

1900 Hazardous Area Oxygen Analyser

The Servomex 1900 analyser is a stable, accurate and highly specific oxygen analyser for hazardous area use.



- Designed for hazardous area oxygen analysis
- Low maintenance and re-calibration requirements
- Special version for solvent bearing samples
- Range of alarm outputs to aid integration with other systems
- Calibration possible without need for 'Hot Work Permit'

Specification	
Gases Measured:	O ₂
PERFORMANCE	
Technology:	Paramagnetic transducer
Range:	0-25% O ₂
Intrinsic Error (accuracy):	<0.05% O ₂
Linearity:	<0.05% O ₂ ¹
Repeatability:	<0.05% O ₂
Response time (T90)	4 to 7 seconds ²
Zero drift/week:	<0.05% O ₂
Span drift/week:	<0.05% O ₂
SIGNAL OUTPUTS	
Analogue:	One 4-20 mA, isolated & one 0-1v dc, non-isolated. Ranges selectable from 0 - 2.5, 5, 10 and 25% O ₂
Alarms: Concentration	Two volt free changeover relays
Sample flow fail	One volt free changeover relay
PHYSICAL	
Dimensions:(W x D x H)	448mm x 229mm x 235 mm / 17.6" x 9" x 9.25"
Weight:	26 kg / 57 lbs
Hazardous area	Zone 1/Div 1
Ingress Protection:	IP 66 / NEMA 4X
Mounting:	Wall or Panel

¹ inherently linear, value dependant on calibration gases

² dependant on configuration

Ambient Conditions

Temperature:

Operating: -10°C to 50°C/14°F to 122°F

Storage: -20°C to 55°C/-4°F to 131°F

Atmospheric Pressure:

79 to 124kPaa/11 to 18psia

(for operation up to 2000m altitude.)

Warm Up Time

4 hours at an ambient

temperature of 20°C(68°F)

Power Supply

100 to 240V ac ±10% - 50/60Hz -50VA max.

Sample Wetted Materials

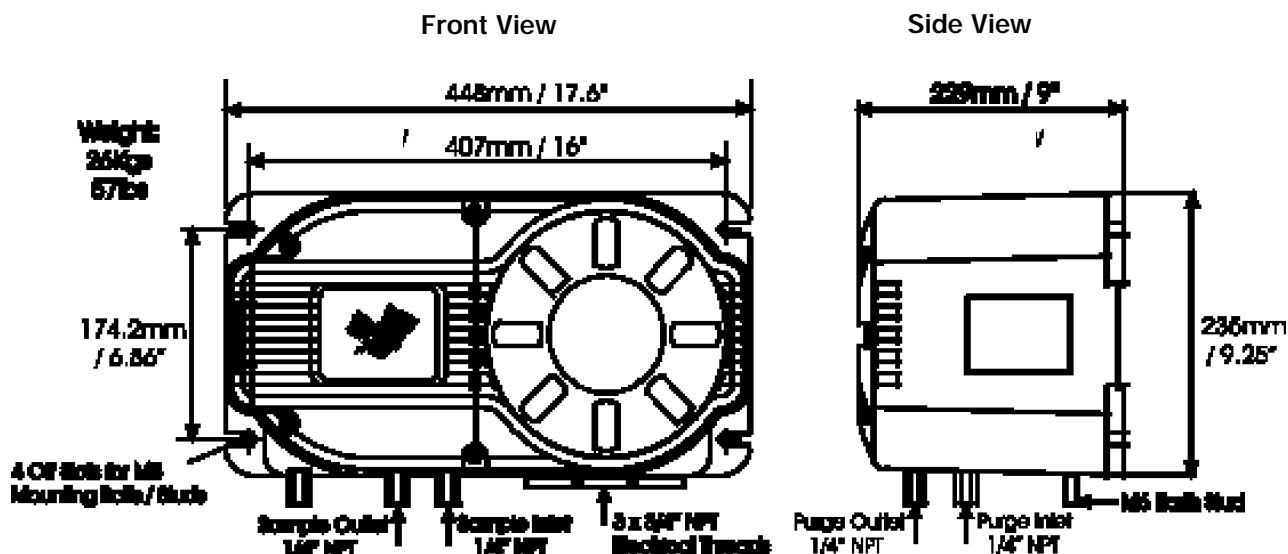
Material Of Construction	Basic Analyser	Standard Cell + Flow Alarm	Standard Cell + AFCD	High Flow rate cell / Stainless Steel Pipework	Solvent Resistant Cell + Stainless Steel Pipework	Solvent Resistant Cell + Hastelloy pipework
Borosilicate Glass	✓	✓				✓
Bonded Borosilicate Glass Fibre			✓			
Brass		✓				
Phosphor Bronze		✓				
Fluorocarbon Rubber	✓	✓	✓			
Hastelloy C-276						✓
Nickel (electroless)	✓	✓	✓	✓	✓	✓
Neoprene Rubber		✓				
Glass Filled Nylon 12		✓				
Polysulphone		✓				
Platinum	✓	✓	✓	✓	✓	✓
Platinum / Iridium alloy	✓	✓	✓	✓	✓	✓
Glass Filled Polypropylene			✓			
Polypropylene	✓	✓	✓			
Gold Plated Silver		✓				
302 / EN58A SSteel			✓			
303 Stainless Steel	✓	✓	✓			
316 Stainless Steel	✓	✓	✓	✓	✓	✓
Viton (325 cell)	✓	✓	✓	✓		
Viton - A			✓			
Chemraz (364 cell)					✓	✓
PTFE					✓	✓

Sample Gas Conditions

Configuration	Base Analyser Viton/SS	with AFCD	S.Steel or Hastelloy/PFA High Flow cell or bypass
Inlet Pressure	0.04 psig † 0.3 kPag min	1 to 5 psig 7 to 35 kPag	0.05 psig † 0.4 kPag min
Flow Rate	50 to 250ml/min	1.2 to 3.5 l/min	50 to 70 l/hour (60 l/hour nominal)
Vent Pressure	11.5 to 18.0 psia (80.5 to 126kPaa)		
Dew Point	5°C below ambient temperature		
Temperature	Sample gas not above ambient		
Particulates	<3µm (micron)		
Condition	Clean, non-corrosive * and free from oil/condensate		
Connections	¼" NPT Female Inlet/Outlet Connectors		

† Adjust pressure and sample flow externally to provide sample flow rate
* For Corrosive samples use a solvent resistant cell option

AFCD - Automatic Flow Control Device



Hazardous Area Approval

(not suitable for use with O₂ enriched samples)

FM (USA)	Class I, II & III Division 1 Groups A, B, C, D, E, F & G T4, Ambient Temp 50°C maximum
CSA (Canada)	Class I, Division 1, Groups A, B, C, & D Class II, Division 1, Groups E, F & G Class III, Division 1 Ex ia T4, T.ambient 50°C maximum
TIS (Japan)	Ex ia d IIC T4X
ATEX (Europe)	Ex II 2G. EEx ia d IIC T4 (-20°C < T _a < 50°C)

Performance Approval

The 1900 complies with EN50104: 1999

"Electrical apparatus for the detection and measurement of oxygen".

EC Directive Compliance

The 1900 complies with the EMC Directive 89/336/EEC (as amended by Directive 92/31/EEC and 93/68/EEC and the ATEX Directive 94/9/EC.

It conforms to the following harmonised European standards for product safety and electromagnetic compatibility:

EN 50081-1: Generic emission standard

EN 50082-2: Generic immunity standard

EN 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use.

This product is rated for Installation Category II in accordance with IEC 664.

This product is rated for Pollution Degree 2 in accordance with IEC 664.

Performance Specification Continued				
Configuration	Units	Base Analyser	with AFCD	High Flow Transducers: Standard or Solvent Resistant
Response time (T ₉₀)	Seconds (200ml/min)	<4	<7	<5 (60 l/hour)
Noise (peak to peak)	% O ₂	<0.04	<0.05	<0.04
Ambient Pressure Coefficient	% of reading for a 1% change in ambient pressure	1	1	1
Sample Flow Rate Effect	% O ₂ over 50 to 250ml/min	<0.1	N/A	<0.2 (over 50 to 70 litres/hour)
Ambient Temperature Coefficient	/10°C	0.2% O ₂ ±0.5% of reading		

The performance specification has been written, and verified, in accordance with the international standard IEC 1207-1:1994 "Expression of performance of gas analysers".

Servomex companies, agents and representatives are located throughout the world. Your nearest contact is:

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Visit www.servomex.com for technical data sheets, application and technology information for all Servomex analysers.

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



Certificate No. _____ Q05166
BS EN ISO 9001



Servomex Group Limited, Jarvis Brook, Crowborough, East Sussex, TN6 3DU, England
Servomex B.V., Stephensonstraat 20, 2723 RN Zoetermeer, Netherlands
Servomex S.A., 8 Rue Proudhon, B.P. 50, 93212 St Denis La Plaine Cedex, France
Servomex GmbH, Münsterstraße 5, 59065 Hamm, Germany
Servomex Company Inc., 90 Kerry Place, Norwood, MA 02062, USA
Servomex Company Inc., 525 Julie Rivers, Suite 185, Sugar Land, Texas 77478-2847, USA.
Servomex Asia Pacific Ltd, 7F, No.88, Sec. 6, Chung Shan N. Rd., Taipei, Taiwan
Servomex Asia Pacific Ltd (Spectris Group China Ltd-Shanghai Representative Office)
B-1, 21/F, Phase 2 Shanghai East Ocean Centre, No.618, East Yan An Road, Shanghai 200001, PR China

Global email: info@servomex.com

☎ (44) 1892 652181. Fax: (44) 1892 662253
☎ (31) 79-346 42 42. Fax: (31) 79-342 08 19
☎ (33) 1 49 46 22 50. Fax: (33) 1 49 46 22 51
☎ (49) 23 81 68 82 13. Fax: (49) 23 81 68 81 75
☎ (1) 781-769-7710. Fax: (1) 781-769-2834
☎ (1) 281-295-5800. Fax: (1) 281-295-5899
☎ (886) 2-2833 8848. Fax: (886) 2-2833 8844

☎ (86) 21 5385 5332 Fax: (86) 21 6375 8139

Website: <http://www.servomex.com>