SERVOFLEX

MiniMP 5200

Product overview

Portables

Gas	Measures	Application
Oxygen Carbon Dioxide	Percent	Process control Quality Emissions

SENSING TECHNOLOGY

Paramagnetic

Infrared

Key applications

- Laboratories and research
- Air separation and gas bottling plants
- Catalyst regeneration
- Solvent recovery

Benchtop analyzer offering single or dual measurements of O_2 and CO_2

Unrivalled performance

- Patented Paramagnetic and Infrared technologies for high sensitivity monitoring and reliability
- Precision single or dual measurement operation
- Ergonomic, space saving footprint
- Manufactured by Servomex - over 70 years' experience innovating and pioneering gas analysis with thousands of units used in the field every year

Flexible

- Accurate measurement of O_2 and CO_2 levels
- A range of sampling and power options
- Ideal for laboratory, healthcare, fermentation, combustion analysis, CEMS testing, light industrial use and medical gas transfill

Easy to use

- Only device in its class that offers true portability
- Quick start up and use
- Small footprint that integrates easily into any location
- Mains or battery power option

Low cost of ownership

- Non-depleting technologies maximize availability and reduce maintenance/running costs
- Paramagnetic O_2 and Infrared CO_2 sensing technologies require minimal ongoing calibration

Benchmark compliance

- Meets USFDA requirements for verification of medical O_2 USP and N_2 NF
- European Pharmacopeia compliant (O_2)
- MCERTS approved for stack emissions monitoring equipment at industrial installations, continuous emissions monitoring systems (CEMS) to EN15267, & QAL 1 as defined in EN14181. For O_2 only

For more information visit **servomex.com/contact**

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Portables

Reliability you can depend on

When you work in light industrial or laboratory applications, you need equipment you can depend on and help you get the job done as efficiently as possible.

In certain applications you'll need equipment that's certified to the highest level. No matter what your application monitoring requirement, you'll want a device that offers long battery runtime, low operational costs, simplified ongoing maintenance and ease of use. And we don't believe you should have to compromize.

A no compromise solution

The MiniMP combines ease of use and simple device care with high powered CO_2 and O_2 monitoring capabilities, providing the ideal solution for a wide range of applications.

With the full capability to meet the demands of sensitive, accurate testing, in an easy-to-use interface that includes a single or dual sample format, the MiniMP has long-life operation powered by a durable battery system.

Life-proof durability

The MiniMP is the only device to offer true battery-powered portability. This, combined with gas-specific accuracy, ensures the MiniMP is ready for a range of monitoring needs from the verification of medical oxygen to CEMS testing.

It's always ready to work when you are. When you want sensitive, accurate detection, low maintenance requirements and the flexibility to do the job the way you want it done, the MiniMP provides a small, easy to use and cost-effective solution that delivers on all levels.

Useful links:

SERVOMEX SERVICE NETWORK

servomex.com/**service**

SERVOMEX SYSTEMS

servomex.com/**systems**

SERVOMEX EXPERT

servomex.com/**expert-guidance**

PBTDSMiniMP5200 Rev. 3 Date: 10/24

Technical data sheet

SERVOFLEX MiniMP 5200

Specifications

Gas measured	Oxygen (O_2)		Carbon Dioxide (CO_2)
Technology	Paramagnetic		Infrared**
Variant	Industrial (1dp)	High accuracy (2dp)	All variants (1dp)
Full scale range (FSR)	0-100% O_2	0-100% O_2	10%, 25%, 50%, 100%
Mnimum output range	0-1% O_2	0-1% O_2	0-10% FSR
Cell construction	316 stainless steel	316 stainless steel	316 stainless steel
Decimal places	1	2	Ranges ≤10%:2 >10%:1

** Allow 1 hour warm up to meet performance specification

Performance			
Accuracy	±0.1% O_2	±0.05% O_2	±2% FSR
Zero drift per week	±0.2% O_2	±0.2% O_2	±4% FSR
Response time (T_{90})•	<15 seconds	<15 seconds	<10 seconds
Tilt effect	±0.15% O_2 (15° from cal)	±0.15% O_2 (15° from cal)	±1% FSR (15° tilt)
Power cycle offset	N/A	N/A	N/A
Pressure effect	Directly proportional to ambient barometric pressure		<0.2% reading / mBar change in ambient pressure
Flow variation effect§	±1% O_2 for a ±0-5psig (3.5kPa) change		±0.5% FSR for a 10psig (70kPa) change
Temperature coefficient zero	±0.2% O_2 per 10°C (18°F)		±1% FSR per 10°C (18°F)
Temperature coefficient span	±0.3% O_2 per 10°C (18°F)		±5% FSR per 10°C (18°F) (excl. 100% CO_2)
			±8.5% FSR per 10°C (18°F) 100% CO_2 only

Operating environment			
Operating ambient pressure range	1.013 x 102 kPa ±10% (1.013 bar ±10%) (14.69 psi ±10%)		
Operating ambient humidity range	0-95% RH, non-condensing		
Operating altitude range	-500† to 5000m‡ (-1640† to 16,404‡ ft)		
Ingress protection	IP40		
Ambient temperature range	Operation	Battery charging	Storage*
Analyzer	-10 to +50°C (+14°F to +122°F)	+10 to +40°C (+50°F to +104°F)	-20 to +60°C (-4°F to +140°F)
Power supply unit	0 to +50°C (+32°F to +122°F)		

• Response time - all at 10psig (70kPa)
§ Flow effect - AFCD version, within specified sample gas supply range
† Below sea level
‡ Above sea level
* Storage below 21°C (70°F) is recommended to ensure optimum battery life

We recommend a calibration of the analyzer after each power up

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

Sample conditions	
Sample gas	Clean, dry, non-flammable and non-toxic gases only Note: Though samples containing >5% CO_2 or >200ppm CO are toxic they can be analysed if suitable precautions are taken
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
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)
Inlet pressure	Without pump 7kPa (1psig) to 70kPa (10psig) With optional internal pump -7kPa (-1psig) to 3.5kPa (0.5psig)
Sample filter	Replaceable 0.6µm glass fibre particulate filter
Physical	
Weight	1.8kgs (4.0lbs) to 2.3kgs (5.1lbs)
Dimensions, WxDxH	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

Sample wetted materials

	Common gas path in the multi purpose	Industrial or high accuracy oxygen sensor	IR (infrared) sensor
302 stainless steel*	•		
316 stainless steel		•	•
Borosilicate glass	•	•	
Carbon T94#	•		
Carbon P-7454#	•		
Epoxy adhesive (EPO-TEK H72)			•
Electroless nickel		•	
Gold			•
Krytox® GPL205 grease			
Kynar® (PVDF: polyvinylidene fluoride)	•		
Nickel	•		•
PPS (polyphenylene sulphide) with carbon fibre filler	•		
PPS (polyphenylene sulphide)†	•		
PPS (polyphenylene sulphide) with PTFE (polytetrafluoroethylene)/glass filler			
Platinum		•	
Platinum/iridium alloy		•	
Polysulphone	•		
Polypropylene			
POM (polyoxymethylene)	•		
Sapphire			•
Viton®	•	•	•

* Standard Multi Purpose without internal sample pump only
† Standard Multi Purpose with internal sample pump only
# Multi Purpose HF only

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"

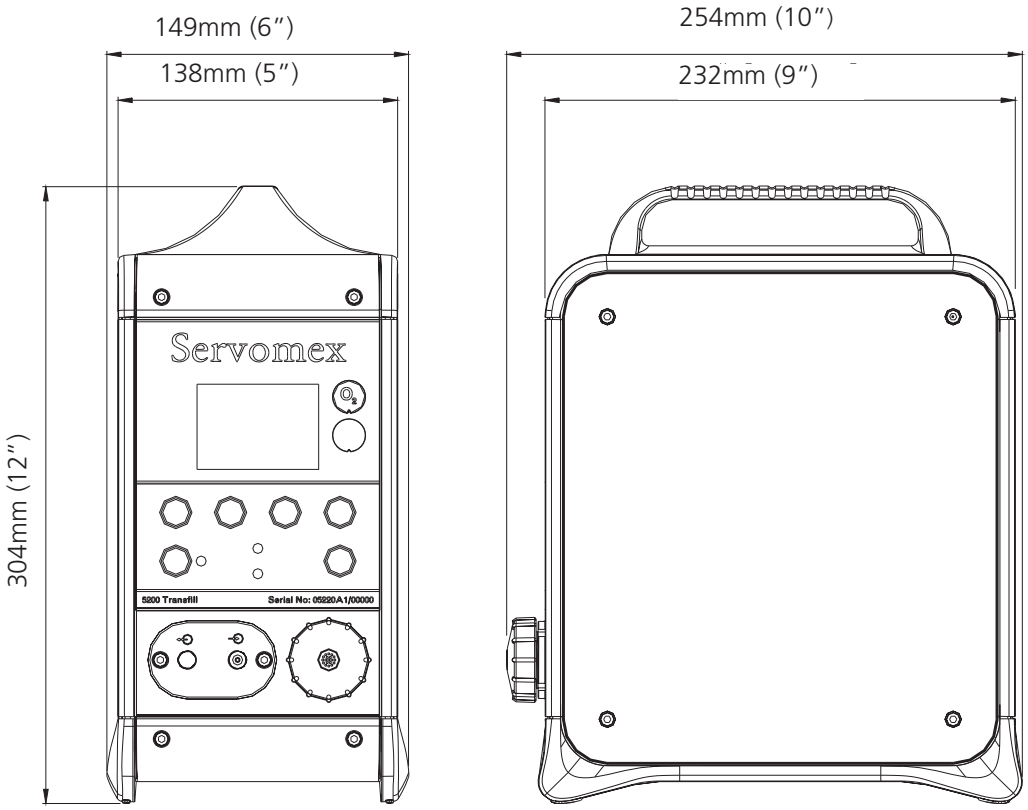
Options

Configuration				
5200 MiniMP variants	There are two standard configurations (SV01 - industrial O_2 and SV02 - high accuracy O_2). These cover a basic set up to enable a quick turnaround from specification to delivery.			
Standard variant (SV01)	This is a pre-configured standard variant base level configuration, including an industrial O_2 paramagnetic cell, AFCD, single mA output and a rear exhaust output. Other accessories can be added as needed.			
Standard Variant (SV02)	This is a pre-configured standard variant base level configuration, including a high accuracy O_2 paramagnetic cell, AFCD, single mA output and a rear exhaust output. Other accessories can be added as needed.			
User Configured	This variant can be configured to the users specific configuration and can have two measurements 1) Industrial or high accuracy O_2 2) 10%, 25%, 50%, 100% CO_2 Other accessories can be added as needed.			
MiniMP variants		**SV01**	**SV02**	**UC**
Supply power Lithium ion batteries providing 8-36 hours use, depending on sensor selections	UK Mains US Mains European Mains Rechargeable battery UK Rechargeable battery US Rechargeable battery European	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐
Measurement 1	Industrial PM cell High Accuracy PM cell Infrared CO_2	☑ ■ ■	■ ☑ ■	☐ ☐ ☐
Measurement 2	Industrial PM cell High Accuracy PM cell Infrared CO_2	■ ■ ■	■ ■ ■	☐ ☐ ☐
mA output (RS 232 output included as standard)	None Single Dual	■ ☑ ■	■ ☑ ■	☐ ☐ ☐
Inlet coupler	5mm OD stub with “QuickConnect” barb fitting for 6.3mm (1/4”) ID tube 1/8" NPT fitting adaptor	☐ ☐	☐ ☐	☐ ☐
Sampling system	AFCD 0.7l (0.02 cu.ft)/min internal pump with user configurable timer	☑ ■	☑ ■	☐ ☐
Exhaust/vent outlet	Front (pump version only) Rear	■ ☑	■ ☑	☐ ☐
User manual	English French German Italian	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Printer	Supplied	☐	☐	☐
12/24V vehicle power adaptor	Supplied	☐	☐	☐
Side panel accessories	Unvalved flowmeter 1-10 l min-1 (0.035-0.35 ft3 min-1) (AFCD only) Valved flowmeter 1-10 l min-1 (0.035-0.35 ft3 min-1) (pump version only) Sample conditioning panel, Silica gel drier and catchpot fitted to side of analyzer (pump version only)	☐ ■ ■	☐ ■ ■	☐ ☐ ☐
Probe holder	Supplied	☐	☐	☐
Probe	25cm, 316 stainless steel, tip, <180°C 1m 316 stainless steel	☐ ☐	☐ ☐	☐ ☐
Transport case		☐	☐	☐
2 years spares	Recommended spares for two years operation, comprising replacement filters (5) and filter cap ‘O’ ring	☐	☐	☐

Tick a single box for each selectable option

☐ Option selectable
■ Option not available in that variant
☑ Pre-selected option

Dimensional drawings



Dimensions shown in millimetres
(dimensions in brackets are in inches)

We're ready to help

Whatever your gas analysis requirements, wherever you are.

These analyzers are not intended for any form of use on humans and are not medical devices as described in the Medical Devices legislation or regulation.

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.

Servomex has a policy of constant product improvement and reserves the right to change specifications without notice.

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Analysis that **empowers**

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a **spectris** company