Pathology Laboratory Gas Systems [PLGS]

GAS PURITY UP TO 6.0

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MEDICAL GAS SYSTEMS

According to Health Technical Memorandum (HTM 08-06), all laboratory gas systems should be discriminated from medical systems. For toxicity, flammability, corrosiveness and safety factors, those systems are being manufactured according specific standards and from special materials.

The extended range of uses of the PLGS could be as per following:

- Hematology
- Clinical biochemistry
- Hospital bacteriology
- Hospital virology
- Histopathology
- Cytopathology
- Cryopreservation room
- Immunoassay laboratory
- Chromatography laboratory
- Cell culture room
- Mass spectrometer laboratory
- Polymerase chain reaction room
- Electrophoresis room
- Flow cytometry room
- Electron microscopy facilities
- Blood grouping and cross-matching

Depending on the gas purity grade the PLGS they do exist the below options:

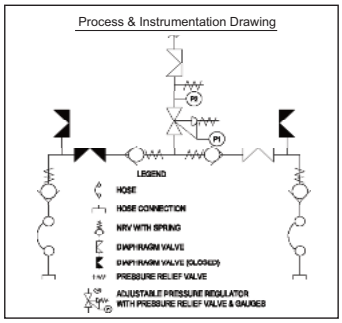
Up to 4.8 ▶ made of brass
Up to 5.0 ▶ made of nickel plated brass
Up to 6.0 ▶ made of nickel plated brass or stainless steel (depends on the type of gas)

A complete PLGS system consists of:

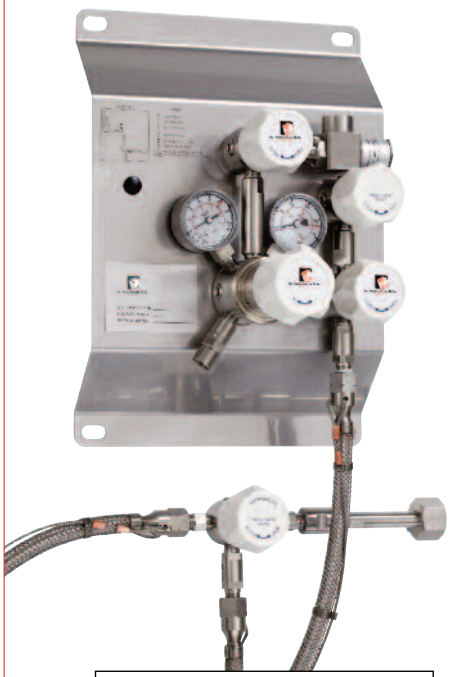
1. Cylinder manifold
2. Integrated outlet point
3. Single-stage cylinder regulator
4. Alarm panel

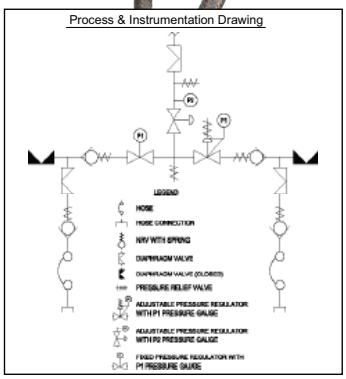
Cylinder manifold

Autochange



Manual





Specifications

Designed for use on systems using high or low cylinder pressure corrosive gases, toxic or high purity (up to grade 6.0) gases, the stainless steel Autochange Cylinder Manifolds are manufactured to operate in conjunction with cylinders filled up to 300 bar. These manifolds are designed to accommodate two equal sized banks of cylinders with one bank set as duty and the other bank set as reserve. The manifolds offer the user an uninterrupted gas supply with an alarm option to indicate when the reserve cylinder has taken over.

Product Features

- High pressure diaphragm isolation valves
- High pressure diaphragm purge/vent valves
- High pressure non-return valves
- CE marked pipeline pressure relief valve
- Pipeline diaphragm isolation valve
- Stainless steel convoluted hoses complete with cylinder connection
- Stainless steel wall mounting frame
- Stainless steel wall mounted cylinder support rack with restraint chains
- Optional contact alarm gauges for cylinder contents
- Optional inlet purge for corrosive gas mixtures
- All products are clean room assembled and undergo 100% Helium leak testing

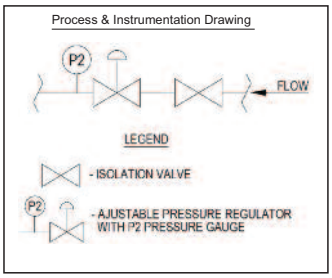
TECHNICAL DATA

Type: 2×1 cylinder
Inlet Pressure: maximum 300 bar
Outlet Pressure: 0-1.5, 0-3.5, 0-10 bar (Autochange), 0-1.5, 0-3.5, 0-10, 0-20, 0-50, 0-100, 0-200bar (Manual)
Inlet Connection: BS341, DIN or CGA
Outlet Connection: 1/4" NPT female
Materials:
Body: Regulator & Valves 316L Stainless steel
Valve seat: Regulator PCTFE
Diaphragm: Regulator & Valves 316L Stainless steel
Filter: Regulator sintered 316L Stainless steel
Helium Leak Integrity 1×10-9 mbar l/s
Gas purity grade 6.0 (99.9999%)
Temperature range -20°C to +60°C
Dimensions width: 385mm (Autochange), 255mm (Manual)
height: 270mm (Autochange), 355mm (Manual)

Integrated outlet point

Specifications

The Integrated Outlet Point is designed to be fully compatible with all types of laboratory and laboratory furniture applications. The product is designed for corrosive and toxic gases up to grade N6.0 purity (99.9999). Gas-Arc offer two additional mounting options for this product , one is designed for high level service gantry and standard surface bench mounting, the other offers a simple solution for laboratory furniture and fume cupboard integration.



Product Features

- Stainless steel point of use regulators with integrated isolation valve.
- Low wetted surface area for minimal purging.
- Wall, bench, gantry, fume cupboard and laboratory furniture mounting options.
- Clean room assembled.
- 100% Helium leak tested.
- Vacuum packed.

TECHNICAL DATA

Type: Single-stage
Inlet Pressure: maximum 40 bar
Outlet Pressure: 0-1.5, 0-3.5, 0-10, 0-20 bar
Materials:
Body: Regulator & Valve 316L Stainless steel
Valve seat: Regulator PCTFE
Diaphragm: Regulator & Valve 316L stainless steel
Seals: FFKM
Filter: Regulator sintered 316L Stainless steel
Inlet Port: 1/4 NPT female
Outlet Port: 1/4 NPT female
Helium Leak Integrity: 1×10-9 mbar l/s
Gas purity grade: 6.0 (99.9999%)
Temperature range: -20°C to +60°C

Single-stage cylinder regulator

Specifications

Designed for the primary regulation of high or low cylinder pressure corrosive, toxic or high purity (up to grade 6.0) gases to a stable outlet pressure, the stainless steel single-stage regulators covers a variety of applications including gas and liquid chromatography, high purity carrier gases, calibration gases, high purity chamber pressurisation and many more.

Product Features

- Six Port Configuration
- Front and rear panel mounting facility
- Pipe away safety relief valve for safe venting of exhaust gases
- Reliable encapsulated valve design
- Optional captured bonnet vent kit
- Low wetted surface area for minimal purge requirements
- Full range of inlet connections
- All products are clean room assembled and undergo 100% Helium leak testing

TECHNICAL DATA

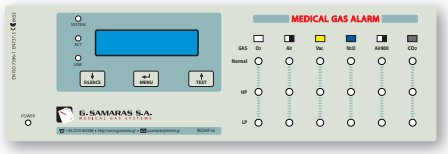
Type: Single-stage
Inlet Pressure maximum: 300 bar
Outlet Pressure: 0-1.5, 0-3.5, 0-10 bar
Materials:
Body 316L Stainless steel
Valve seat: PCTFE
Diaphragm: 316L Stainless steel
Filter sintered: 316L Stainless steel
Inlet Port: 1/4 NPT Female
Outlet Port: 1/4 NPT Female
Helium Leak Integrity: 1×10-9 mbar l/s
Temperature range: -20°C to +60°C
Weight: 1.3kg

Cylinder connecting arms

High pressure cylinder connecting arms are used as an alternative to high pressure flexible hoses.

The connecting arms are manufactured from cupro nickel or stainless steel according to the required gas service and offer a rigid tailpipe available in a range of lengths and end connections.

Alarm panel



Inputs: 5 or 6 analog inputs (transducers), 10/12 digital (switches)
Outputs:

- 10 or 12 outputs digital signals used for: a) repeating to second panel, b) central alarm system, c) BMS of installation.
- built in 10 or 18 LED, 2 red LED for each gas, 1 for high and 1 for low pressure indication and 1 green for Normal
- built in buzzer for alarm signaling
- LCD display (2×16 characters) for real time pressure monitoring and text messages corresponding to alarm conditions
- adjustable limits and alarm messages (by user programming through TCP/IP web page interface)
- adjustable analog sensors range and type
- alarm programming through Ethernet connection with an IP address
- button test and silence
- 230V 50Hz-60Hz power supply (double insulated transformers)
- alarm / events report and log file (max 200 records with relative time stamp)
- editable gas names
- remote control and monitor of the central AGSS central units through the L6
- leakage test procedures according to EN ISO 7396-1

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