm*	1% of reading or 2ppm*	1% of reading or 3ppm*	1% of reading or 2ppm*	1% of reading or 0.5ppm*
Zero drift/week	0.1% O <sub>2</sub>	40ppm	10ppm	4ppm	5ppm	2ppm	1ppm
Span drift/week	0.05% O <sub>2</sub>	2% of reading or 40ppm*	2% of reading or 10ppm*	2% of reading or 4ppm*	2% of reading or 5ppm*	2% of reading or 2ppm*	2% of reading or 1ppm*
T <sub>90</sub> in secs @1500ml/min	<15	<30	<30	<30	<30	<30	<30
Interference effects	n/a	20% CO <sub>2</sub> ~ +5ppm 0.5% H <sub>2</sub> O ~ -15ppm		20% CO <sub>2</sub> ~ +5ppm 0.5% H <sub>2</sub> O ~ -15ppm	20% CO <sub>2</sub> ~ +2ppm 0.5% H <sub>2</sub> O ~ +2ppm		20% CO <sub>2</sub> ~ +3.0ppm 100 ppm CO ~ -2.4ppm 2% H <sub>2</sub> O ~ -0.3ppm
Gas	CH <sub>4</sub> (high range)	CH <sub>4</sub> (standard range)	CO (high range)	CO (standard sensitivity)	CO (mid sensitivity)	CO (high sensitivity)	%CO <sub>2</sub> and %CO
Technology	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (Gfx)	Infrared (SBSW)
Range	0-100/ 0-1,000 ppm	0-50/ 0-500 ppm	0-500/ 0-5,000 ppm	0-200/ 0-3,000 ppm	0-100/ 0-1,000 ppm	0-50/ 0-500 ppm	Various
Accuracy (intrinsic error)/linearity/repeatability	1% of reading or 1ppm*	1% of reading or 0.5ppm*	1% of reading or 5ppm*	1% of reading or 2ppm*	1% of reading or 1ppm*	1% of reading or 0.5ppm*	<1% FS
Lower detection limit (LDL) <sup>†</sup>	0.41% of reading or 0.41ppm*	0.41% of reading or 0.21ppm*	0.41% of reading or 2.1ppm*	0.41% of reading or 0.82ppm*	0.41% of reading or 0.41ppm*	0.41% of reading or 0.21ppm*	0.21% of range or 0.41% of reading*
Output fluctuation (peak to peak)	1% of reading or 1ppm*	1% of reading or 0.5ppm*	1% of reading or 5ppm*	1% of reading or 2ppm*	1% of reading or 1ppm*	1% of reading or 0.5ppm*	0.5% of range or 1% of reading*
Zero drift/week	2ppm	1ppm	10ppm	4ppm	2ppm	1ppm	<2% FS
Span drift/week	2% of reading or 2ppm*	2% of reading or 1ppm*	2% of reading or 10ppm*	2% of reading or 4ppm*	2% of reading or 2ppm*	2% of reading or 1ppm*	1% FS per day
T <sub>90</sub> in secs @1500ml/min	<30	<30	<30	<30	<30	<30	<30
Interference effects	10% CO <sub>2</sub> ~ +1.2ppm 10ppm CO ~ +0.5ppm 2% H <sub>2</sub> O ~ +2.6ppm		20% CO <sub>2</sub> ~ +1ppm 2% H <sub>2</sub> O ~ +0.5ppm			20% CO <sub>2</sub> ~ 1ppm 2% H <sub>2</sub> O ~ +0.5ppm	n/a

\*Whichever is the greater.

<sup>†</sup>Stated at a confidence interval of 95%

The performance specification has been written and verified in accordance with the international standard IEC 61207-1:1994 "Expression of performance of gas analyzers"



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SIGNAL OUTPUTS/INPUTS	
Analog output	Per measurement: 1 x 4-20mA (standard), 1 x 0-10V (optional)
Analog input	Up to 4 x 4-20mA inputs
Digital input	Up to 8 digital inputs
Relays	4 relays as standard, up to 32 relays, 30V (dc or ac) / 1A
Alarms	2 alarms as standard, up to 32 alarms
Digital communications	RS232/RS485 Modbus, PROFIBUS, Ethernet (Modbus TCP/IP)
PHYSICAL	
Size	132.5mm (5.2") high x 481.6mm (19") wide x 544.2mm (21.4") deep With expansion chassis, height is 265.5mm (10.5")
Weight	Main unit: approx 14kg (30.9lb) Expansion chassis: approx 13.7kg (30.2lb) (dependent on number and type of sensors used)
SAMPLE GAS	
Condition	Oil free, non-condensing
Particulates	<1mm
Vent	Each gas outlet should be connected to a separate atmospheric vent, free from any back pressure
Sample flow	500-1,500 ml/min
Connection	Sample inlet is 1/8" NPT female Sample outlet is 1/4" NPT female
OPERATING ENVIRONMENT	
Operating temperature	+5°C to +45°C (+41°F to +113°F)
Storage temperature	0°C to +50°C (+32°F to +122°F)
Relative humidity	10-90% RH, non-condensing
Altitude	-500m (below sea level) to 2,000m (above sea level)
Warm-up time	Warm up time is typically 24 hours from cold start at 20°C (68°F), may be longer for the higher sensitivity measurements
UTILITIES	
Power	100-240V ac, 50-60 Hz (±10% maximum fluctuation)
Max power consumption	500VA



## SAMPLE WETTED MATERIALS

	PARAMAGNETIC % O <sub>2</sub> TRANSDUCER	1210 SERIES GFX NDIR TRANSDUCER	1520 SERIES SBSW NDIR TRANSDUCER
303 stainless steel	•	•	•
316 stainless steel	•	•	•
Viton®	•	•	•
Borosilicate glass	•		
Platinum	•		
Platinum/iridium alloy	•		
Electroless nickel	•		
Gold		•	
Calcium fluoride		•	
Nickel		•	
Sapphire			•
Epoxy resin			•

## ADDITIONAL MATERIALS

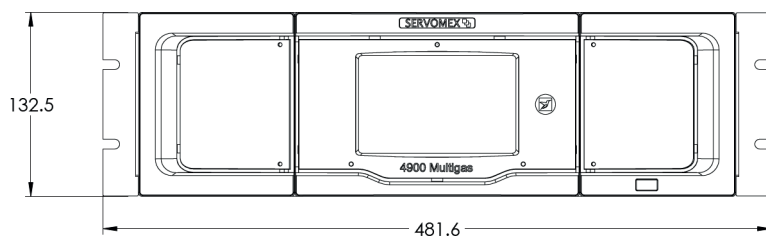
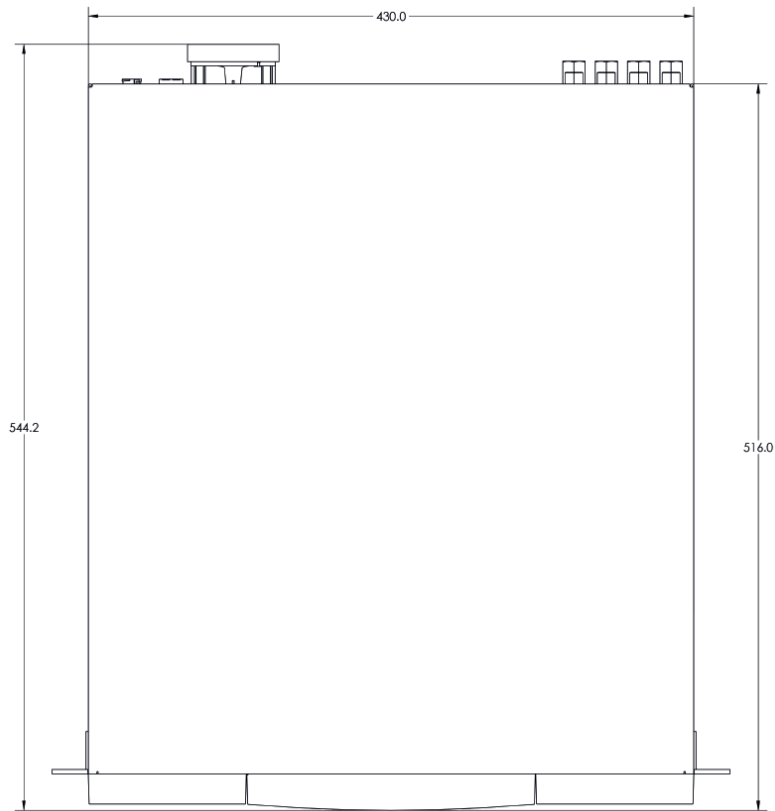
FEATURE	ADDITIONAL MATERIALS
Stream systems	Polysulphone Polypropylene Nylon (not in sample systems with a GFX)
Flowmeters	Borosilicate glass Duralumin
Needle valves	Brass Fomblin grease (suitable for oxygen service)
Flow alarm	Glass Nylon Silicon rubber Aluminum
Internal filter	Polycarbonate Glass fibre

## COMPLIANCE

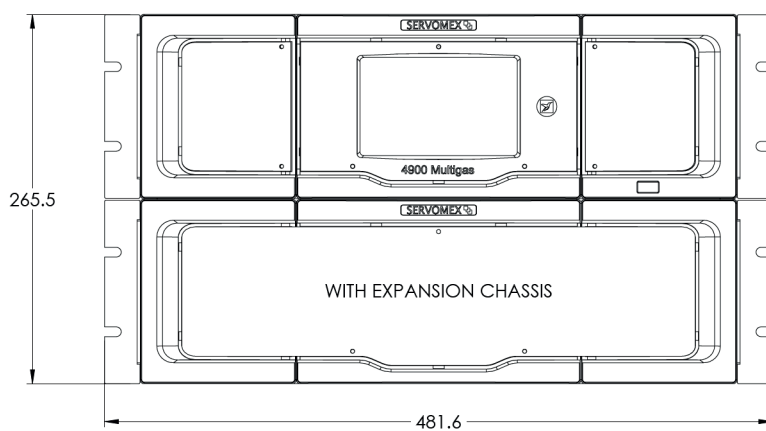
EC DIRECTIVES	This product complies with the EMC Directive, the Low Voltage Directive, and all other applicable directives.
ELECTRICAL SAFETY	Electrical safety to IEC 61010-1 Rated for "Overvoltage Category II" and "Pollution Degree 2"



## DIMENSIONAL DRAWINGS



Standard chassis with mounting ears



Extended chassis with mounting ears

Dimensions shown in millimetres



# > WE'RE READY TO HELP

WHATEVER YOUR GAS ANALYSIS REQUIREMENTS, WHEREVER YOU ARE

PBTD54900MG Rev. 1 Date: 03/21

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