



SERVOPRO PLASMA

The SERVOPRO Plasma is a Plasma Emission Detector based analyzer 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.

APPLICATIONS

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

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

SERVOMEX
PROCESS ANALYZERS



SERVOMEX 
A MEASURABLE ADVANTAGE

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

SAMPLE WETTED MATERIAL

Analyzer Fitted with:

Stainless Steel
Nylon,
Aluminium,
Brass
Viton
Quartz
PTFE

EC DIRECTIVE COMPLIANCE

The SERVOPRO Plasma is in compliance with:

Low Voltage Directive

EMC Directive

And all other applicable Directives.

DESCRIPTION	OPTIONS
POWER OPTION:	There are 3 options for the Power lead: 100-120 VAC 220-240 VAC
ANALOG OUTPUTS:	Analyzer supplied with a 4-20 mA output with auto-ranging as standard
GENERAL FAULT ALARMS:	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:	
RANGE OPTIONS:	There are 2 range options: 0-1, 0-10, 0-100 (ppm) 0-10, 0-50, 0-100 (ppm)
AUTOCAL:	Option for autocalibration *
BACKGROUND GAS:	

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

SPECIFICATION

GAS TYPE AND 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:

Analog output:

Isolated 4-20mA

Analog 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:

41°F to 104°F (5°C to 40°C)

Dewpoint:

9°F (5°C) 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:

6,500ft (2000m) above sea level

UTILITIES REQUIRED:

Background Gas

Ar or He

Power

100 to 120 Vac or 220 to 240 Vac 50/60 Hz, 45 Watt Maximum Consumption

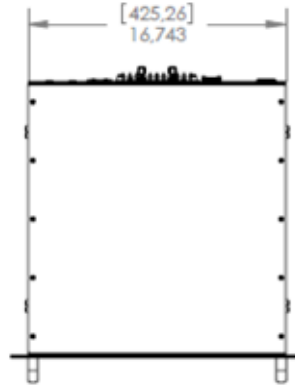
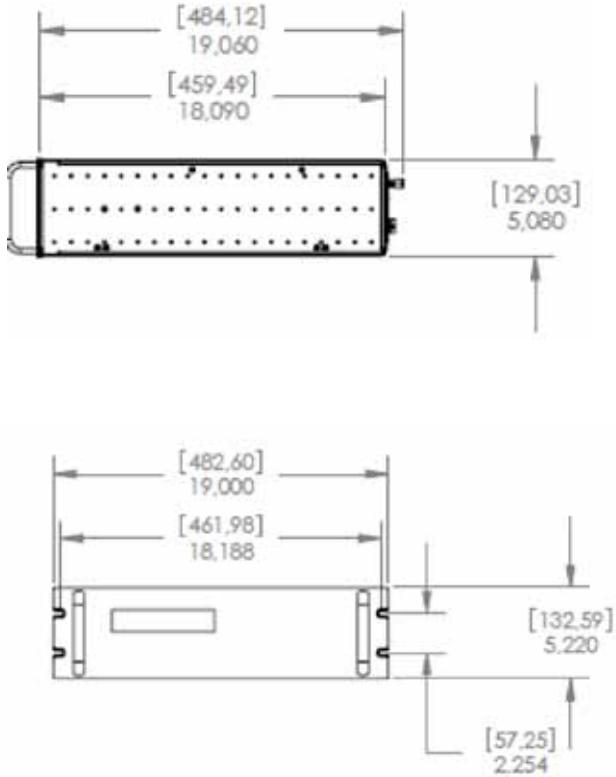
Zero Gas

6N Grade Ar or He (depending on sample background gas)

Span Gas

At least 90% FSD N₂ in Ar, or He (depending on sample background gas)

DIMENSIONS



All dimensions shown in (millimetres) inches

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