

# SERVOPRO Plasma

## SENSITIVE AND RELIABLE PLASMA EMISSIONS DETECTION (PED) FOR CONTINUOUS GAS STREAM MONITORING OF NITROGEN IN CRYOGENIC AIR SEPARATION AND GAS BOTTLING PLANTS



### SERVOPRO Plasma

Using a high specification, patented Plasma Emissions Detector (PED) sensing technology that features an intelligent micro-processor platform for unsurpassed stability and selectivity, the Plasma provides continuous monitoring of N<sub>2</sub> in pure Ar and/or He and also N<sub>2</sub> high purity for added flexibility. The Plasma combines high stability performance and flexibility, delivering an analytical solution that meets the needs of process control and quality checking in cryogenic air separation and gas bottling applications.

This analyzer delivers an adaptable solution that meets precisely application requirements, with a choice of three measurement ranges in both a standard or high purity setting mode and an automatic range change facility for optimal output resolution.

In addition, the Plasma requires zero maintenance and enhanced device interaction, thanks to a comprehensive suite of communications including Internet/Ethernet and RS232 ACSII (optional). This results in an analytical solution capable of delivering on all levels.

### FLEXIBLE

- Optimized for cryogenic air separation, gas bottling applications or specialty gas laboratories requiring the continuous measurement of N<sub>2</sub> in Ar and/or He and also N<sub>2</sub> high purity monitoring
- Three measurement ranges in both standard and high purity setting modes, with automatic range change function for optimal output resolution
- Comprehensive remote interaction via Ethernet/Internet and RS232 ASCII

### EASY TO USE

- Engineer-friendly, intuitive operation with easy installation
- Simplified configuration through factory set range options

### LOW COST OF OWNERSHIP

- High accuracy PED sensing offers industry-leading reliability, maximizing device uptime and process efficiency
- Maintenance-free solution providing considerable ongoing cost reductions
- Remote control of device via a network or an internet browser provides high efficiency troubleshooting and device parameter checking off-site

### UNRIVALLED PERFORMANCE

- PED sensor technology uses an intelligent micro-processor for unrivalled reliability/gas-specific selectivity
- Manufactured by Servomex - over 60 years' experience pioneering gas analysis and thousands of units used in the field every year

### BENCHMARK COMPLIANCE

- Electrical safety to IEC 61010-1: Ed 3
- In compliance with Low Voltage, EMC and applicable Directives

Learn more about the SERVOPRO Plasma  
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# PRODUCT OVERVIEW: Plasma

## PERFORMANCE AND ACCURACY YOU CAN RELY ON

When you work in cryogenic air separation or gas bottling plants, producing Ar or performing He liquefaction, you need an analyzer that offers the most reliable and accurate continuous monitoring of N<sub>2</sub> or trace impurities. The freedom to configure a suitable device easily and select one that meets your specific needs is also essential; including the flexibility to detect either Ar or He or both gas streams simultaneously. No matter your application needs, you'll also want a device that reduces ongoing costs and deliver comprehensive remote interaction through a choice of communications platforms. And we don't believe you should have to compromise.

## A NO COMPROMISE SOLUTION

The Plasma is the most stable continuous N<sub>2</sub> in Ar and/or He and trace N<sub>2</sub> impurity measurement analyzer available. With easy set-up that includes configuration of three range options within both standard and high purity setting modes, this analyzer adapts to your specific application needs. The Plasma also enhances safety and reduces downtime potential through its fault alarm and contact alarm features.

## MAINTENANCE-FREE AFFORDABILITY

The Plasma provides impressive affordability to match its accuracy and measurement stability, with no ongoing maintenance requirements. The ability to remotely interact with this analyzer using a network or internet connection delivers additional value by allowing offsite troubleshooting and parameter checking. This dramatically reduces lifetime cost-of-ownership, so you can leverage considerable savings over comparable devices.

## ALTERNATIVE PRODUCTS

The SERVOPRO product range feature a number of options designed to meet your application needs.

### Chroma



When you need a high performance solution for the measurement of Ar and N<sub>2</sub>, choose Chroma. This device uses a PlasmaHC measurement system, removing the need for FID when measuring THC.

### MultiExact 5400



Combining industry-leading performance and a range of new and enhanced functions as standard, the MultiExact offers air separation plants a multi-gas analyzer specifically optimized to industry requirements – with measurements now augmented by Servomex's revolutionary TCD measurement sensing technology

### FID



A Flame Ionization Detector analyzer designed to assure safe operation for cryogenic Air Separation plants, the SERVOPRO FID ensures the level of Total Hydrocarbons (THC) is maintained below flammable limits, as well as providing quality control in pure O<sub>2</sub>, N<sub>2</sub>, Ar, and Air

## KEY APPLICATIONS

- Argon production
- Helium liquefaction
- Track loading
- Pure gas bottling
- Specialty gas laboratories



# PRODUCT DATA: Plasma

OPTIONS	DESCRIPTION	SPECIFICATION
Analog outputs	1 x 4-20mA measurements	Isolated 4-20mA with auto-ranging supplied as standard
Analog output range	Analog output parameters	0-1 ppm, 0-10ppm, 0-100ppm / 0-10ppm, 0-50ppm, 0-100ppm (other ranges available upon request)
Power	Three options available for North America, Europe and UK	100-120 VAC / 220-240 VAC
Range change	Volt free single pole relay	24Vdc at 1A
Mounting	Standard size	Designed to fit into a standard 3U 19" rack
Alarms	General fault alarm	Indicates when attention is required, assisting with efficient troubleshooting. Concentration alarms for "high" and "high high" alarms
Digital communications	Comprehensive range of options	Digital contacts for range indication. Remote interaction via RS232 ASCII Modbus protocol (optional) and Internet/Ethernet
Auto-calibration	Simplified configuration	Autocal function (optional) using PC software
Connection	Standard fitting option	1/8" compression fitting

## ACCESSORIES

**ACCESSORIES AVAILABLE FOR SPECIFIC APPLICATIONS  
- CONTACT YOUR LOCAL SERVOMEX BUSINESS CENTER**

MONITORING PERFORMANCE		
Gas measured	N <sub>2</sub> (standard)	N <sub>2</sub> (high purity)
In gas stream	Ar / He or Ar and He	Ar / He
Technology	Plasma Emission Detector (PED)	Plasma Emission Detector (PED)
Range	0-10ppm, 0-50ppm, 0-100ppm	0-1ppm, 0-10ppm, 0-100ppm
Accuracy (intrinsic error)	±1% of range	±1% of range
Repeatability	<1% of range	<1% of range
Zero drift/24 hr	≤ ±1% of range	≤ ±1% of range
T <sub>90</sub> at sample flow rate	20 seconds (75ml/min)	20 seconds (75ml/min)



# PRODUCT DATA: Plasma

## SAMPLE FOR MEASUREMENTS

Sample condition	Sample must be oil free, non-corrosive, non-condensing and non-flammable
Particulates	Filtered to 2µm. Please note: gas stream particulates may cause reading transients exceeding published specification
Dew point	5°C - 40°C/41°F - 104°F
Sample pressure	5-10psig
Sample flow	25-150 ml/min.

## DEVICE SPECIFICATION

### Size:

- 461mm (18.1") Wide x 132mm (5.1") High x 484mm (19") Deep

### Weight:

- 15kg (33lbs)

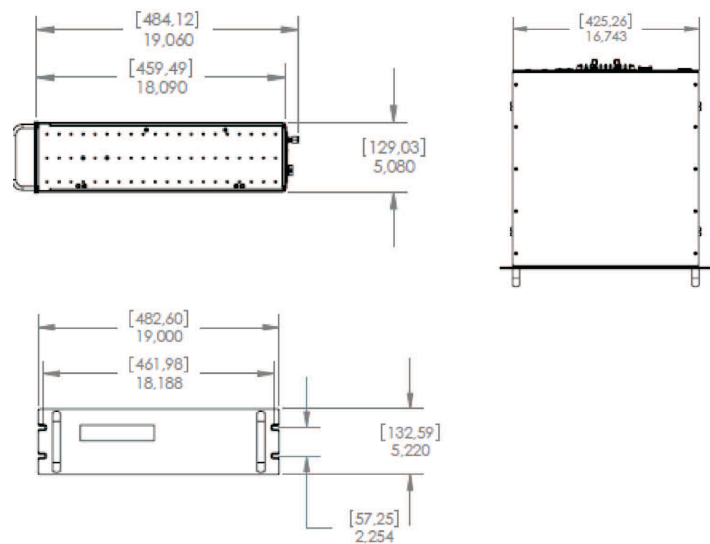
### Operating temperature:

- 5°C - 40°C/41°F - 104°F

### Certifications:

- Electrical safety to IEC 61010-1: Ed 3
- In compliance with EMC Directives, rated for Overvoltage Category II and Pollution Degree 2
- In compliance with Low Voltage, EMC and applicable Directives

## 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 August 2014. 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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