

SERVOPRO MultiExact 5400

**HIGH FLEXIBILITY, PERFORMANCE-ENHANCED DIGITAL MULTI-GAS ANALYZER,
SPECIFICALLY DESIGNED FOR INDUSTRIAL GAS MONITORING**



SERVOPRO MultiExact 5400



The MultiExact has been specifically developed to address the needs of industrial gases applications. Delivering high performance monitoring of a range of gases including O₂ (purity and trace), CO, CO₂ and N₂O (trace) and Ar, N₂ and He, the MultiExact's dual measurement capability can be fitted with a choice of four leading-edge sensing technologies, including Servomex's groundbreaking new TruRef Thermal Conductivity (TCD) sensors.

Able to simultaneously measure up to two gas streams, the MultiExact's measurement flexibility delivers not only enhanced reliability but helps reduce operational costs via simplified ongoing maintenance and low drift stability. This analyzer provides feature-rich options that include comprehensive digital communications protocols, bench top, panel or 19" rack mounting and independent auto-validation/calibration with the option for integrated stream switching valve block. This ensures the MultiExact delivers versatile multi-gas monitoring for a range of applications.

FLEXIBLE

- Single or dual gas simultaneous monitoring
- Measurements for O₂ (purity and trace), CO, CO₂ and N₂O (trace), Ar in O₂, N₂ in Ar, He in N₂ or O₂
- Modbus, Profibus and Ethernet communications protocols available
- RS232/RS485 serial data output

EASY TO USE

- Easy access to alarm, fault and calibration history logs
- Unique flow sensor technology provides unrivalled reliability for each measurement
- Independent auto-validation/calibration of measurements with option of integrated stream switching valve block

LOW COST OF OWNERSHIP

- Reduced ongoing operational needs (via auto-validation/calibration)
- Engineer-optimized set up and installation
- Long calibration intervals and cell life from low-drift, non-depleting technologies

UNRIVALLED PERFORMANCE

- Uses industry-leading, patented Paramagnetic, IR and TruRef (TCD) non-depleting technologies for ultra-stable, accurate and selective measurements
- Measures trace levels with accuracy and reliability
- Manufactured by Servomex - over 60 years' experience innovating and pioneering gas analysis and thousands of units used in the field every year

BENCHMARK COMPLIANCE

- IEC 61010-1
- European Pharmacopeia compliant
- US Pharmacopeia compliant (O₂)
- In compliance with Low Voltage, EMC and applicable Directives

Learn more about the SERVOPRO MultiExact 5400
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PRODUCT OVERVIEW: MultiExact 5400

HIGH RELIABILITY AND UNRIVALLED PERFORMANCE

As an industrial gas manufacturer, you demand complete accuracy, stability and reliability from your gas analysis system. You need flexible analysis solutions capable of adapting to meet specific process monitoring needs, with a choice of sensing technologies delivering the best and most suitable measurement at every point in the ASU process. Choosing the MultiExact means you don't have to compromise: this device delivers reliable performance, versatile sensing options and extensive features that enable an 'exact fit' customization to measurement points across your process.

A NO COMPROMISE SOLUTION

The MultiExact is a leading-edge analyzer specifically designed to meet the many challenges of industrial gas production. With the adaptability to perform single and dual gas measurements, it delivers a winning combination of ultra-sensitive, cross-interference free monitoring in a flexible format: bench top, panel or 19" rack mount to suit requirements. Supported by intelligent sampling and flow alarms, the MultiExact is the ideal solution for a diverse range of monitoring needs across the ASU process, including % O₂ measurements for product purity, ppm O₂ measurements in Ar and N₂ product streams, impurity measurements for CO₂ and N₂O, N₂ in Ar, and Ar in O₂. The MultiExact also provides an analytical solution to validate medical O₂, N₂ and Air, offering technologies that are approved methods by the European and US Pharmacopeia, including the % O₂, ppm CO and ppm CO₂.

SIMPLE MAINTENANCE AND REDUCED ONGOING COSTS

The efficient operational design of the MultiExact reduces ongoing costs by requiring minimal maintenance at extended intervals. This is facilitated by non-depleting, low drift measurement technologies that are easy to set up and install, and require minimal ongoing calibration. Supported by Servomex's global Service Network, the MultiExact offers low cost of ownership across an extensive product lifetime.

KEY APPLICATIONS

- Product purity on air separation plant
- Process control on air separation plant
- Monitor trace CO₂ on scrubbed air inlet to air separation process
- Bottling/filling plant applications
- Validation of medical O₂, N₂ and Air

ALTERNATIVE PRODUCTS

The Servomex product range offers alternative analyzer options designed to meet your application needs.

MonoExact



The new MonoExact gas analyzer offers ASU operators MultiExact performance in a compact, single component analyzer for Ar, He, N₂ and H₂ measurements.

FID



A Flame Ionization Detector analyzer designed to assure safe operation for cryogenic air separation plants, the FID ensures THC levels are maintained below safe limits, as well as providing quality control in pure O₂, N₂, Ar, and Air.

DF-310E



The DF-310 series is a full-featured, microprocessor-based O₂ analyzer that uses unique, non-depleting coulometric E-sensor technology, enabling O₂ measurements at %, trace and ultra-trace levels.



PRODUCT DATA: MultiExact 5400

OPTIONS	DESCRIPTION	SPECIFICATION
Analog output	1 x mA output per channel or 1 x voltage output per channel	Isolated 4-20mA/0-20mA Isolated 0-10v
Output range	Analog output parameters	User selectable over the measurement range
Alarms and relays	4 x volt free single pole relays	30V dc 1A. 4 x volt-free single pole relays (30V at 1A) for high alarm, low alarms, service in progress, maintenance required. NAMUR compliant
Sample system	Pressure driven or flow driven	–
Digital communications	Remote monitoring capabilities	Modbus ASCII or Modbus RTU on RS485 Profibus on RS485 Ethernet (Modbus TCP)
Fascia mounting	Choose up to any 4 mounted options	1. Sample filter for paramagnetic measurement 2. Sample flowmeter 3. Bypass flowmeter
Power lead	3 options	Choose from UK, European and North American formats
Flow alarm	1 x flow alarm per channel*	Uses Flowcube technology (F3) fitted directly to the outlet of the measurement transducer for maximum reliability
ACCESSORIES	ACCESSORIES AVAILABLE FOR SPECIFIC APPLICATIONS – CONTACT YOUR LOCAL SERVOMEX BUSINESS CENTER	

MONITORING PERFORMANCE								
Gas	O ₂ purity	O ₂ control	O ₂ trace	0-10ppm CO	0-10ppm CO ₂	0-500ppm CO ₂	0-20ppm N ₂ O	Ar, N ₂ , He
Technology	Paramagnetic		Zirconia	Infrared (Gfx)			Thermal Conductivity (TCD)	
Range	0-100%	0-100%	0-210 000ppm	0-10ppm	0-10ppm	0-500ppm ¹ , lower specified range: 0-50ppm ²	0-20ppm	Contact Servomex for available ranges
Accuracy (intrinsic error)	±0.01% O ₂	±0.1% O ₂	±0.1 ppm	±0.1ppm	±0.1 ppm	0-500ppm ¹ : ±0.5ppm (below 25ppm), ±3% of reading (25-500ppm) 0-50ppm ² : ±0.5ppm	±0.2ppm	±1% span
Repeatability	<0.01% O ₂	<0.1% O ₂	<0.1ppm	<0.1ppm	<0.1ppm	0-500ppm ¹ : <0.5ppm (below 25ppm), <3% of reading (25-500ppm) 0-50ppm ² : <0.5ppm	<0.2ppm	<0.5% span
Zero drift/week	±0.01% O ₂	±0.05% O ₂	±1% of reading or 250ppb	±1ppm	±0.2ppm	±0.3ppm	±0.4ppm	±1% span per month
T ₉₀ in secs	<10 @ 200ml/min	<10 @ 200ml/min	<10 @ 400ml/min	<20 @ 400ml/min	<15 @ 500ml/min	<20 @ 400ml/min	<15 @ 500ml/min	<15 @ 150ml/min

* Not available for O₂ purity

¹ Calibrated using 500ppm CO₂ span gas

² Calibrated using 50ppm CO₂ span gas

† Background N₂ or He, calibrate in chosen background gas

TUNABLE DIODE LASER



FLAME IONISATION DETECTOR



GAS CHROMATOGRAPHY



PLASMA



LASER MOISTURE



COULOMETRIC



SPECTROSCOPIC



PRODUCT DATA: MultiExact 5400

SAMPLE FOR MEASUREMENTS

Sample gas	The sample gas must be oil free, non-corrosive, non-condensing and non-flammable
Vent	Vent to atmosphere
Sample pressure	35 ±21kPa (5 ±3psig)

DEVICE SPECIFICATION

Size:

- 132mm (5.19") High x 482mm (18.99") Wide x 458mm (18.03") Deep

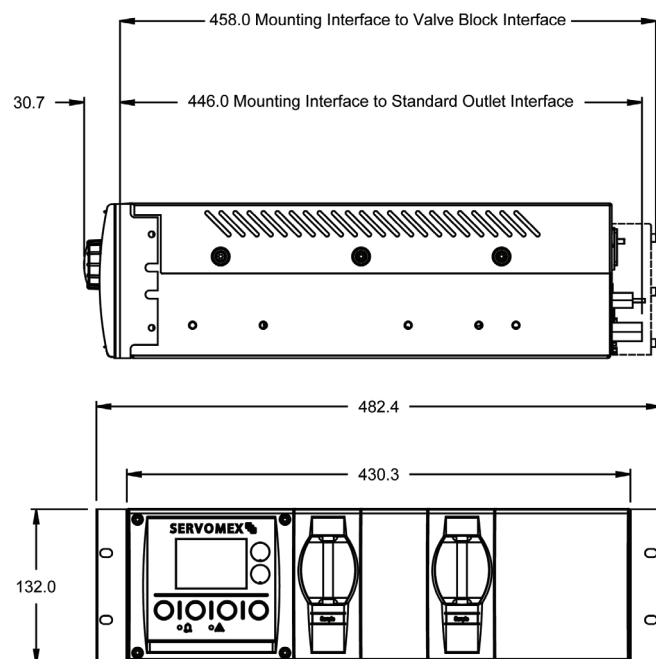
Weight:

- <12kgs (26lbs)

Certifications:

- Electrical safety to IEC 61010-1
- Approved for use in North America
- Overvoltage Category II rated
- Pollution Degree 2 rated

DEVICE SCHEMATIC



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: This document was updated in March 2018. While every effort has been made to ensure accuracy, no responsibility can be accepted for errors or 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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