SERVOMEX

# 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 $O_2$ Purity, $O_2$ Control and $O_2$ Trace, the MultiExact's dual measurement capability can be fitted with a choice of two leading-edge sensing technologies.

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 $O_2$ Purity, $O_2$ Control and $O_2$ Trace
- 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, Paramagnetic and Zirconia 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 ($O_2$)
- US Pharmacopeia compliant ($O_2$)
- In compliance with Low Voltage, EMC and applicable Directives

Learn more about the SERVOPRO MultiExact 5400

**Visit servomex.expert/pb-me5400**

# 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 $O_2$ measurement 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 % $O_2$ measurements for product purity and ppm $O_2$ measurements in Ar and $N_2$ product streams. The MultiExact also provides an analytical solution to validate medical $O_2$, $N_2$ and Air, offering a technology that is an approved method for $O_2$ assay for the European and US Pharmacopeia.

## 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.

## COMPLEMENTARY PRODUCTS

The Servomex product range offers a number of analyzer options designed to meet your application needs.

### 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 $O_2$, $N_2$, Ar, and Air.

### MonoExact DF310E



Designed specifically to accurately measure oxygen in industrial gas applications, the DF310E is a next-generation digital oxygen analyzer that combines precision trace-level measurement with new performance benefits and extended digital communications compatibility.

## KEY APPLICATIONS

- Product purity on air separation plant
- Process control on air separation plant
- Bottling/filling plant applications
- Validation of medical $O_2$, $N_2$ and Air

SERVOMEX TECHNOLOGIES

ZIRCONIA | GAS FILTER CORRELATION | CALORIMETRY | THERMAL CONDUCTIVITY

UV FLUORESCENCE | ALUMINUM OXIDE | CHEMILUMINESCENCE | PARAMAGNETIC

# PRODUCT DATA: **MultiExact 5400**

| OPTIONS | DESCRIPTION | SPECIFICATION |
|---|---|---|
| Analog output | 1 x mA output per channel or<br>1 x voltage output per channel | Isolated 4-20mA/0-20mA<br>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<br>2. Sample flowmeter<br>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<br>– CONTACT YOUR LOCAL SERVOMEX BUSINESS CENTER |
|---|---|

## MONITORING PERFORMANCE

| Gas | $O_2$ purity | $O_2$ control | $O_2$ trace |
|---|---|---|---|
| Technology | Paramagnetic | | Zirconia |
| Range | 0-100% | 0-100% | 0-210 000ppm |
| Accuracy (intrinsic error) | ±0.01% $O_2$ | ±0.1% $O_2$ | ±0.1 ppm |
| Repeatability | <0.01% $O_2$ | <0.1% $O_2$ | <0.1ppm |
| Zero drift/week | ±0.01% $O_2$ | ±0.05% $O_2$ | ±1% of reading or 250ppb |
| $T_{90}$ in secs | <10 @ 200ml/min | <10 @ 200ml/min | <10 @ 400ml/min |

** Not available for $O_2$ purity* *† Background $N_2$ or He, calibrate in chosen background gas*

# 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

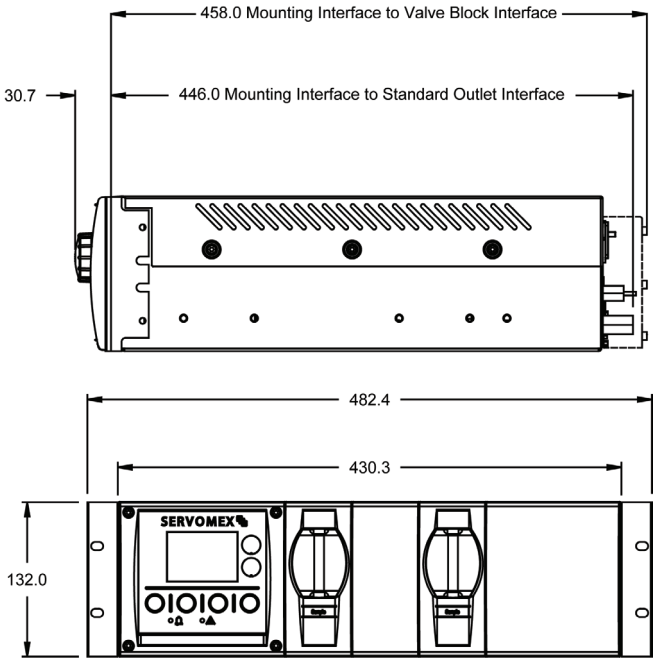
**Weight:**

- <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




PBMultiExact Rev.5 Date: 08/19

*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 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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