PRODUCT OVERVIEW

SERVOTOUGH Oxy 1800

SAFE AREA

GAS	MEASURES	APPLICATION
OXYGEN	PERCENT	PROCESS CONTROL
		SAFETY

SENSING TECHNOLOGY

PARAMAGNETIC

ACCURATE AND STABLE SAFE AREA O_2 ANALYZER

UNRIVALLED PERFORMANCE

- Designed for safe area, oxygen analysis
- Uses industry leading patented Paramagnetic technology for stable, non-depleting measurement
- Manufactured by Servomex - over 60 years' experience innovating and pioneering gas analysis, and thousands of units used in the field every year

FLEXIBLE

- Special high flow rate cell option
- Special versions for solvent bearing samples
- Automatic flow control device, flow alarm and back pressure regulator options available

EASY TO USE

- Range of alarm outputs to aid integration with other systems
- Easy to set up and operate
- Clear displays, indicators and enclosed controls
- Internal/external use (IP66/NEMA 4X rated)

LOW COST OF OWNERSHIP

- Long calibration intervals and cell life
- Reliable and rugged analog based electronics
- Proven longlife Servomex paramagnetic technology

BENCHMARK COMPLIANCE

CE marked to meet:

- EU EMC Directive
- EU Low Voltage Directive
- EU RoHS 2 Directive

KEY APPLICATIONS

- Ambient air monitoring
- Waste water management
- Food storage
- Marine inerting applications
- Clean room/glove boxes
- Inert blanketing
- Gas cylinder storage

For more information please contact us

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PRODUCT OVERVIEW

SERVOTOUGH Oxy 1800

SAFE AREA

RELIABLE, HIGH ACCURACY SAFE AREA MONITORING

For applications such as ambient air monitoring, inerting or gas cylinder storage, you need an adaptable, high performance O_2 analytical solution you can truly rely on.

Your job demands maximized efficiency, so your gas analysis needs to be highly stable and reliable. It has to be capable of easily integrating into your existing safety infrastructure and flexible in terms of settings and options. No matter what processes you are operating, the need for affordable cost of ownership is a must. We don't believe you should have to compromise.

NON-DEPLETING SENSOR PERFORMANCE

The Oxy 1800 utilizes Servomex's world-leading Paramagnetic O_2 sensing technology, which provides highly reliable, accurate and stable percentage measurements of O_2. Unlike electrochemical technologies, the non-depleting technology requires minimal calibration and never needs replacing. The result is a long life with low maintenance costs.

AFFORDABLE, VALUE-ADDED FEATURES

The Oxy 1800 features have been specifically designed to ease everyday operation and maximize performance. Optional high flow cell, automatic flow control device (AFCD), back pressure regulator (BPR) and sample flow switch allow a fit to existing sample systems and aid overall performance, whilst also offering preventative maintenance.

USEFUL LINKS

SERVOMEX SERVICE NETWORK
servomex.com/service

SERVOMEX SYSTEMS INTEGRATED SOLUTIONS
servomex.com/systems

SERVOMEX EXPERT UNRIVALLED KNOWLEDGE AND VISION
servomex.com/expert-guidance

PBTDSOxy1800 Rev. 0 Date: 05/20

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TECHNICAL DATA SHEET

SERVOTOUGH Oxy 1800

SPECIFICATIONS

GAS MEASURED	OXYGEN (O_2)
TECHNOLOGY	Paramagnetic
PERFORMANCE	
Measurement range	0-100% O_2
Lower detection limit	<0.1% O_2
Linearity error	0.05% O_2 [2]
Repeatability error	<0.1% of reading or 0.05% O_2 [1]
Intrinsic error (accuracy)	<0.2% of reading or 0.05% O_2 [1]
Response time (T_{90})	4-8 seconds [3]
Zero drift	<0.05% O_2 per week
Span drift	<0.1% of reading or 0.05% O_2 per week [1]
Temp coefficient	0.2% O_2 ± 0.5% of reading per 10°C
Sample pressure coefficient	1% of reading for a 1% change in sample pressure (BPR not fitted) <0.13% of reading for a 1% change in sample pressure (BPR fitted)
Sample flow	<0.1% O_2 over 50 to 250ml/min (basic analyzer) <0.2% O_2 over 50 to 70l/hr (high flow transducer option)
SIGNAL OUTPUTS	As standard each unit comes fitted with:
Analog outputs	One 4-20mA, isolated & one 0-1V dc, non-isolated
Voltage output (linear)	0-1V dc, non-isolated, output impedence 470 Ohms typical the voltage output signal corresponds to the full scale range selected
Analog output range	Ranges selectable from 0 - 2.5, 5, 10, 25 and 100% O_2. Other ranges available on request
Measurement range indication	Measurement range indication relay output (and LED indication): One volt free changeover relay rated 250V ac/3A or 28V dc (non inductive) maximum and 5V/10mA ac/dc minimum
Measurement alarms	Concentration: Two volt free changeover relays (and LED indication) rated 250V ac/3A or 28V dc (non inductive) maximum and 5V/10mA ac/dc minimum
Sample flow fail alarm	Sample flow fail relay output (and LED indication): One volt free changeover relay rated 250V ac/3A or 28V dc (non inductive) maximum and 5V/10mA ac/dc minimum
OPERATING ENVIRONMENT	
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 124 kPaa/11 to 18psia (for operation up to 2,000m altitude)
Warm up time	Typically <4 hours (at 20°C ambient (68°F) and dependent on application and environment)
Operating altitude range	Up to 2,000m
Ingress protection	IP66/NEMA 4X
PHYSICAL	
Size	448mm (17.6") Width x 235mm (9.2") High x 227mm (8.9") Deep
Weight	26kg/57lbs
Mounting	Wall or panel

[1] whichever is the greater
[2] inherently linear, value dependant on calibration gases
[3] dependant on configuration

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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SAMPLE CONDITIONS				
CONFIGURATION	**BASIC ANALYZER**	**WITH AFCD#**	**WITH AFCD AND BPR‡**	**STAINLESS STEEL OR HASTELLOY/PFA HIGH FLOW CELL OR BYPASS**
Inlet pressure	0.04psig/ 0.3kPag minimum†	1 to 5psig/ 7 to 35kPag	17 to 22psia/ 119 to 154kPaa†	0.05psig/ 0.4kPag minimum†
Flow rates	50 to 250ml/min	1.2 to 3.5l/min	1.0 to 2.0l/min	50 to 70l/hr (60l/hr nominal)
Vent pressure	11.5 to 18.0psia (80.5 to 126kPaa) - DO NOT RESTRICT ANALYSER VENT			
Dew point	>5°C below ambient temperature			
Temperature	Sample gas not above ambient			
Particulates	<3µm (micron)			
Condition	Clean, non-flammable* and free from oil/condensate**			
Connections	¼" NPT. INT inlet/outlet connectors (female). (6mm option available)			

Sample gas parameter to be controlled

† Adjust pressure and sample flow externally to provide sample flow rate
* For Flammable samples use the Servomex 1900 analyser
** For Corrosive samples use a solvent resistant cell option
# AFCD - Automatic Flow Control Device
‡ BPR - Back Pressure Regulator

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

CALIBRATION GAS REQUIREMENTS	
Calibration gases	Nitrogen, typically 0% oxygen (used as the 'zero' oxygen gas). 99.5% zero grade, or better, nitrogen recommended Air, typically 20.95% oxygen, or pure oxygen (used as the 'span' oxygen gas). It is always recommended that this gas is at least 10% oxygen greater than the zero concentration gas

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

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SAMPLE WETTED MATERIALS

MATERIAL OF CONSTRUCTION	Basic analyzer	Standard cell + flow alarm	Standard cell + AFCD	Standard cell + BPR	High flow rate cell/ stainless steel pipe-work	Solvent resistant cell + stain-less steel pipework	Solvent resistant cell + Hastelloy pipework
Beryllium-Copper				●			
Borosilicate Glass	●	●	●	●	●	●	●
Bonded Borosilicate Glass Fibre			●				
Brass		●					
Phospher Bronze		●					
Fluorocarbon Rubber	●	●	●	●			
Hastelloy C-276							●
Nickel (electroless)	●	●	●	●	●	●	●
Neoprene Rubber		●					
Glass Filled Nylon 12		●					
Polysulphone		●					
Platinum	●	●	●	●	●	●	●
Platinum / Iridium alloy	●	●	●	●	●	●	●
Glass Filled Polypropylene			●				
Polypropylene	●	●	●	●			
PVC				●			
PVDF				●			
Gold Plated Silver		●					
302 / EN58A SSteel			●				
303 Stainless Steel	●	●	●	●			
316 Stainless Steel	●	●	●	●	●	●	●
Viton® (325 cell)	●	●	●	●	●		
Viton® - A			●				
Chemraz® (364 cell)						●	●
PTFE						●	●

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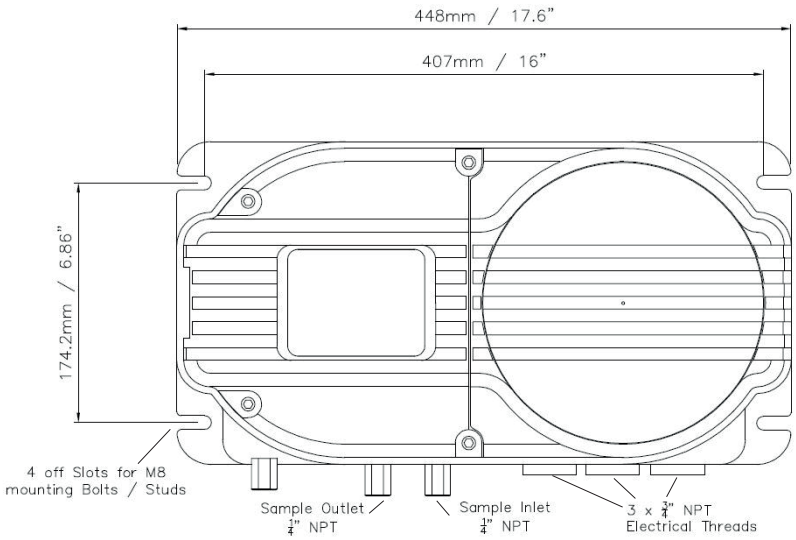
CONFIGURATION	
Sampling options	Several internal pipework and accessory options are available to accommodate a wider range of sample gas supply and application requirements. The Oxygen transducer can be either standard or of the solvent resistant type. As standard Viton® pipework is used with the sample compartment, but this can be upgraded to either Stainless Steel or Hastelloy. For analyzers configured with Viton® pipework the Automatic flow control device can be used for applications where the sample gas is preferred to be supplied to the analyzer at a controlled pressure rather than controlled flow. Back pressure regulation improves the performance of the measurement to variations in sample gas pressure. The flow alarm option adds confirmation of correct sample gas flow being present within the sample gas loop. For overview schematics of available sample pipework arrangements please refer to detailed section within this TDS. ☐ Viton® pipework ☐ Stainless steel pipework ☐ Viton® pipework + flow alarm ☐ Viton® piped + AFCD (automatic flow control device) ☐ Viton® piped + AFCD + BPR (automatic flow control device & back pressure regulation) ☐ Viton® piped + flow alarm + AFCD (automatic flow control device) ☐ Viton® piped + flow alarm + AFCD + BPR (automatic flow control device & back pressure regulation) ☐ Solvent resistant cell + stainless steel pipework ☐ Solvent resistant cell + Hastelloy pipework
Display type	A display with a resolution of 4.5 digits is fitted as standard. Visual indication of power, measurement and flow alarm status provided by 3 LED's mounted adjacent to measurement display. Additionally, LED's are used to visually indicate the selected output range of the analogue output. ■ 4.5 digit display (as standard)
Sample inlet connections	As standard the analyzer is supplied with ¼" NPT(F) gas port connections for the inlet and outlet sample gas connections. Optionally these can be changed to 6mm OD stainless steel or hastelloy fittings. ☐ Standard ¼" NPT(F) ☐ ¼" NPT to 6mm OD stainless steel ☐ ¼" NPT to 6mm OD Hastelloy
Enclosure options	The analzyer enclosure is fitted with a breather to prevent pressurisation of the enclosure. These can be replaced with fittings that allow the use of a trickle purge of the sample enclosure to prevent the build-up of potentially corrosive gases wihin the compartment. ☐ Enclosure corrosive purge fittings ☐ Breather fittings
Electrical conduit entry options	Choose from ¾" NPT, M20 or PG13.5 entries. Select entry size to suit cables and glands used. ☐ ¾" NPT ☐ M20 ☐ PG13.5
Mounting options	As standard the analyzer is designed to be wall mounted. Optionally a kit to allow the analzyer to be installed onto an appropriate enclosure panel is available. ☐ Wall mount ☐ Panel mount
Manual	■ English (as standard)
Service manual	☐ English (as standard)

Tick one box where multiple options are shown

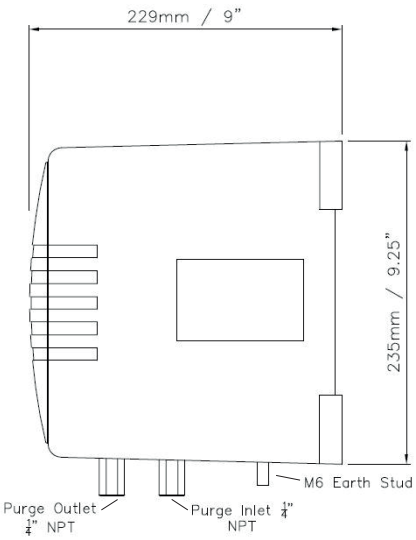
DIMENSIONAL DRAWINGS

Dimensions shown in millimetres/inches
Weight: 26kg nominal

Front view



Side view



WE'RE READY TO HELP

WHATEVER YOUR GAS ANALYSIS REQUIREMENTS, WHEREVER YOU ARE

PBTDSOxy1800 Rev. 0 Date: 05/20

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

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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