SERVOPRO

MonoExact DF150E

Product overview

Safe area

Gas	Measures	Application
Oxygen	Trace ppm	Process control Quality

SENSING TECHNOLOGY

Coulometric

Next generation coulometric oxygen analyzer designed specifically for use in a diverse range of industrial applications

Unrivalled performance

- MonoExact DF150E O_2 LDL
  0-100: 50 ppb
  0-1000: 250 ppb
  0-10,000: 2.5 ppm
- Up to 5-year coulometric sensor warranty
- Non-depleting coulometric sensor
- Stab-El™ coulometric sensor now standard

Flexible

- Optimized for process control and product qualification applications
- Compact footprint for simple integration
- Compatible with DF-150E platform, including hardware wiring inputs and gas inlets
- 4-20mA and 0-10V DC analog output options†
- Battery and pump options available but, not in same analyzer†‡
- External gas filter now mountable on the back of the analyzer (PN 222931)†

Easy to use

- 5-inch high-brightness touchscreen and intuitive icon driven touchscreen user-interface
- 6 user ranges available with each sensor offered
- Servomex proprietary software makes reporting and parameter control simple

Low cost of ownership

- No sensor zero calibration required
- Minimal training requirements
- Downloadable system file log and diagnostics means we can assess issues and upgrade remotely

Benchmark compliance

- In compliance with Low Voltage, EMC, CE and CSA applicable directives
- Manufactured by Servomex - over 70 years' experience innovating, and pioneering gas analysis and thousands of units used in the field every year

‡ Not for use with H_2, CH_4, or CO background gases

* Certain background gases must be configured with stainless steel inlet and outlet plumbing, consult Servomex applications

† Configuration dependent

Key applications

- Glove boxes
- Heat treating
- Solder reflow ovens
- Industrial gas production*

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

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Product overview

Safe area

A new analyzer platform, optimized for IG customers

IG customers requiring accurate process control and product qualification rely on the precision measurements provided by Servomex's DF and SERVOPRO analyzers. MonoExact DF150E forms part of Servomex's next-generation industrial analyzer platform, which advances and standardizes a complete, integrated IG analysis capability through the latest innovations in software, hardware and sensor design.

By delivering the same high-quality measurements and ensuring backwards compatibility with previous analyzers, customers get new control and maintenance benefits – while training requirements are minimized, re-testing and re-qualification problems are avoided, and products meets the high standards of global supply agreements.

An upgraded sensor for reduced maintenance

At the heart of the MonoExact DF150E is Servomex's Hummingbird Coulometric sensor, which builds on the original DF Coulometric sensor's accurate trace measurements. Significant design improvements have been made that reduce analyzer downtime.

Operation has never been easier

The MonoExact DF150E is built around Servomex's new advanced user interface, which offers immediate hands-on control via a high brightness touchscreen display. Intuitive to use, Servomex's software is optimized for a simple user journey, with the touchscreen GUI making reporting or adjusting control parameters effortless. Standard 0-10V output with optional 4-20mA available to export rich data to a control system, managing gas analysis has never been easier.

Useful links:

SERVOMEX SERVICE NETWORK

servomex.com/**service**

SERVOMEX SYSTEMS

servomex.com/**systems**

SERVOMEX EXPERT

servomex.com/**expert-guidance**

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Technical data sheet

SERVOPRO MonoExact DF150E

Specifications

Sample gases	H_2, He, CH_4, CO, N_2, Ar and a host of fluorocarbons and slightly acidic HP gases*
Technology	Coulometric electrochemical cell
Performance	
Gas measured	O_2 trace (ppm)
Range	0-100, 0-1000 or 10,000ppm
Intrinsic error (accuracy)	0-100ppm: ±5% of the reading or ± 50 ppb, whichever is greater 0-1000ppm: ±5% of the reading or ± 250 ppb, whichever is greater 0-10,000ppm: ±5% of the reading or ± 2.5 ppm, whichever is greater
Response time (T_{90})	~30 seconds at 0.50l/min
Zero drift/month	Negligible
Signal outputs/inputs	
Analog outputs	Isolated 4-20mA DC output or isolated 0-10V DC output, which jam at 0, 2, 4 or 21.5mA
Output range	6 preassigned adjustable ranges across each full sensor range
Fault status signals	Over 30 different fault statuses being self-monitored which are recorded within the system files and report if tripped to the analyzers home screen
Alarms	Up to 2 audible / visual concentration alarms, a choice between alarms are concentration flow, temperature and span reference†
Relay contacts	Up to 2 independently assigned contacts rated at 1.0 amp and up to 30V DC or AC†
Sample condition	
Gas	Sample must be oil free, non-corrosive and non-condensing (can handle slightly acidic gases)
Gas temperature	0°C to +45°C (+32°F to +113°F)
Particulate size	Filtered to 2µm
Maximum dew point	+5°C/+9°F below minimum ambient
Zero gas	5 or 5.5 9s pure N_2 is preferable
Span gas	Optimal linearity achieved when calibrated between 40-80% of full range
Sample pressure	Flow driven: 1.4 - 6.9 kPa; 0.014 - 0.07 bar: 0.2 - 1 psig Pressure driven: 172.36-310.26 KPa; 1.72-3.10 bar; 25-45 psig Max sensor cell: 34.5 kPa; 0.35 bar: 5 psig
Operating environment	
Temperature	0°C to +45°C (+32°F to +113°F)
Relative humidity	95% relative humidity, must be a non-condensing environment
Warm up time	New electrolyte 60 min, after that only the residence time for sample to reach sensor
Max altitude	6,500ft. or 2,000m above sea level

* Certain background gases must be configured with stainless steel inlet and outlet plumbing, consult Servomex applications
† Configuration dependent

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

Physical	
Size	205mm (8.0”) Wide x 193mm (7.6”) Height x 240mm (9.5”) Deep (without handle and feet)
Weight	4.3kg (9.5lbs)
Mounting	Benchtop, panel mount, 19” rack mount, dual 19” rack mounting
Supply voltage	100-120Vac or 220-240Vac, 50/60Hz
Storage temperature	0˚C to +45˚C (+32˚F to +113˚F)
Sensor storage conditions	We recommend that the analyzer be operated as intended, within 6 months of delivery

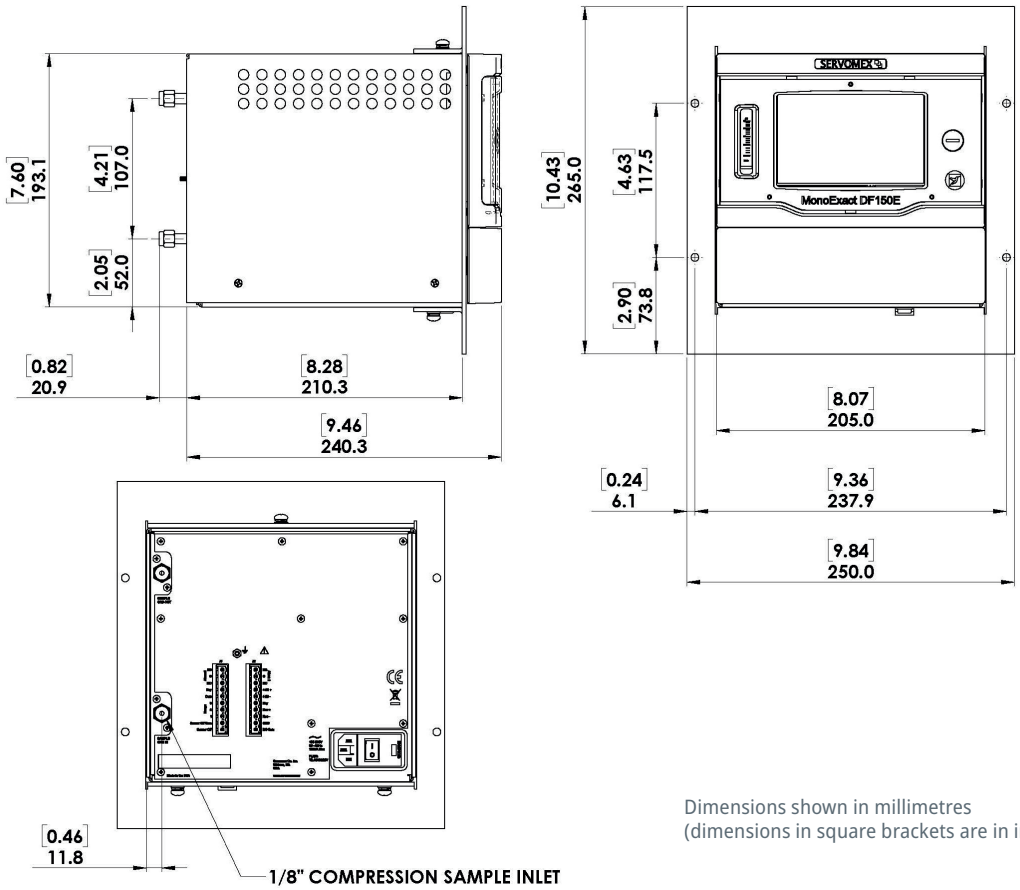
Sample wetted materials

Analyzer fitted with	316L stainless steel, PFA and Acrylic

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 and CSA Certified; EU EMC and Low Voltage Directive Rated for “Overvoltage Category II” and “Pollution Degree 2”

Dimensional drawings



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

Configuration			
Standard Variant (SV01)	The pre configured standard variant (SV01) covers the most common applications and frequently ordered options.		
User Configured (UC)	Other analyzer configuration options not covered by the above standard variant.		
DF150E variants		**SV01**	**UC**
Built to stock		☑	■
Type	Dual rack mount No bench mount Panel mount Single rack mount Bench top unit	☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐
Channel 1			
Gas	O_2	☑	☑
Measurement Range	0-100 ppm 0-1000 ppm 0-10000 ppm	■ ☑ ■	☐ ☐ ☐
Transducer Type	Coulometric w/SS sample lines	☑	☑
Options	Flow driven Flow driven w/flow switch Pressure driven (orifice) Pressure driven (orifice) w/flow switch Pump driven Pump driven w/flow switch	☑ ■ ■ ■ ■ ■	☐ ☐ ☐ ☐ ☐ ☐
Hardware options			
Power cord	None USA Europe UK	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
Stainless steel tags	None Required	☐ ☐	☐ ☐
Battery backup	None Required	☑ ■	☐ ☐
Pump O_2	None Required	☑ ■	☐ ☐
Pressure regulator O_2	None Standard	☐ ☐	☐ ☐
Stainless steel filter (O_2)	None Required	☐ ☐	☐ ☐
Adapter 1/4" (O_2)	None Required	☐ ☐	☐ ☐
Software options			
Configurable alarms	None Two alarms	☐ ☐	☐ ☐
Isolated output	None Isolated 4-20mA	☐ ☐	☐ ☐
Autocal	None	☐	☐
Relay contacts	2 relay contacts	☐	☐
Gas scale factor	None Required	☐ ☐	☐ ☐
Certificate of Calibration	Not required Required	☐ ☐	☐ ☐
Coulometric cell warranty	1 year standard 5 year extended	☑ ☐	☑ ☐

Tick a single box for each selectable option

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

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**

SERVOMEX
a **spectris** company