

# SERVOFLEX MiniHD (5200)

## RUGGED PORTABLE GAS ANALYZER

For analysing the composition of common gas mixtures in field and light industrial applications

(Not for use in areas at risk from explosive atmospheres)

- Non-depleting paramagnetic or infrared measurement technology ensures the unit is always ready for use
- Fast, accurate, reliable and component specific, with confidence that observed values are credible and not due to background interference
- Robust, IP65 case with protective overmoulding
- Customer pre-tested software and long life Li-ion rechargeable batteries for maximum ease of use
- Two versions available: Internally pumped or "AFCD" version for pressurized samples



## SPECIFICATION

**GASES MEASURED:** Oxygen (O<sub>2</sub>), Carbon Dioxide (CO<sub>2</sub>) or Carbon Monoxide (CO)

SENSORS	OXYGEN		CARBON DIOXIDE, CARBON MONOXIDE	
	Paramagnetic		Infrared	
Technology:	Industrial	High accuracy	CO <sub>2</sub> : 0-10%,	0-25%, 50%, 100%
Variant:	Industrial	High accuracy	CO: 0-5%	
Full Scale Range (FSR):	0-100% O <sub>2</sub>	0-100% O <sub>2</sub>	2	1
Decimal places:	1	2		
<b>PERFORMANCE</b>				
Accuracy (intrinsic error):	±0.1% O <sub>2</sub>	±0.05% O <sub>2</sub>	±2% Full Scale Range (FSR)	
Response time (T <sub>90</sub> ) <sup>1</sup> :	<15 seconds	<15 seconds	<15 seconds	
Zero drift, per week:	±0.4% O <sub>2</sub>	±0.2% O <sub>2</sub>	±4% FSR	
Tilt effect, at 15° from cal:	±0.15% O <sub>2</sub>	±0.15% O <sub>2</sub>	±1% FSR	
Pressure effect:	Directly proportional to ambient barometric pressure		<0.2% reading / mBar change	
Flow variation effect:	±0.1% O <sub>2</sub> change <sup>1</sup>		±0.5% FSR change <sup>2</sup>	
Operating temperature:	+14°F to 122°F (-10°C to + 50°C)		+14°F to 122°F (-10°C to + 50°C)	
Temp. coefficient, zero :	±0.2% O <sub>2</sub> per 18°F (10°C) change		±1% FSR per 18°F (10°C) change <sup>3</sup>	
Temp. coefficient, span :	±0.3% O <sub>2</sub> per 18°F (10°C) change		±5% FSR per 18°F (10°C) change <sup>3</sup> (exc.100% CO <sub>2</sub> )	
			±8.5% FSR per 18°F (10°C) change <sup>3</sup> , 100% CO <sub>2</sub> only	

### PHYSICAL

**Dimensions:** W 6.3"(160mm) x D 5.5"(140mm) x H 7.3"(185mm) without protective case  
W 6.9"(175mm) x D 6.3"(160mm) x H 7.7"(195mm) with protective canvas case

**Weight:** 4.0 to 5.1lbs (1.8 kg to 2.3kg)

**Ingress protection:** IP65 (Protected against dust and low pressure water jets from all directions)

**Outer construction:** Anti-static, stainless steel loaded polypropylene with carbon filled rubber overmoulding.

**Display:** White backlit LCD

**Alarms:** Fault and 2 user configurable concentration alarms indicated by an LED, icon display and audible sounder

**Batteries:** Internal Li-ion battery pack recharged with a 100-240V / 43-70Hz charger (supplied).

Typical battery life 10 hours at 68°F (20°C).

NOTE: The unit is not designed to run from mains power.

**Notepad:** Up to 200 measurement points can be stored in the analyzer memory for later viewing

### Notes:

<sup>1</sup> Response time - With internal pump or AFCD version at 10psig (70kPa)

<sup>2</sup> Across the specified inlet pressure range

<sup>3</sup> From +41°F to +113°F (+5°C to +45°C)

The effect of temperature changes occurring between +14°F and +41°F (-10°C and +5°C) may be greater.

## SERVOFLEX MiniHD (5200)

The SERVOFLEX MinHD (5200) is a rugged, heavy duty portable gas analyzer specifically designed to meet the demanding needs of customers looking to analyze accurately gas mixtures in field locations. This compact, reliable and easy to use instrument is based upon non-depleting, component specific measurement techniques (magnetodynamic paramagnetic and infrared) for long life and minimal running costs, avoiding the problems associated with electrochemical or other less robust methods of analysis.

The 5200 HD can be used as a replacement for the well established Servomex 244, 404, 571, 572 and 575 analyzers. Where there is no risk of an explosive atmosphere it may also be used to replace the Model 570.

### APPROVALS:

AFCD version ORSAT validated to meet USFDA performance requirements for verifying medical oxygen USP and nitrogen NF. CE marked and in compliance with the EEC EMC and WEEE Directives. UL approved and CE marked 100-240V / 43-70Hz AC power supply.

### APPLICATION EXAMPLES:

Physiology studies      Research      Combustion optimization      Transformer entry      Medical gas verification

### SAMPLE

**Sample gas:** Clean, dry, non-flammable and non-toxic gases only.  
Note: Though samples containing >5% CO<sub>2</sub> or >200ppm CO are toxic they can be analyzed if suitable precautions are taken.

**Sampling:** Internal pump samples at 0.7 litres (0.03 cubic feet) per minute (nominal).  
User configurable timer

**Flow control:** To maximize measurement stability, unpumped units are supplied with an automatic flow control device (AFCD) Over the specified inlet pressure range this controls sample flow rate to approximately 1.5 to 6 litres (0.05 to 0.2 cubic feet) per minute

**Inlet pressure:** Without internal pump 7kPa (1psig) to 70kPa (10psig)  
With optional internal pump -3.5kPa (-0.5psig) to 3.5kPa (0.5psig)

**Sample inlet connection:** 5mm OD stub with "QuickConnect" barb fitting for 1/4" (6.3mm) ID tube or adaptor to 1/8" NPT fitting (option)

**Sample outlet connection:** 5mm OD stub (sample and bypass)

**Sample filter:** Replaceable 0.6µm glass fiber particulate filter

### OPTIONS AND ACCESSORIES

- Additional barb fittings      Additional QuickConnect barb fittings.
- 1/8" NPT adaptor      QuickConnect fitting to allow connection to hard pipes
- Carry case      Protective canvas case for additional protection
- Sample conditioning kit      To handle wet or dirty samples
- Sampling probes      Stainless steel probes with holder and connecting tube  
□ 9.8" (25 cm) and □ 39" (100 cm)
- Transport case      Tough plastic shipping case with pre-cut foam insert to hold analyzer and accessories (excluding 39" probe).
- 2 years spares      Recommended spares for two years operation, comprising replacement filters (5) and filter cap 'O'-ring



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