MEC
MEDICAL LIMITED

SERVOFLEX MiniHD (5200)

Rugged Portable Gas Analyser

SPECIFICATION SHEET

Applications

For analysing the composition of common gas mixtures in field and light industrial applications including physiology studies, research, combustion optimisation, transformer entry, medical gas verification.

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

Features

- Compact, reliable and easy to use with long life and minimal running costs.
- 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 pressurised samples.
- Avoids the problems associated with electrochemical or other less robust methods of analysis.

Specification

Gases measured:	**Oxygen (O2), Carbon Dioxide (CO2) or Carbon Monoxide (CO)**			
SENSORS:	**OXYGEN**		**CARBON DIOXIDE**	**CARBON MONOXIDE**
Technology:	Paramagnetic		Infrared	Infrared
Variant:	Industrial	High accuracy		
Full Scale Range (FSR):	0-100% O2	0-100% O2	CO2: 0-10%, CO: 0-5%	0-25%, 50%, 100%
Decimal places:	1	2	2	1
PERFORMANCE				
Accuracy (intrinsic error):	±0.1% O2	±0.05% O2	±2% Full Scale Range (FSR)	
Response time (T_{90})[1] :	<15 seconds	<15 seconds	<15 seconds	
Zero drift, per week:	±0.4% O2	±0.2% O2	±4% FSR	
Tilt effect, at 15° from cal:	±0.15% O2	±0.15% O2	±1% FSR	
Pressure effect:	Directly proportional to ambient barometric pressure		<0.2% reading / mBar change	
Flow variation effect:	±0.1% O2 change[1]		±0.5% FSR change[2]	
Operating temperature:	1 -10°C to + 50°C (+14°F to 122°F)		-10°C to + 50°C (+14°F to 122°F)	
Temp. coefficient, zero :	±0.2% O2 per 10°C (18°F) change		±1% FSR per 10°C (18°F) change[3]	
Temp. coefficient, span :	±0.3% O2 per 10°C (18°F) change		±5% FSR per 10°C (18°F) change[3] (exc.100% CO2) ±8.5% FSR per 10°C (18°F) change[3], 100% CO2 only	

Notes:

[1]Response time – With internal pump or AFCD version at 10psig (70kPa).

[2]Across the specified inlet pressure range From +5°C to +45°C (+41°F to +113°F).

[3]The effect of temperature changes occuring between -10°C and +5°C may be greater.

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MEC House, Ivinghoe Business Centre, Blackburn Road,
Houghton Regis, Bedfordshire. LU5 5BQ. United Kingdom
T: +44 (0) 1582 661885 F: +44 (0) 1582 602527
sales@mecmedical.com www.mecmedical.com

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CONTINUED

Specification

PHYSICAL

Dimensions:	W 160mm (6.3") x D 140mm (5.5") x H 185mm (7.3") without protective case.
	W 175mm (6.9") x D 160mm (6.3") x H 195mm (7.7") with protective canvas case.
Weight:	1.8kg to 2.3kg (4.0 to 5.1lbs).
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 20°C (68°F). **NOTE:** The unit is not designed to run from mains power.
Notepad	Up to 200 measurement points can be stored in the analyser memory for later viewing.
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 marked100-240V / 43-70Hz AC power supply.

SAMPLE

Sample gas:	Clean, dry, non-flammable and non-toxic gases only. **Note:** Though samples containing >5% CO2 or >200ppm CO are toxic they can be analysed 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 maximise 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 6.3mm (1/4") ID tube or adaptor to 1/8" NPT fitting (option).
Sample outlet connection:	5mm OD stub (sample and bypass).
Sample filter:	Replaceable 0.6µm glassfibre 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 – Stainless steel probes with holder and connecting tube 25 cm (9.8") and 100cm (39").
Transport case:	Tough plastic shipping case with pre-cut foam insert to hold analyser and accessories (excluding 100cm probe).
2 year spares:	Recommended spares for two years operation, comprising replacement filters (5) and filter cap 'O'-ring.

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

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