



SERVOPRO Plasma

The SERVOPRO Plasma is a Plasma Emission Detector based analyser designed to continuously measure Nitrogen in pure Argon for process and quality control in Argon production within Cryogenic Air Separation plants. The SERVOPRO Plasma can also be configured to measure Nitrogen impurities in pure Helium and Argon for quality control in gas bottling applications and specialty gas labs.

FEATURES

- Sensitive, Stable Plasma Emission Detector
- Solid State mass flow transducer controller
- Standard factory set 3 measuring ranges
- Automatic range change for optimal output resolution
- Digital communications for Remote Monitoring

APPLICATIONS

- Argon Production
- Helium Liquefaction
- Truck Loading
- Pure Gas Bottling

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KEY FEATURES

Measures Trace Nitrogen Impurities in Pure Argon and/or Helium

Plasma can be factory configured to measure N₂ in Argon, Helium or both

3 measurement ranges with automatic range change and over range

Standard ranges 0-1 ppm, 0-10 ppm, 0-100 ppm, for other ranges contact Servomex

Digital communications

The SERVOPRO Plasma offers a broad range of digital communications - Ethernet and Digital Contacts for range indication, Continuous RS232 ASCII output (OPTIONAL).

ELECTRICAL SAFETY

Electrical safety to IEC 61010-1: Ed 2

The product is rated for "Installation Category II" in accordance with IEC 60664-1

The product is rated for "Pollution Degree 2" in accordance with IEC 60664-1

EC DIRECTIVE COMPLIANCE

The SERVOPRO Plasma is in compliance with:

Low Voltage Directive

EMC Directive

And all other applicable Directives.

DESCRIPTION

Power options:

There are 3 options for the Power lead:
100-120 VAC
220-240 VAC

Range Options:

There are 2 range options:
0-1, 0-10, 0-100 (ppm)
0-10, 0-50, 0-100 (ppm)

Analogue outputs:

Analyser supplied with a 4-20 mA output with auto-ranging as standard

General Fault Alarm:

A general fault alarm indicates attention required

Digital Outputs:

A range of digital outputs as standard - digital contacts for range indication and concentration alarms, Ethernet, TCP, and optional RS232 (continuous ASCII)

Mounting:

The SERVOPRO Plasma is designed to fit in a standard 3U 19" rack

User manual:

AutoCal:

Option for autocalibration *

Background gas:

Options

- American
- European
- UK

- High purity
- Standard

- RS 232

- English
- Autocal
- Ar
- He
- Both

* Autocalibration only available on 0-1, 0-10, 0-100 (ppm) option

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SPECIFICATIONS

Gas type & background gas:	Nitrogen In Pure Ar or Pure He
TECHNOLOGY:	Plasma Emission Detector (PED)
PERFORMANCE:	
Operating range:	0-1, 0-10, 0-100 (ppm), or 0-10, 0-50, 0-100 (ppm) * For other ranges contact Servomex
Smallest recommended output range:	0-1 ppm
Intrinsic error (accuracy):	±1% range
Repeatability:	<1% range
Response time (T ₉₀) at sample flow rate:	20 seconds at 75 ml/min
Zero drift/24 hours:	≤ ±1% range
Span drift/24 hours:	≤ ±1% range
Lower Detection Limit (LDL) on 0-1 ppm range:	1% lowest range Particles present in the gas stream may cause reading transients which exceed published specification
Cross sensitivity (zero set on argon):	No effects
OUTPUTS/INPUTS:	
Analogue output:	Isolated 4-20mA
Analogue output range:	0-1, 0-10, 0-100 (ppm), or 0-10, 0-50, 0-100 (ppm)
General Fault Alarm :	Volt free single pole relay (24VDC at 1A)
Range Change:	Volt free single pole relay (24VDC at 1A)
Digital communications:	Ethernet (TCP)
Concentration Alarms:	2 volt-free single pole relays (24VDC at 1A) for high alarm, high-high alarm
OPTIONS	
Serial Output :	Continuous ASCII on RS232
Auto calibration:	Auto calibration programmable at time and date through Plasma integrated software. Integrated manifold for selection between sample span and zero calibration gases
SAMPLE GAS	
Temperature:	5°C to 40°C (41°F to 104°F)
Dewpoint:	5°C (9°F) below minimum ambient
Condition:	Oil free, non-corrosive, non-condensing, non-flammable
Particulates:	Filtered to 2µm (internal filter provided)
Vent:	Vent to atmosphere
Sample flow:	25 to 150 ml/min
Sample pressure:	5 to 10 Psig
Connection:	1/8" compression fitting
AMBIENT CONDITIONS	
Temperature:	+5°C to +40°C
Relative Humidity:	0 to 95% RH non-condensing
Altitude:	2000m above sea level

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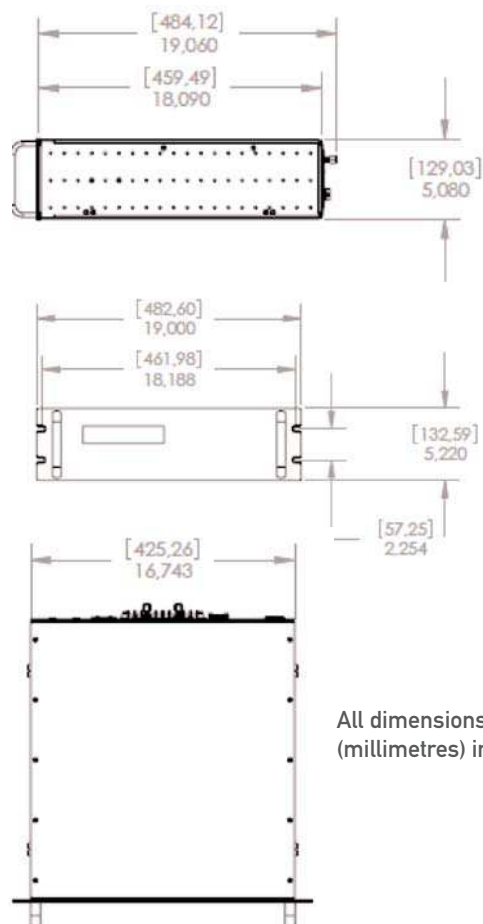
SAMPLE WETTED MATERIALS

Analyser Fitted With:
Stainless Steel, Nylon, Aluminium,
Brass, Viton, Quartz, PTFE

UTILITIES REQUIRED

Background Gas	Ar or He
Power	100 to 120 Vac or 220 to 240 Vac 50/60 Hz 45 Watt Maximum Consumption
Zero Gas	6N Grade Ar or He (depending on sample background gas)
Span Gas	At least 90% FSD N ₂ in Ar, or He (depending on sample background gas)

DIMENSIONS



All dimensions shown in
(millimetres) inches

SERVICE & SUPPORT

For new installations and replacement of older Servomex and competitor products, we will work with you to develop a bespoke service and support package, ensuring full measurement availability and plant operation within your timescales and budget.

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