



ROTAREX
EQUIPMENT



CARTRIDGE REGULATORS

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All Rotarex regulators are produced in Europe in accordance with international standards (ISO; CGA...) and are guaranteed to provide safe and reliable performance in operation. All locations are ISO 9001.

SINGLE STAGE HIGH PRESSURE CARTRIDGE REGULATORS



SERIES SC 280 - SC 380 P. 012

Technology	Diaphragm + cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Outlet Pressure	1/3/10/16/35 bar 14/40/150/250/508 psi
Flow Rate Nm³/h (N₂)	1/2/10/20/30
Material	Chrome-plated brass Stainless steel



SERIES SC 290 - SC 390 P. 014

Technology	Diaphragm + cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Outlet Pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
Flow Rate Nm³/h (N₂)	1,5/6/30/50/75
Material	Chrome-plated brass

DUAL STAGE HIGH PRESSURE CARTRIDGE REGULATORS



SERIES DC 280 - DC 380 P. 016

Technology	Diaphragm + cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Outlet Pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
Flow Rate Nm³/h (N₂)	1/2/10/20/30
Material	Chrome-plated brass Stainless steel



SERIES DC 290 - DC 390 P. 018

Technology	Diaphragm + cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Outlet Pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
Flow Rate Nm³/h (N₂)	1,5/6/30/50/75
Material	Chrome-plated brass

LINE CARTRIDGE REGULATORS



SERIES SC 281 - SC 381 P. 020

Technology	Diaphragm + cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Outlet Pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
Flow Rate Nm³/h (N₂)	1/2/10/20/30
Material	Chrome-plated brass Stainless steel



SERIES SC 291 - SC 391 P. 022

Technology	Diaphragm + cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Outlet Pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
Flow Rate Nm³/h (N₂)	1,5/6/30/50/75
Material	Chrome-plated brass

BLOCS



D705 SEMI-BLOC

P. 024

Pressure	200 bar 2900 psi
CV	0.30
Material	Chrome-plated brass Stainless steel
Type	Diaphragm
Handwheel	Multi turn



D706 EXTENSION BLOC

P. 026

Pressure	200 bar 2900 psi
CV	0.30
Material	Chrome-plated brass Stainless steel
Type	Diaphragm
Handwheel	Multi turn



D707 BLOC

P. 028

Pressure	200 bar 2900 psi
CV	0.30
Material	Chrome-plated brass Stainless steel
Type	Diaphragm
Handwheel	Multi turn

SUPPLY BOARDS



CM 280 - CM 380

P. 030

Technology	Diaphragm + Cartridge
Inlet Pressure	200/300 bar 2900/4350 psi
Flow Rate	10/16/35 bar 145/232/508 psi
Material	Chrome-plated brass Stainless steel

TECHNOLOGY OVERVIEW

All Rotarex cartridge regulators use our proprietary diaphragm technology:

- Our most proven technology
- Compact design
- Good precision

Superior technical performance with cartridge technology:

- Better outlet pressure stability due to the cartridge design. Outlet pressure remains stable despite any fluctuation of inlet pressure.
- Longer product life due to less impingement on the diaphragm.
- Compact design with reduction of dead volume (minimal purge requirements)
- Sintered inlet filter provides better filtration without restricting flow.

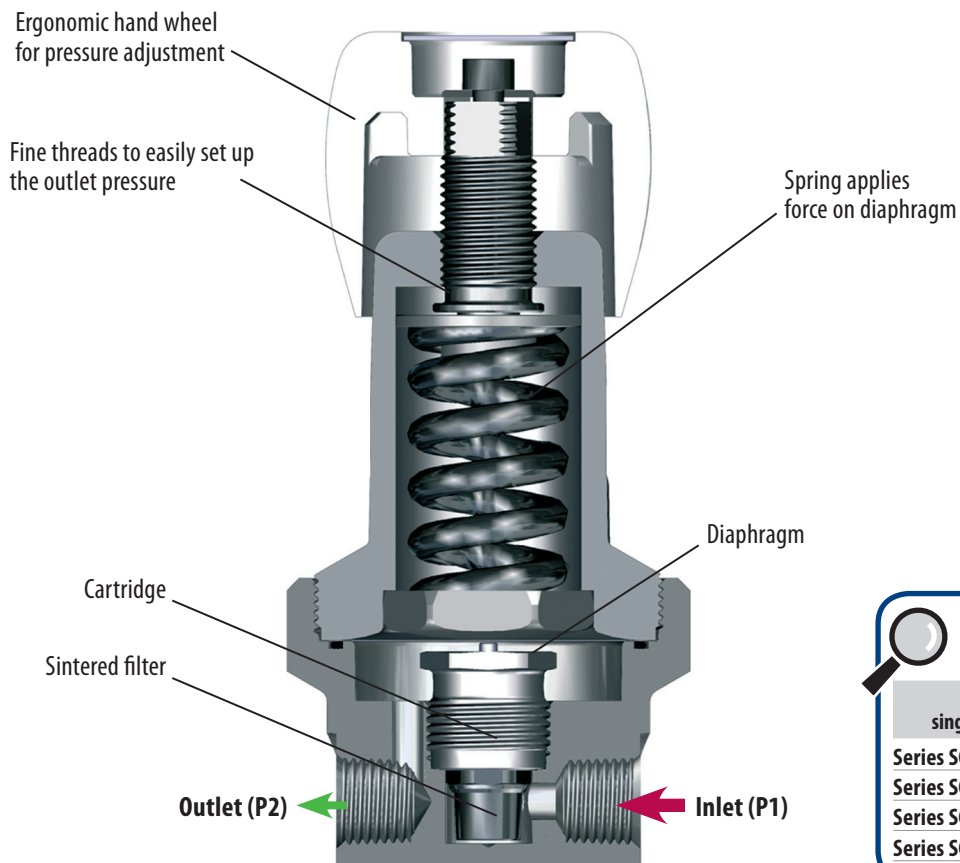
SINGLE STAGE REGULATOR

A **single stage regulator** will reduce the inlet pressure to the outlet pressure in one step by turning the hand wheel we can adjust the outlet pressure. Due to the design of single stage regulators, the outlet pressure increases as cylinder pressure decreases. The outlet pressure can be readjusted by the hand wheel.

Because of this small pressure rise, single stage regulators are recommended for applications that do not require a constant outlet pressure.

Single stage regulators are also recommended for liquefied gas service such as CO₂, Propane, LPG, cryogenic gases and other gases that are liquid in the cylinder.

CARTRIDGE REGULATOR



PRODUCT FINDER

ROTAREX
single stage regulators

Series SC 280/380	P. 012
Series SC 290/390	P. 014
Series SC 281/381	P. 020
Series SC 291/391	P. 022

TECHNOLOGY OVERVIEW (continued)

DUAL STAGE REGULATORS

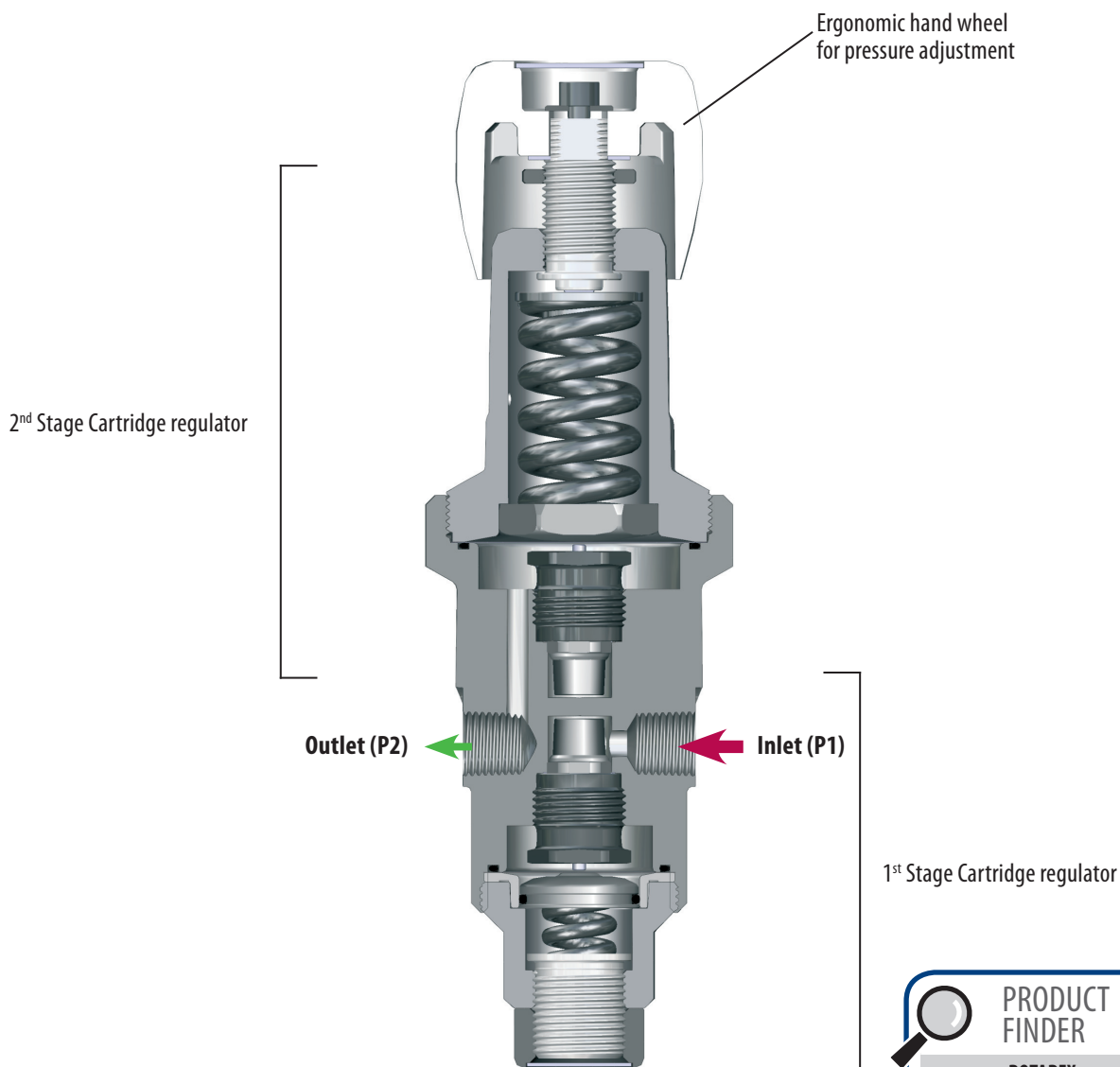
A **dual stage regulator** is basically two single stage regulators in a single body. This dual configuration provides superior pressure and flow stability vs. single stage regulators.

The first stage is preset to an intermediate pressure. This intermediate pressure acts as an inlet pressure to the second stage, which is adjustable.

Because the pressure has been reduced to the intermediate pressure by first stage, the pressure feeding the second stage of the regulator remains constant, there by insuring a constant outlet pressure to the application regardless of cylinder pressure. This technology avoids having to frequently adjust the outlet pressure as the cylinder pressure drops.

Application would be laboratory, gas chromatography but also in the industry for precision welding

CARTRIDGE REGULATOR



PRODUCT FINDER

ROTAREX
dual stage regulators

Series DC 280/380	P. 015
Series DC 290/390	P. 016

SELECTING THE RIGHT REGULATOR

To choose the right regulator for your application, and to get the best results, you should identify the following technical parameters:

TECHNICAL PARAMETER	EXAMPLES
Gas	Inert, flammable, oxidizing, corrosive, toxic
Purity	UHP, HP, industrial, medical, diving
Nominal inlet pressure	bar or psi
Nominal outlet pressure	bar or psi
Nominal flow (N ₂)	Nm ³ /h or Nlpm
Single stage or dual stage ?	Dual stage or BV Technology are needed where pressure stability is essential
Product	Regulator, point of use
Material	Chrome-plated brass, stainless steel
Inlet connection	Country of use, standard, connection
Outlet connection	¼ NPT, male, female
Gauges	Low pressure, high pressure
Safety device	Yes / no
Vacuum	Yes / no
Application	Food, electronic, medical, welding, industrial, diving...
Outdoor or indoor use	Environment
Temperature range	-40°C to + 60°C / -40°F to + 140°F
Atex use	Yes / no
Preset outlet pressure	If yes, which pressure ?
Marking	CE, TPED, PI

Each product page is designed to provide you the essential technical information at a glance :

12 SINGLE STAGE HIGH PRESSURE CARTRIDGE REGULATOR

SERIES SC 280 - SC 380 | SINGLE STAGE HP CARTRIDGE REGULATOR

APPLICATIONS

- Diaphragm Single Stage
- Purity up to 6.0
- Inlet Pressure: 200 bar (2900 psi) / 300 bar (4350 psi)
- Outlet Pressure: 0.1 to 160 bar / 1.4 to 2320 bar
- Compact and lightweight design
- 1" inlet / 1" outlet
- 0, application compatible core mechanical design
- Inlet / Outlet pressure gauge
- Clear marks for panel mounting
- 1" shut off valve

KEY FEATURES

- Designed for cylinder regulator applications
- Ideally suited for pure, inert and corrosive gas
- Applications such as: Calibration gases, Corrosive atmosphere, High purity gas carrying
- This single stage regulator is based on the Cartridge seat technology.
- Compact, ergonomic and lightweight design makes this regulator suitable for many applications.
- Accurate pressure control for reliable service.
- Handheld in compliance with ATEX regulation and easy to clean.
- Could be equipped with a shut off valve

SPECIFICATIONS

Female ports: ¼ NPT (male / female)	Weight: ± 1.1 kg / ± 2.4 lbs	Inlet pressure: 200/300 bar / 2900/4350 psi
Valve seal: PTFE	Leak rate: 10 ⁻⁶ mbar l/s/ha	Outlet pressure: 0.1/160/2320 bar / 1.4/2320/3320 psi
O-ring: PTFE	Temperature range: -85°C to +60°C / -95°F to +140°F	Material: Alloy 6061 Al (N)
Diaphragm: Hastelloy®	Gauge: High and low pressure (¼ NPT)	Oxygen use: OK with brass and stainless steel

FLOW CURVES

PRODUCT CONFIGURATOR

Body Material	Inlet Pressure	Outlet Pressure	Parts	Inlet Connection	Spring Material	Gauge	Parts Configuration
Chrome plated	200 bar	1 bar	5 parts	¼ NPT	EPDM	Without	Standard
Stainless steel	300 bar	1 bar	5 parts	¼ NPT	EPDM	With	Reverse
							Accessories

SELECTING THE RIGHT REGULATOR (continued)

BODY MATERIALS

Most Rotarex pressure regulators are available in stainless steel 316 L or chrome plated brass. Which material is best for your application ?

Stainless steel 316L: The recommended option for corrosive gases and high to ultra high purity applications due to its superior resistance, non-reactivity, exceptional durability and high-surface finish properties. It is compatible with most gas types and low-velocity oxygen applications.

Rotarex uses Stainless steel type 316L (1.4435), an austenitic chromium nickel stainless steel containing Molybdenum. It offers:

- Exceptional corrosion resistance
- particularly against sulfuric, hydrochloric, acetic, formic and tartaric acids, acid sulfates and alkaline chlorides;
- Resistance to pibng from chloride-ion solutions; and outstanding strength even at elevated temperatures

Chrome plated brass: The most commonly used material for industrial and high velocity oxygen applications due to its effectiveness versus stainless steel, good strength, resistance and low-friction flow properties.

Need more information? You can find more detail about optional materials on our website: www.rotarex.com. Additionally, one of our material engineers would be happy to discuss the pros and cons of each option to help you choose in the best solution.



Gas Compatibility: make sure the body material is compatible with the gas type you will be using. Consult the gas compatibility reference chart on page 34.

SEAL MATERIAL

For all cartridge regulators the seat seal is PCTFE which provides a wide chemical compatibility, good temperature resistance, and better dimensional stability than traditional seals.

DIAPHRAGM MATERIAL

All cartridge regulators are equipped with a Hastelloy® diaphragm, which is ideally adapted to high purity applications and is compatible with all types of gases , and has exceptional elasticity and high corrosion resistance. Consequently, this diaphragm outperforms traditional stainless steel diaphragms in terms of pressure stability and long cycle lifetime.

FILTER MATERIAL

Rotarex cartridge regulators employ a Sintered Filter in 316L for the stainless steel and bronze for brass version.

- The function of this filter is to protect the regulator against foreign particle coming from the gas or during installation. In any case a filter has to be installed on the line based on your cleanliness requirements.

INLET/OUTLET PRESSURE

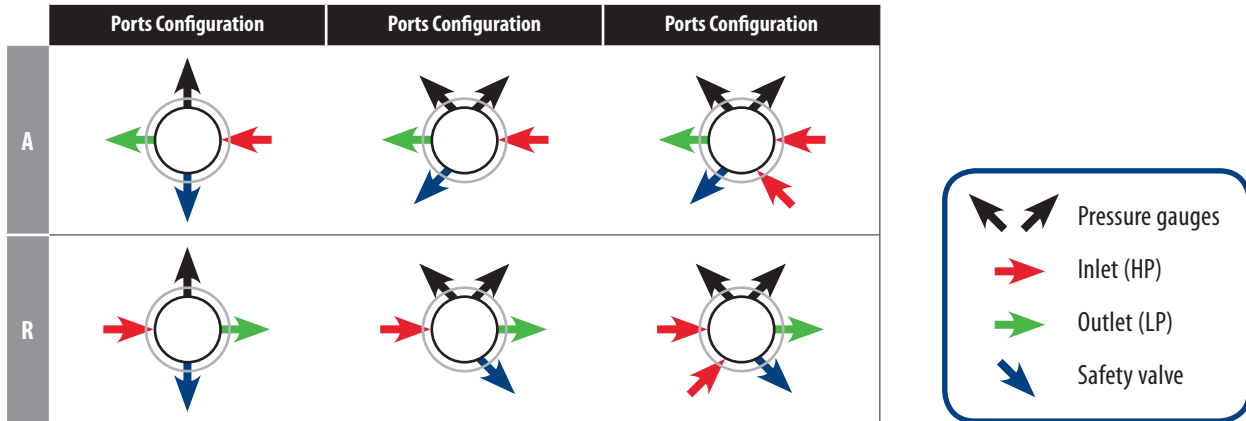
Different models are designed for different inlet and outlet pressure performance. The available options are clearly indicated on each product page. Please specify required inlet and outlet pressures when ordering. We can also accomodate special requests.

SELECTING THE RIGHT REGULATOR (continued)

CYLINDER CONNECTION PORTS

The standard cylinder connection port is 1/4" NPT male which works for most applications. Other connections are available on request.

A = Standard (4 or 5 ports)
R = Reverse Inlet/Outlet



GAUGES

Most Rotarex regulators are equipped with pressure gauges. However, you can specify with or without gauges when ordering. Check the product configurator table on each product page.

SAFETY RELIEF VALVE

The safety relief valve is standard on most Rotarex regulators and adapted to the gas type.

O-RING

A choice of 3 different o-ring materials are available to accommodate different gas types:

- PTFE: Polytétrafluoroéthylène
- EPDM: Ethylene Propylene Rubber
- FPM: Fluorocarbon Rubber (VITON®)

SELECTING THE RIGHT REGULATOR (continued)

OTHER PRODUCT OPTIONS

Some product solutions have additional options specific to its unique application, such as mounting options, flow scale, valve type, etc. These options are clearly indicated on the product configuration table on each product page.

12 SINGLE STAGE HIGH-PRESSURE CARTRIDGE REGULATOR

SERIES SC 280 - SC 380 | SINGLE STAGE HP CARTRIDGE REGULATOR

Diaphragm Single Stage

- Purity up to 9.9
- Inlet Pressure: 200 bar (2900 psi) - 300 bar (4350 psi)
- Outlet Pressure: 1.0/1.0/1.6/2.5 bar / 14.5/6.6/14.5/232/338 psi

• Compact and lightweight design

- 1/2" NPT outlet
- O₂ application compatible (see technical data)
- Inlet / Outlet pressure gauge
- Inlet ready for panel mounting
- 1 safety relief valve


Special requirements on request

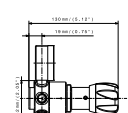
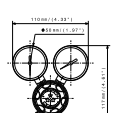
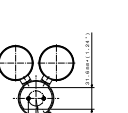
APPLICATIONS

- Designed for cylinder regulator applications
- Ideally suited for pure, inert and common gas
- Applications such as:
 - Calibration gases
 - Controlled atmosphere
 - High purity gas carrying

KEY FEATURES

- This single stage regulator is based on the Cartridge seal Technology
- Compact, ergonomic and lightweight design makes this regulator suitable for many applications.
- Accurate pressure control for reliable service.
- Handheld in compliance with ATEX regulation and easy to clean.
- Could be equipped with a shut off valve



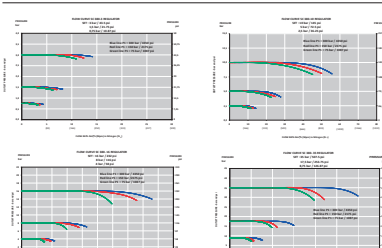




13 SINGLE STAGE HIGH-PRESSURE CARTRIDGE REGULATOR

SPECIFICATIONS

Female port: 1/2" NPT (inlet / outlet)	Weight: ± 1.1 kg / ± 2.4 lb	Inlet pressure: 200/300 bar / 2900/4350 psi
Valve seal: PTFE	Leak rate: 10 ⁻⁶ mbar Ea/h	Outlet pressure: 1.0/1.0/1.6/2.5 bar / 14.5/6.6/14.5/232/338 psi
O-ring: PTFE	Temperature range: -40°C to +100°C	Material Flow: 1.0/1.0/1.6/2.5 bar (in (in))
Diaphragm: Hastelloy®	Gauges: High and low pressure (1/2" NPT)	Orifice size: Or with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

Body Material	Inlet Pressure	Outlet Pressure	Parts	End Connections	Sealing Material / Safety relief valve	Gauges	Parts Configuration
SC	200	200	5	1/2" NPT	EPDM	Without	Standard
Chrome plated brass	200 bar / 2900 psi	1.0 bar / 14.5 psi	5 parts	1/2" NPT	EPDM	Without	A
Stainless steel	300 bar / 4350 psi	1.6 bar / 23.2 psi	6 parts	1/2" NPT	EPDM	With	B Reverse / Inlet/Outlet
		1.0 bar / 14.5 psi					
		1.6 bar / 23.2 psi					
		2.5 bar / 36.3 psi					

CLEANING

All products, regardless of gas application, are cleaned to remove all traces of residue and grease using the same procedures as for O₂ use. There is no need to specify cleaning when ordering.

SERIES SC 280 - SC 380 | SINGLE STAGE HP CARTRIDGE REGULATOR

- Diaphragm Single Stage
- Purity up to 6.0
- Inlet Pressure:
200 bar (2900 psi)
300 bar (4350 psi)
- Outlet Pressure:
1/3/10/16/35 bar
14.5/44/145/232/508 psi

- ★ Compact and lightweight design
- ★ 1 Inlet / 1 Outlet
- ★ O₂ application compatible (see technical data)
- ★ Inlet / Outlet pressure gauge
- ★ Rear threads for panel mounting
- ★ 1 safety relief valve

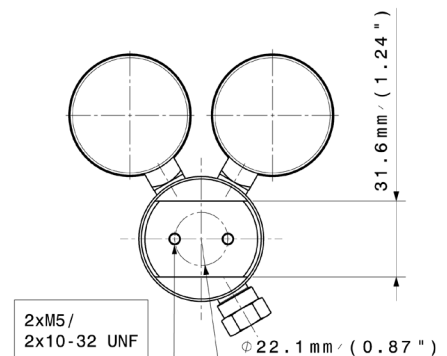
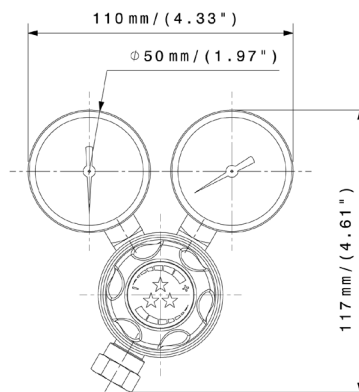
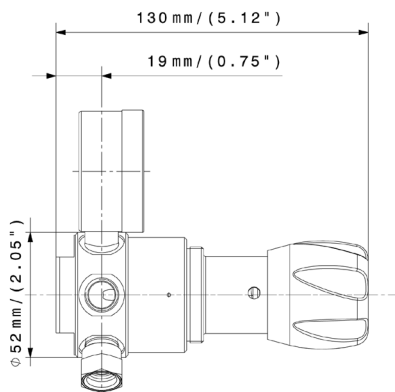
Special requirements on request

APPLICATIONS

- Designed for cylinder regulator applications
- Ideally suited for pure, inert and corrosive gas
- Applications such as:
 - Calibration gases
 - Controlled atmosphere
 - High purity gas carrying

KEY FEATURES

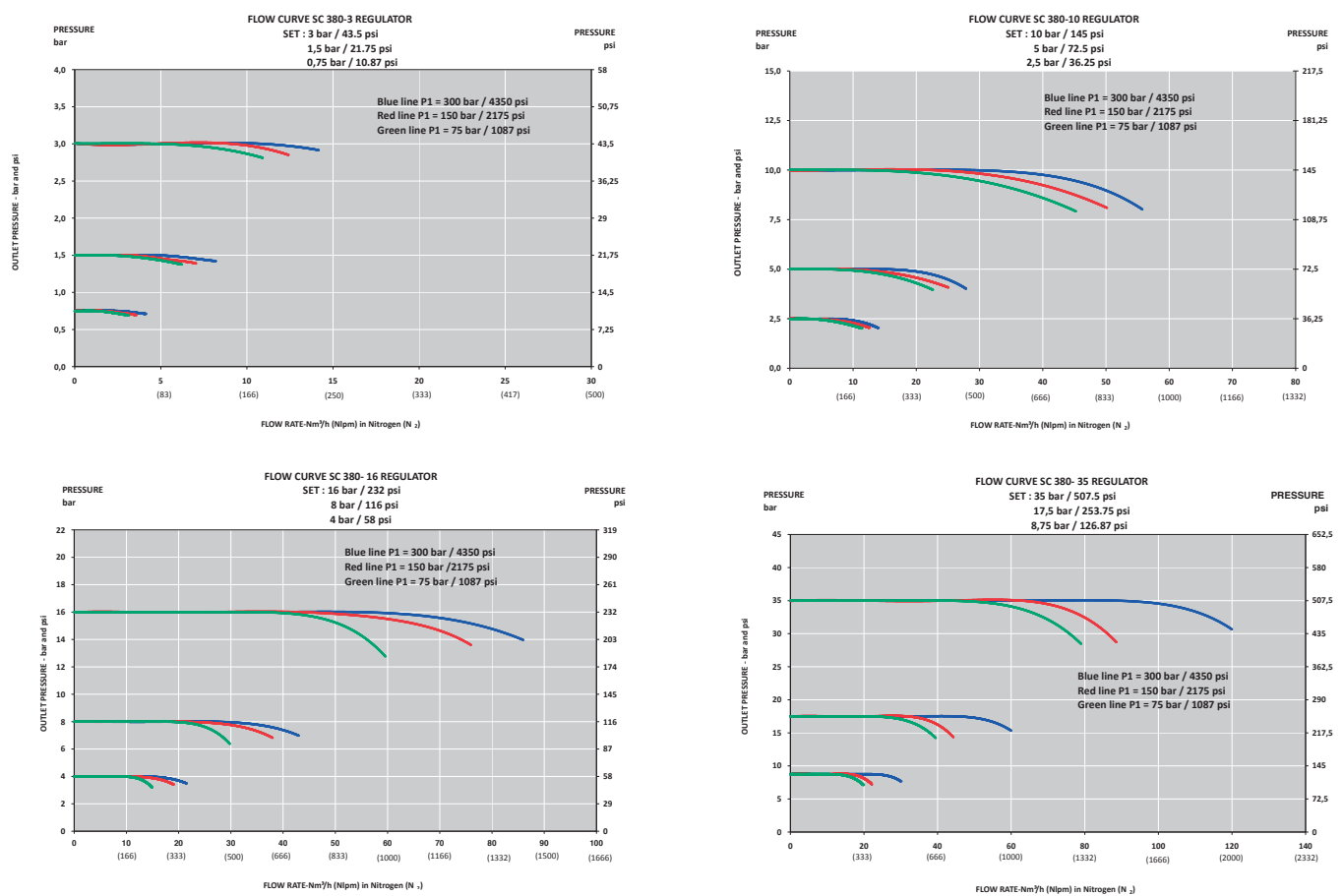
- This single stage regulator is based on the Cartridge seat Technology.
- Compact, ergonomic and lightweight design makes this regulator suitable for many applications.
- Accurate pressure control for reliable service.
- Handwheel in compliance with ATEX regulation and easy to clean
- Could be equipped with a shut off valve



SPECIFICATIONS

Female ports	¼" NPT (inlet / outlet)	Weight	± 1,1 kg ± 2.4 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
O-ring	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow Cv	1/2/10/20/30 Nm ³ /h (N ₂) 0.1
Diaphragm	Hastelloy®	Gauges	High and low pressure (¼ NPT)	Oxygen use	OK with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

Body Material		Inlet Pressure	Outlet Pressure	Ports	End Connections	O-ring Materials (safety relief valve)	Gauges	Ports Configuration
SC	L	280	10	5	N	EPDM	1	A
	Chrome plated brass	200 bar / 2900 psi	280	1 bar / 14.5 psi	5 ports / 5	EPDM standard	Without	0
	Stainless steel	300 bar / 4350 psi	380	3 bar / 44 psi	6 ports / 6	FPM	With	1
			10 bar / 145 psi	10				
			16 bar / 232 psi	16				
			35 bar / 508 psi	35				

SERIES SC 290 - SC 390 | SINGLE STAGE HP CARTRIDGE REGULATOR

- Diaphragm Single Stage
- Purity up to 6.0
- Inlet Pressure:
200 bar (2900 psi)
300 bar (4350 psi)
- Outlet Pressure:
1/3/10/16/35 bar
14.5/44/145/232/508 psi

- ★ High flow regulator
- ★ 1 Inlet / 1 outlet
- ★ O₂ application compatible
(see technical data)
- ★ Inlet / outlet pressure gauges
- ★ 1 safety relief valve

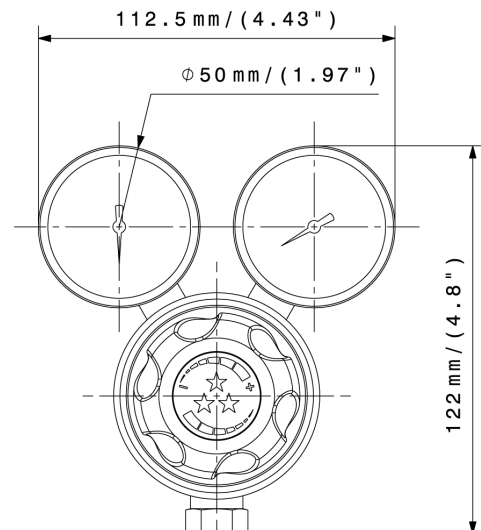
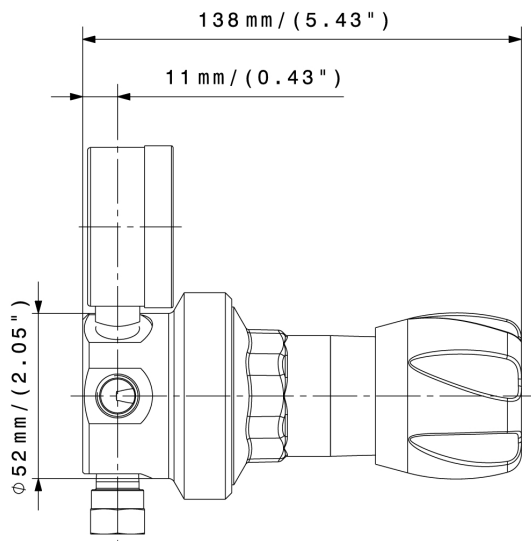
Special requirements on request

APPLICATIONS

- Designed for cylinder regulator applications
- Acetylene application like Atomic
Absorption Flame Spectrometry
- Purge gas application
- Laser application (carrying gas)

GENERAL

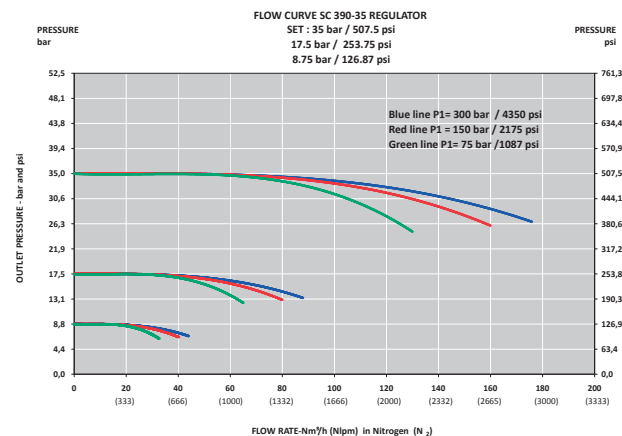
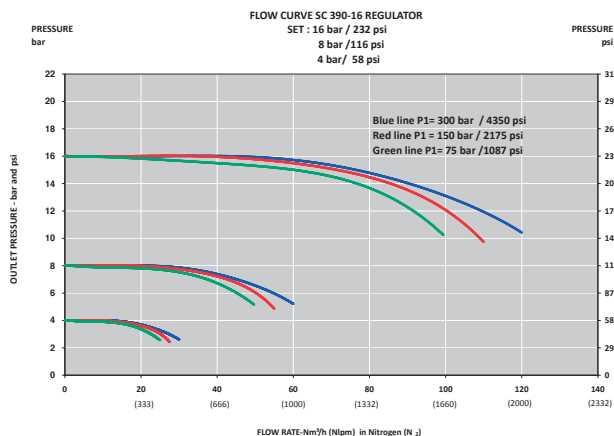
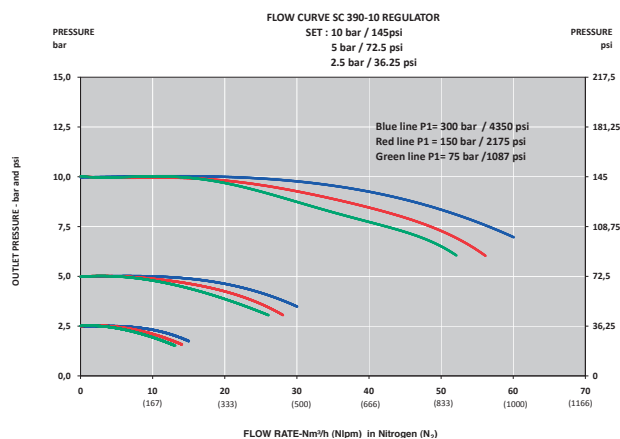
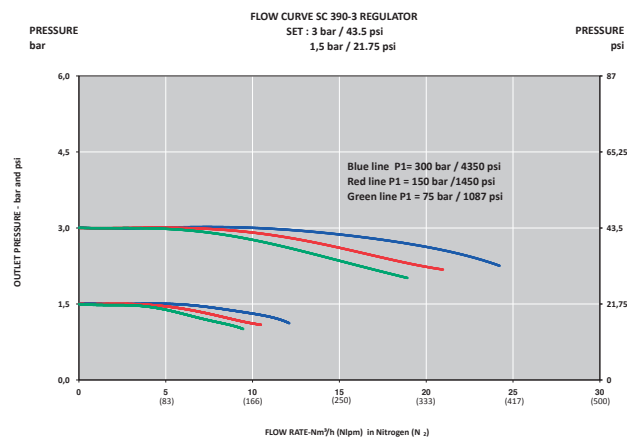
- This single stage regulator is based on the Cartridge seat Technology.
- High Flow regulator with a very stable outlet pressure based on the cartridge technology
- Accurate pressure control for reliable service
- Acetylene version available at the outlet
- Only in chrome plated brass
- Could be equipped with a shut off valve



CARACTERISTICS

Female ports	¼" NPT (Inlet/Outlet)	Weight	± 1,4 kg ± 3.0 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
O-ring	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow Cv	1,5/6/30/50/75 Nm ³ /h (N ₂) 0.2
Diaphragm	Hastelloy®	Gauges	High and low pressure (¼ NPT)	Oxygen use	OK with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

	Body Material	Inlet Pressure	Outlet Pressure	Ports	End Connections	O-ring Materials (safety relief valve)	Gauges	Ports Configuration
SC	L	290	1	5	N	EPDM	1	A
	Chrome-plated brass	200 bar 2900 psi	1 bar 14.5 psi	5 ports	¼" NPT - ¼" NPT	EPDM - standard	Without	Standard
		300 bar 4350 psi	3 bar 44 psi	6 ports	N	FPM	With	Reverse Inlet/outlet
			10 bar 145 psi	10				
			16 bar 232 psi	16				
			35 bar 508 psi	35				
			Acetylene version 1.5 bar (21.76 psi)	AD				

SERIES DC 280 - DC 380 | DUAL STAGE HP CARTRIDGE REGULATOR

- Diaphragm Dual Stage
- Purity up to 6.0
- Inlet Pressure:
200 bar (2900 psi)
300 bar (4350 psi)
- Outlet Pressure:
1/3/10/16/35 bar
14.5/44/145/232/508 psi

- ★ Compact and lightweight design
- ★ 1 Inlet / 1 Outlet
- ★ O₂ application compatible (see technical data)
- ★ Inlet / Outlet pressure gauge
- ★ 1 safety relief valve

Special requirements on request

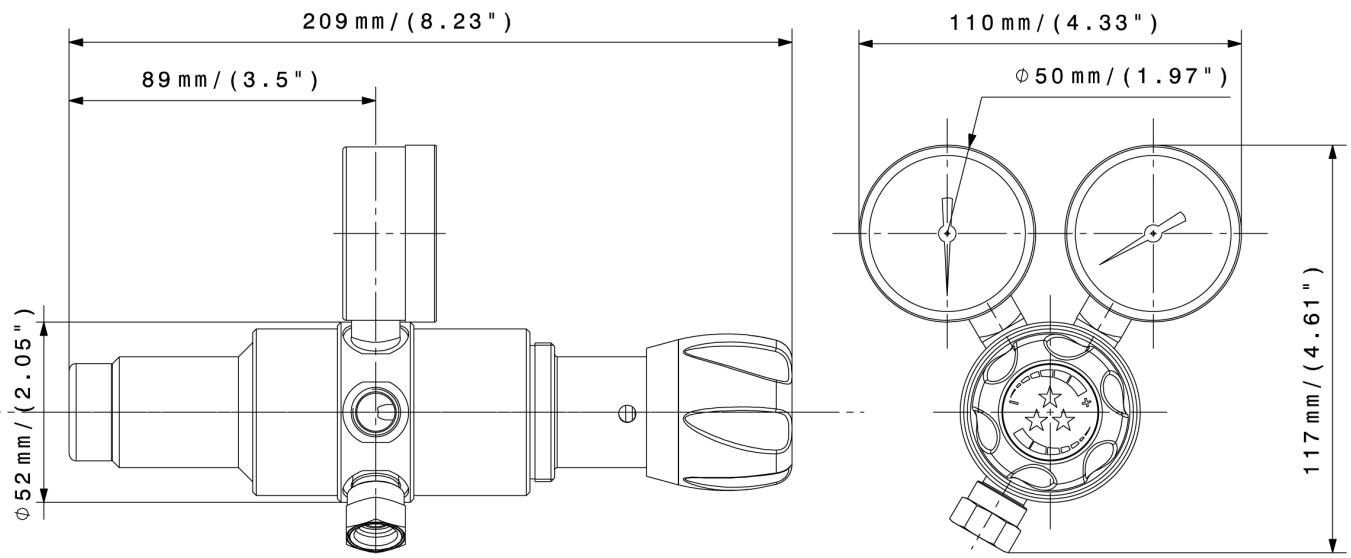
APPLICATIONS

This regulator is ideally suited as cylinder regulator for pure, inert and corrosive gas applications such as analytical instrumentation.

- Gas Chromatograph
- Carrying gas
- Calibration gas

GENERAL

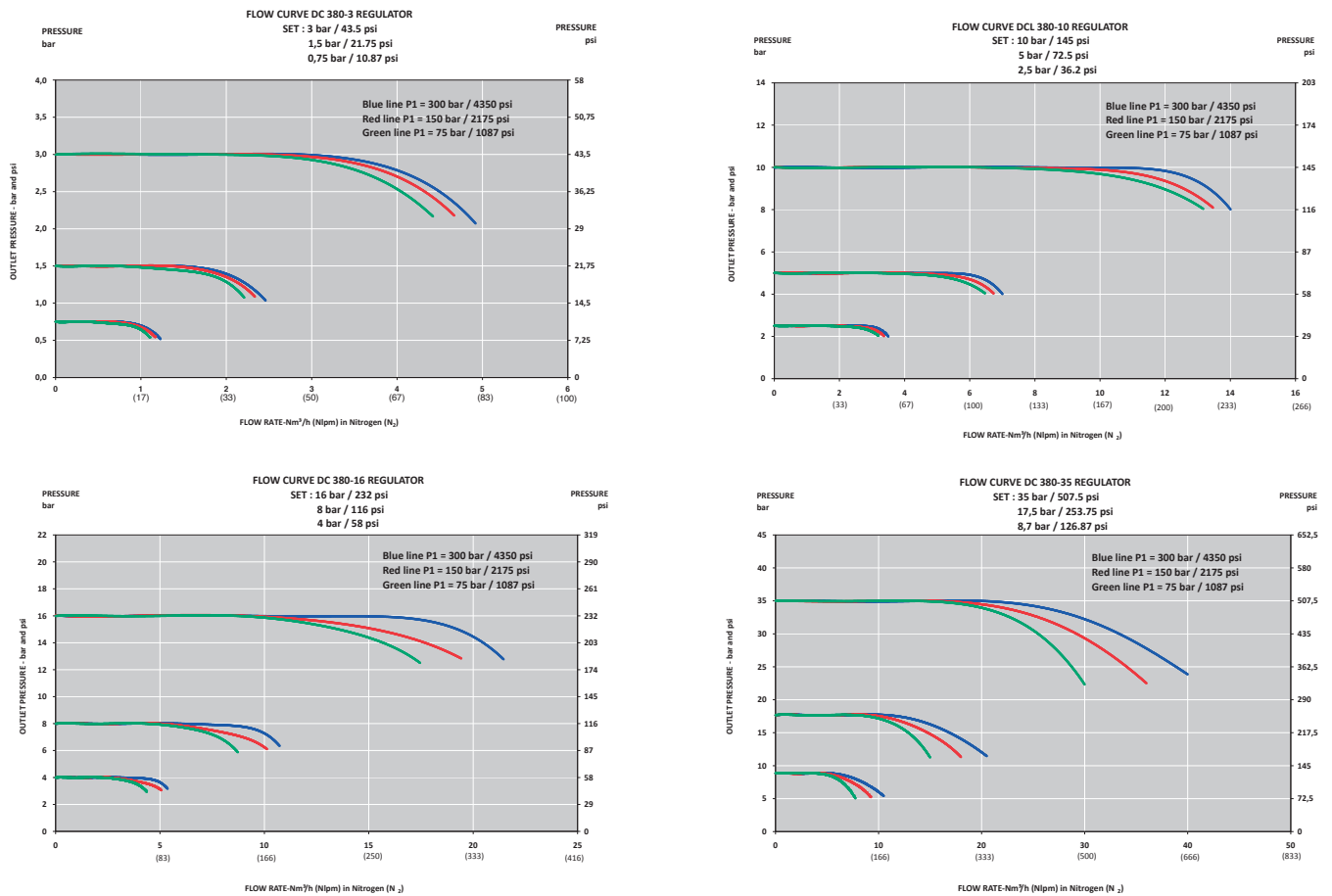
- This dual stage regulator is based on the Cartridge seat Technology.
- Compact, ergonomic and lightweight design makes this regulator suitable for many applications.
- Accurate pressure control for reliable service.
- Handwheel in compliance with ATEX regulation and easy to clean
- Could be equipped with a shut off valve



CARACTERISTICS

Female ports	¼" NPT (Inlet/Outlet)	Weight	± 1,5 kg ± 3.3 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
O-ring	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow Cv	1/2/10/20/30 Nm ³ /h (N ₂) 0.06
Diaphragm	Hastelloy®	Gauges	High and low pressure (¼ NPT)	Oxygen use	OK with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

	Body Material	Inlet Pressure	Outlet Pressure	Ports	End Connections	O-ring Materials (safety relief valve)	Gauges	Ports Configuration
SC	L	280	3	5	N	EPDM	1	A
	Chrome-plated brass	L 200 bar / 2900 psi	290 1 bar / 14.5 psi	1 5 ports - standard	5 ¼" NPT - ¼" NPT	N EPDM - standard	Without 0	Standard A
	Stainless steel	I 300 bar / 4350 psi	390 3 bar / 44 psi	3 6 ports	6	FPM	With 1	Reverse Inlet/outlet R
			10 bar / 145 psi	10				
			16 bar / 232 psi	16				
			35 bar / 508 psi	35				

SERIES DC 290 - DC 390 | DUAL STAGE HP CARTRIDGE REGULATOR

- Diaphragm Dual Stage
- Purity up to 6.0
- Inlet Pressure:
200 bar (2900 psi)
or 300 bar (4350 psi)
- Outlet Pressure:
1/3/10/16 bar
14/40/150/200psi

- ★ High flow regulator
- ★ 1 Inlet / 1 Outlet
- ★ O₂ application compatible
(see technical data)
- ★ Inlet / Outlet pressure gauge
- ★ 1 safety relief valve

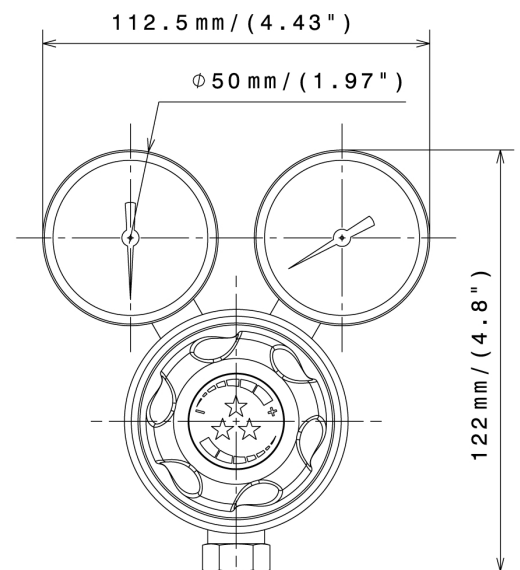
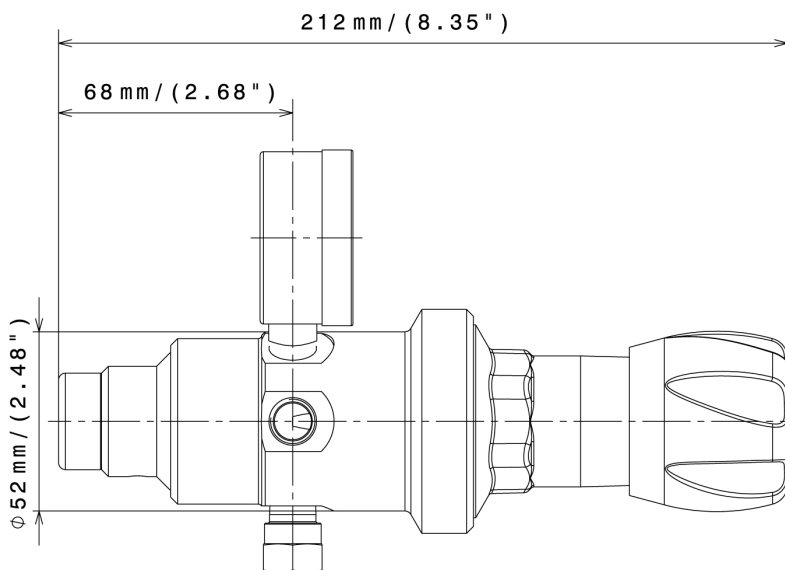
Special requirements on request

APPLICATIONS

- This regulator is ideally suited as cylinder regulator for pure, inert and corrosive gas applications such as analytical instrumentation
- Analytical instrumentations
- Fuel gas supply (Fuel Cell)
- Calibration gas

GENERAL

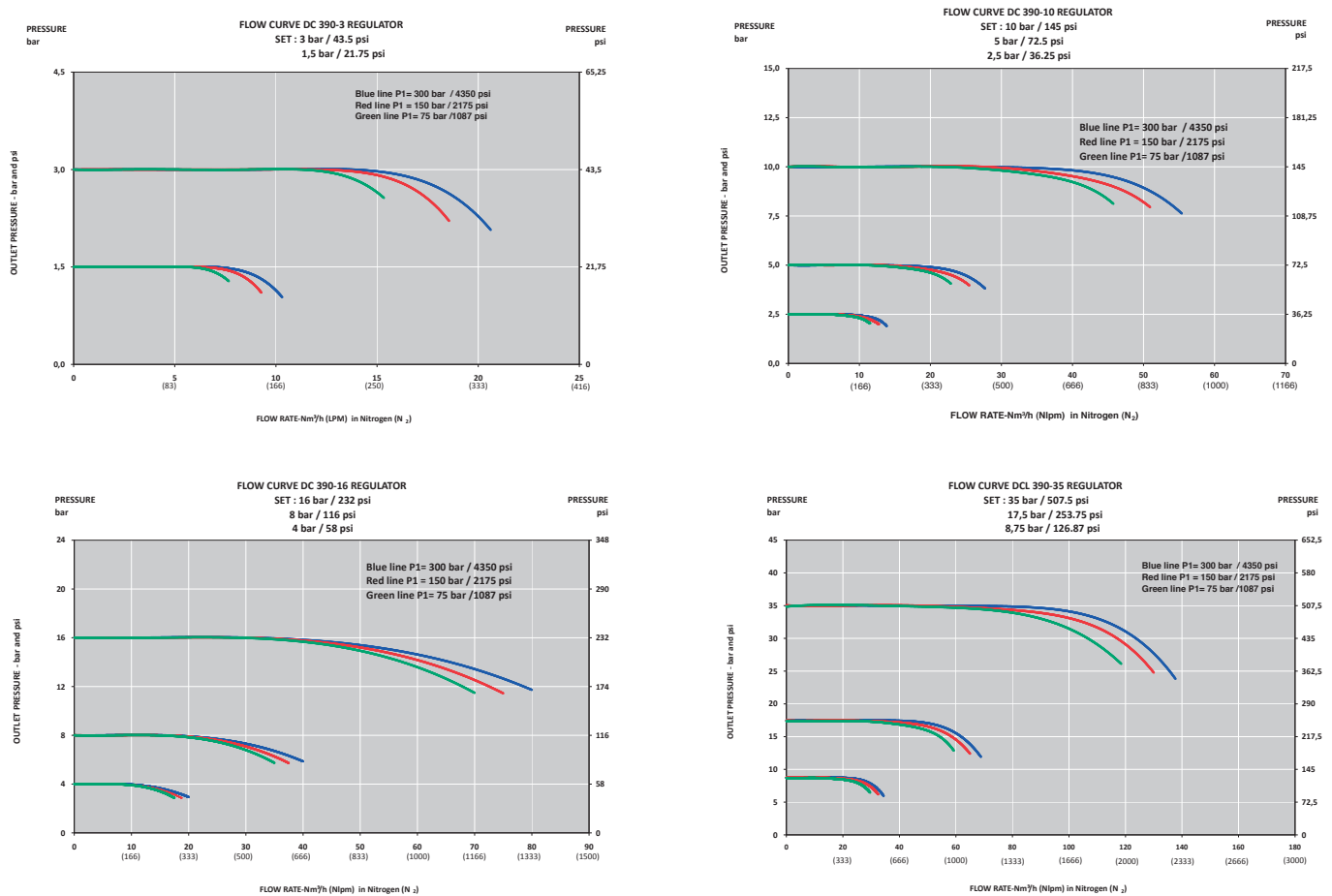
- This dual stage regulator is based on the Cartridge seat Technology.
- This regulator is an accurate pressure control for reliable service.
- Ideally designed for cylinder regulator applications.
- Regulator designed for high flow applications
- Compact and lightweight designed high pressure regulator.
- Could be equipped with a shut off valve



CHARACTERISTICS

Female ports	¼" NPT (Inlet/Outlet)	Weight	± 2,0 kg ± 4.4 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
O-ring	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow Cv	1,5/6/30/50/75 Nm ³ /h (N ₂) 0.15
Diaphragm	Hastelloy®	Gauges	High and low pressure (¼" NPT)	Oxygen use	OK with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

	Body Material	Inlet Pressure	Outlet Pressure	Ports	End Connections	O-ring Materials (safety relief valve)	Gauges	Ports Configuration
DC	L	290	1	5	N	EPDM	1	A
	Chrome-plated brass	200 bar 2900 psi	290 1 bar 14.5 psi	1 5 ports	5 ¼" NPT - ¼" NPT	N EPDM - standard	Without 0	Standard A
		300 bar 4350 psi	390 3 bar 44 psi	3 6 ports	6	FPM	With 1	Reverse Inlet/outlet R
			10 bar 145 psi	10				
			16 bar 232 psi	16				
			35 bar 508 psi	35				

SERIES SC 281 - SC 381 | LINE HP CARTRIDGE REGULATORS

- Diaphragm Single Stage
- Purity up to 6.0
- Inlet Pressure:
200 bar (2900 bar)
300 bar (4350 bar)
- Outlet Pressure:
1/3/10/16/35 bar
14.5/44/145/232/508 psi

- ★ Compact and lightweight design
- ★ 1 Inlet / 1 Outlet
- ★ O₂ application compatible (see technical data)
- ★ Inlet / Outlet pressure gauge
- ★ 1 safety relief valve

Special requirements on request

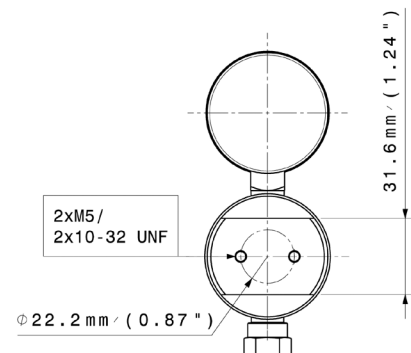
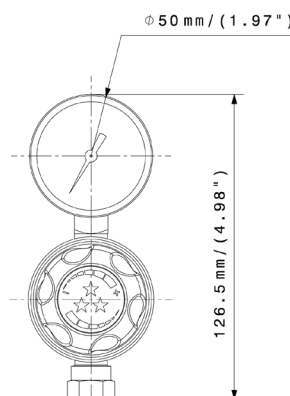
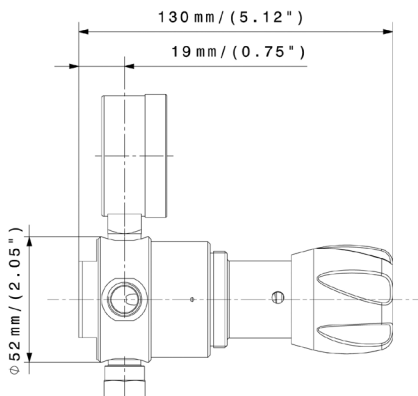
APPLICATIONS

- Designed for line regulator applications when the supply of speciality gases is demanded in laboratory or in industrial environment
- Used in calibration gas mixtures for petrochemical industry, environmental emission monitoring, industrial hygiene of safety monitors and trace impurity analyzers.

GENERAL

This line regulator is based on the Cartridge seat Technology.

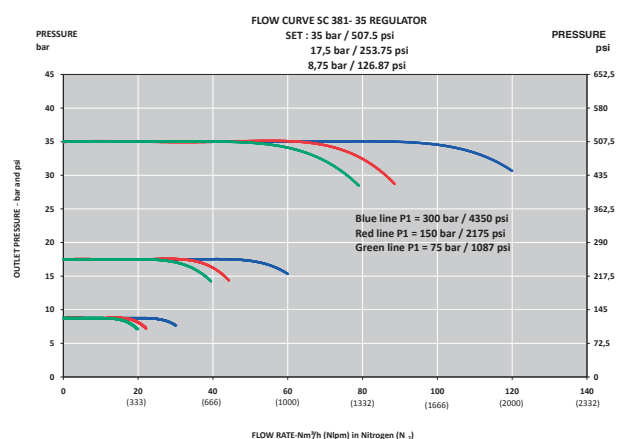
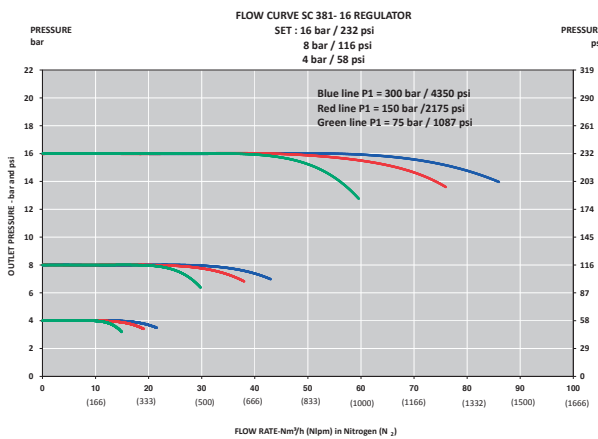
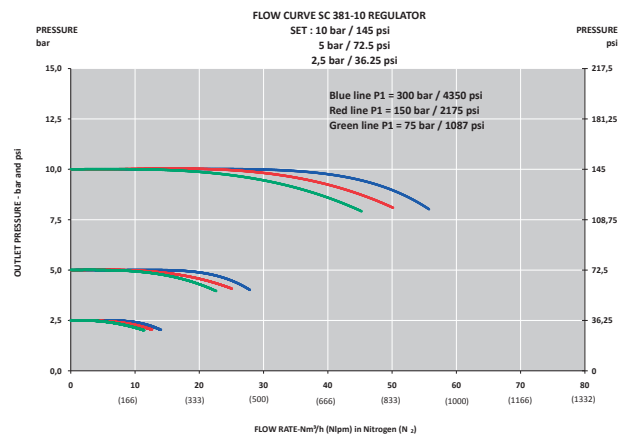
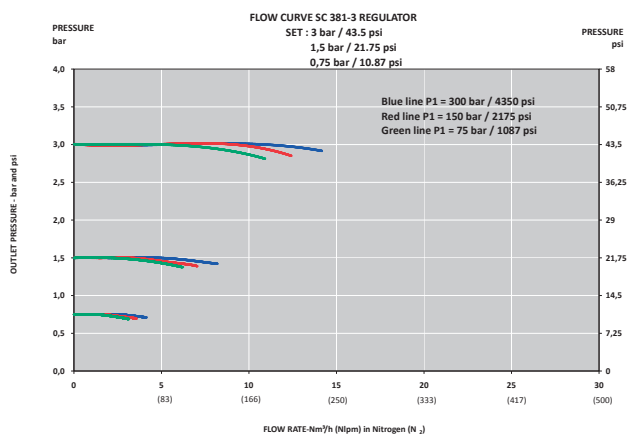
- This regulator is an accurate pressure control for reliable service.
- Ideally designed either for line regulator or point of use applications.
- Compact outline dimensions and ergonomic design make this regulator suitable for many applications.
- Could be equipped with a shut off valve at the outlet.
- Handwheel in compliance with ATEX regulation and easy to clean



SPECIFICATIONS

Female ports	¼" NPT (Inlet/Outlet)	Weight	± 1,0 kg ± 2.0 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	1/3/10/16/35 bar 15/40/150/250/500 psi
O-ring	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow Cv	1/2/10/20/30 Nm ³ /h (N ₂) 0.1
Diaphragm	Hastelloy®	Gauges	Low pressure (¼ NPT)	Oxygen use	OK with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

Body Material		Inlet Pressure	Outlet Pressure	End Connections	O-ring Materials (safety relief valve)	Gauges	Ports Configuration
SC	L	281	1	N	EPDM	1	A
	Chrome-plated brass	200 bar 2900 psi	1 bar 14.5 psi	¼" NPT - ¼" NPT	EPDM - standard	Without	Standard
	Stainless steel	300 bar 4350 psi	3 bar 44 psi	N	FPM	With	Reverse Inlet/outlet
			10 bar 145 psi				
			16 bar 232 psi				
			35 bar 508 psi				

SERIES SC 291 - SC 391 | LINE CARTRIDGE REGULATOR

- Diaphragm Single Stage
- Purity up to 6.0
- Inlet Pressure:
200 bar (2900 bar)
300 bar (4350 bar)
- Outlet Pressure:
1/3/10/16/35 bar
14.5/44/145/232/508 psi

- ★ High flow line regulator
- ★ 1 Inlet / 1 Outlet
- ★ O₂ application compatible (see technical data)
- ★ Inlet / Outlet pressure gauge
- ★ 1 safety relief valve

Special requirements on request

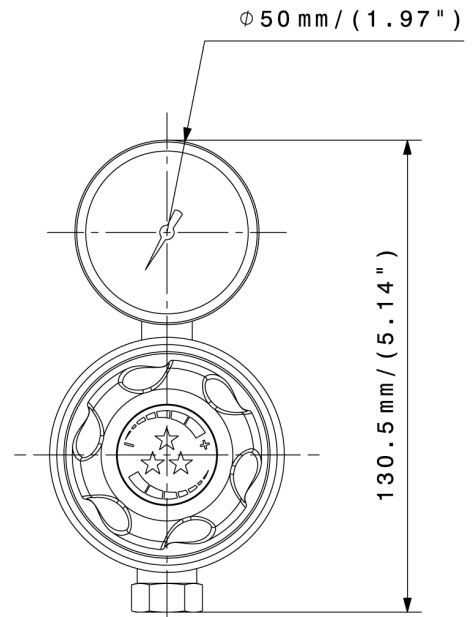
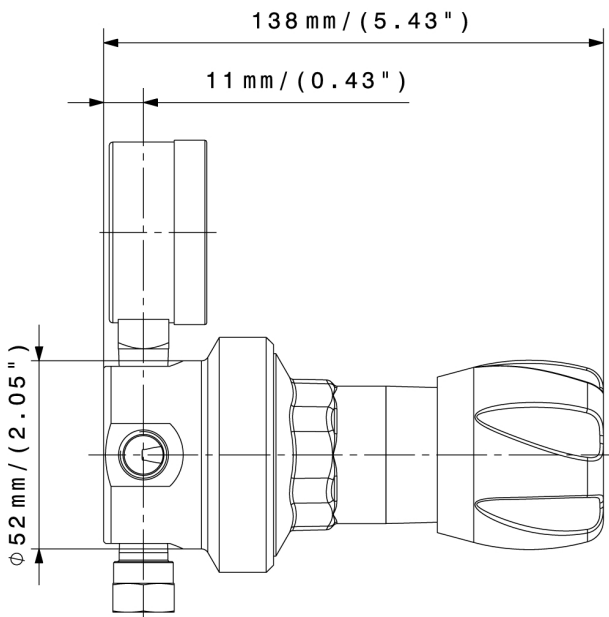
APPLICATIONS

- Ideally for high flow and high pressure applications
- Designed for line regulator applications when the supply of specialty gases is demanded in laboratory or in industrial environment
- Used in calibration gas mixtures for petrochemical industry, environmental emission monitoring, industrial hygiene or safety monitors and trace impurity analyzers.

GENERAL

This line regulator is based on the Cartridge seat Technology.

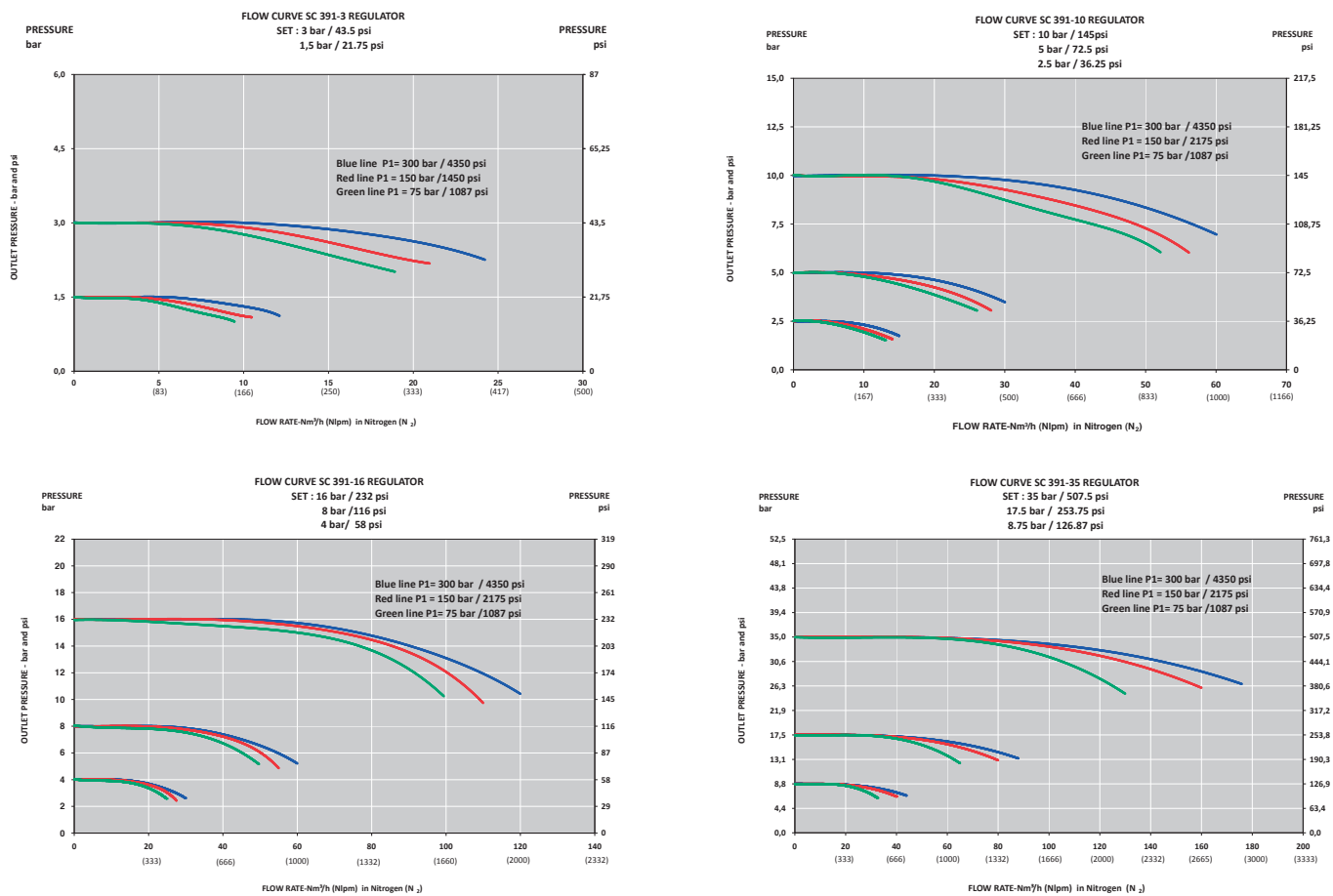
- This regulator is an accurate pressure control for reliable service.
- Ideally designed for line regulator or point of use applications
- Could be equipped with a shut off valve



SPECIFICATIONS

Female ports	¼" NPT (Inlet/Outlet)	Weight	± 1,3 kg ± 2.8 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	1/3/10/16/35 bar 14.5/44/145/232/508 psi
O-ring	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow Cv	1,5/6/30/50/75 Nm ³ /h (N ₂) 0.2
Diaphragm	Hastelloy®	Gauges	Low pressure (¼ NPT)	Oxygen use	OK with brass and stainless steel

FLOW CURVES



PRODUCT CONFIGURATOR

	Body Material	Inlet Pressure	Outlet Pressure	End Connections	O-ring Materials (safety relief valve)	Gauges	Ports Configuration
SC	L	291	10	N	EPDM	1	A
	Chrome-plated brass	200 bar 2900 psi	291 1 bar 14.5 psi	¼" NPT - ¼" NPT	N EPDM	Without	0 Standard
		300 bar 4350 psi	391 3 bar 44 psi		FPM	With	1 Reverse Inlet/outlet
			10 10 bar 145 psi				10
			16 16 bar 232 psi				16
			35 35 bar 508 psi				35

D705 | EXTENSION BLOC

- Diaphragm Valve
- Inlet Pressure:
200 bar (2900 psi)

- ★ Multi-turn valve
- ★ Compact and lightweight
- ★ design 3 way valve
- ★ O₂ compatible design

Special requirements on request

APPLICATIONS

- Allows to contact cylinder regulator, bloc and semi-bloc
- Ideally suited for pure, inert and mildly corrosive gas applications

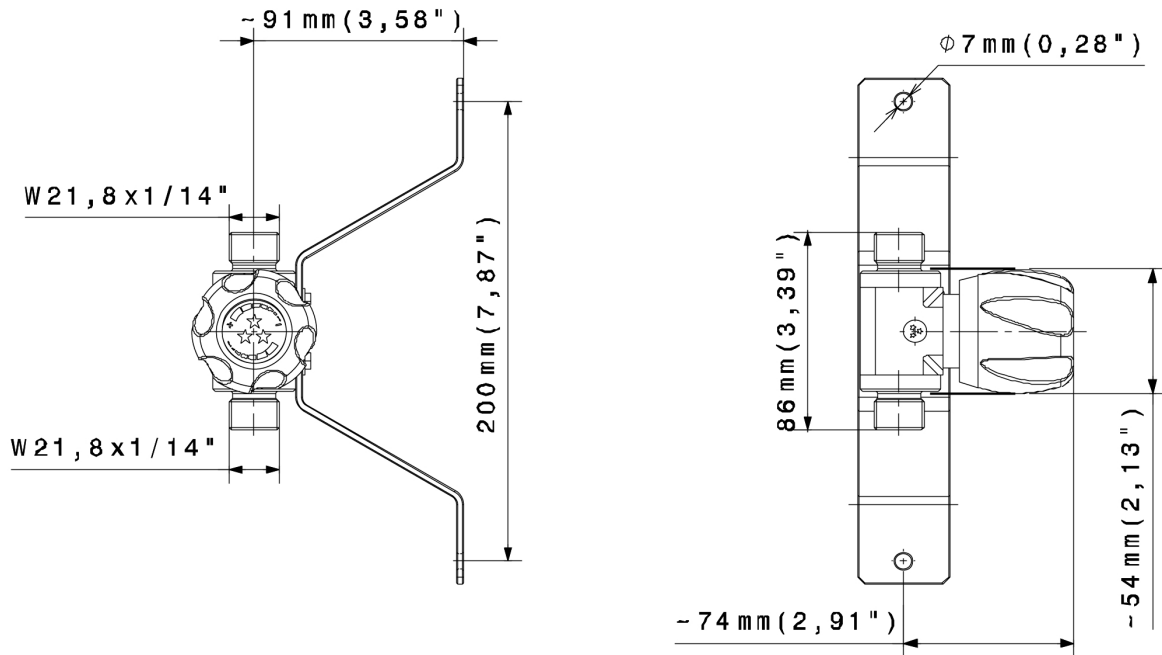
GENERAL

- Purity up to 6.0
- Body in 316 L or Chrome plated brass
- Hastelloy® Diaphragm
- Multi-turn handwheel
- Standard inlet/outlet: ¼" NPT
- Delivered with Bracket



SPECIFICATIONS

Body	Chrome plated brass Stainless Steel	Weight	± 1,1 kg ± 2.2 lbs	Inlet pressure	200 bar 2900 psi
Female ports	¼" NPT	Seat orifice size	Ø 35 mm	Cv	0.3
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Multiturn hand-wheel	OK
O-ring	PTFE	Temperature range	-40°C to +60°C -40°F to +140°F	Oxygen use	OK only in Brass
Diaphragm	Hastelloy®				



PRODUCT CONFIGURATOR

D	705	Body Material	Mounting	End Connections	Valve Seal
		L	WB1	N	PCTFE
Chrome-plated brass	L With Bracket (standard)	WB1 ¼" NPT	N	PCTFE	
Stainless steel	I Without Bracket	WB0			

D706 | SEMI-BLOC

- Diaphragm Valve
- Inlet Pressure:
200 bar (2900 psi)

- ★ Multi-turn valve
- ★ Compact and
lightweight design
- ★ O₂ compatible design

Special requirements on request

APPLICATIONS

- Connection for 1 cylinder regulator
- Ideally practice:
 - Calibration gas
 - Analytical instrumentation

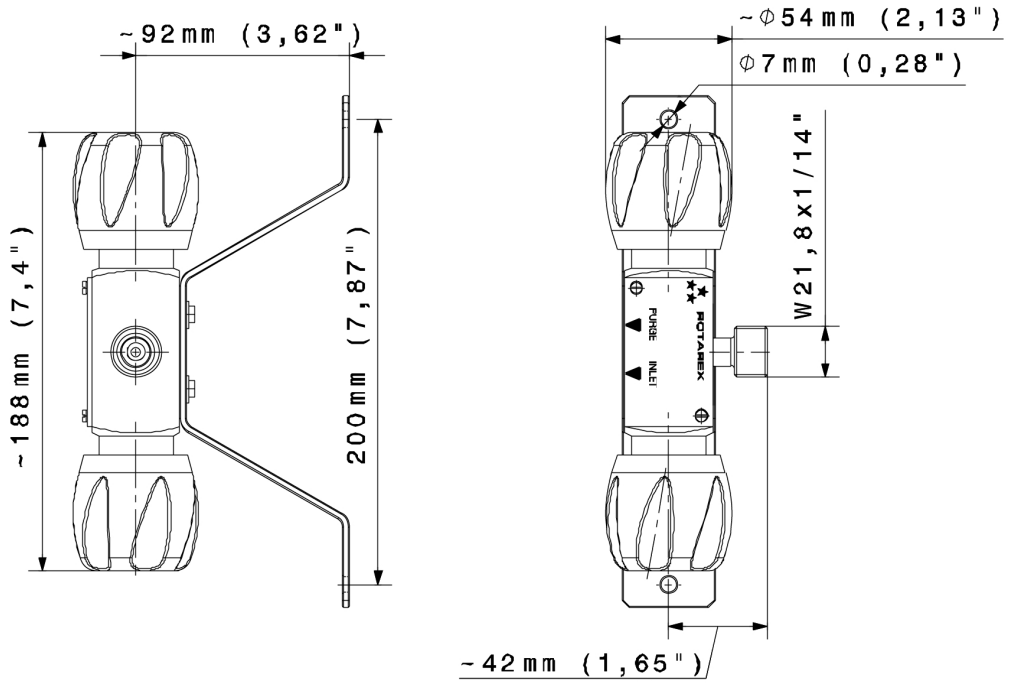
GENERAL

- Purity up to 6.0
- Body in Stainless Steel or Chrome-plated brass
- Hastelloy® Diaphragm
- Multi-turn handwheel
- Standard inlet/outlet: ¼" NPT
- Delivered with Bracket



SPECIFICATIONS

Body	Chrome plated brass Stainless Steel	Weight	± 1,6 kg ± 3.52 lbs	Inlet pressure	200 bar 2900 psi
Female ports	¼" NPT	Seat orifice size	Ø 35 mm	Cv	0.3
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Multiturn hand-wheel	OK
O-ring	PTFE	Temperature range	-40°C to +60°C -40°F to +140°F	Oxygen use	OK with brass and Stainless Steel
Diaphragm	Hastelloy®				



PRODUCT CONFIGURATOR

D	706	Body Material		Mounting		End Connections		Valve Seal
		L	I	WB1	WB0	N	N	PCTFE
		Chrome-plated brass	L	With Bracket (standard)	WB1	¼" NPT	N	PCTFE
		Stainless steel	I	Without Bracket	WB0			

D707 | BLOC

- Diaphragm Valve
- Inlet Pressure:
200 bar (2900 psi)

- ★ Multi-turn valve
- ★ Compact and lightweight design
- ★ 2 Inlets/1 outlet
- ★ O₂ compatible design (see technical data)
- ★ Manual supply board

Special requirements on request

APPLICATIONS

- Ideally suited for all centralize installation with special gases
- Ideally suited for pure, inert and mildly corrosive gas applications

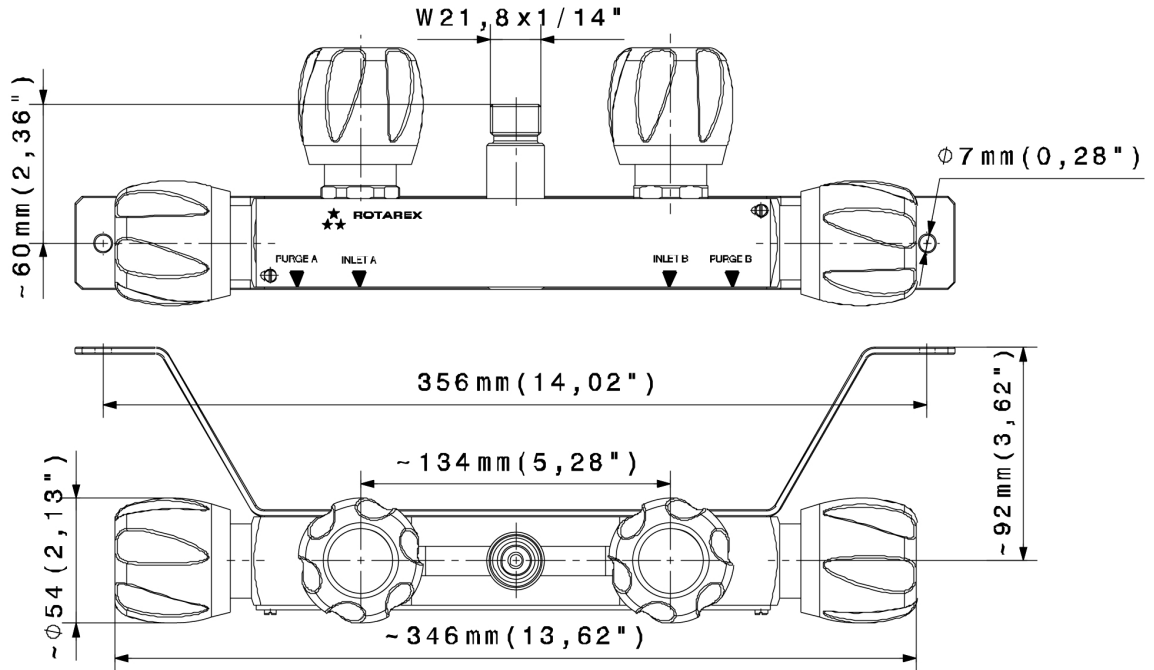
GENERAL

- Purity up to 6.0
- Body in Stainless Steel or Chrome-plated brass
- Hastelloy® Diaphragm
- 1 High pressure gauge
- Multi-turn handwheel
- Standard inlet/outlet: ¼" NPT
- Delivered with Bracket



SPECIFICATIONS

Body	Chrome plated brass Stainless Steel	Weight	± 1,1 kg ± 2.2 lbs	Inlet pressure	200 bar 2900 psi
Female ports	¼" NPT	Seat orifice size	Ø 35 mm	Cv	0.3
Valve seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Multiturn hand-wheel	OK
O-ring	PTFE	Temperature range	-40°C to +60°C -40°F to +140°F	Oxygen use	OK only in Brass
Diaphragm	Hastelloy®				



PRODUCT CONFIGURATOR

		Body Material	Mounting	End Connections	Valve Seal
BLOC	707	L	WB1	N	PCTFE
		Chrome-plated brass	L With Bracket (standard)	WB1 ¼" NPT	N PCTFE
		Stainless steel	I Without Bracket	WB0	

SERIES CM 280 - CM 380 | SUPPLY BOARD

- Diaphragm single stage
- Purity up to 6.0
- Inlet pressure:
200 bar (2900 psi)
or 300 bar (4350 psi)
- Outlet pressure:
10/16/35 bar
145/232/508 psi

- ★ Inlet/outlet pressure gauges
- ★ 1 safety relief valve
- ★ 1 purge outlet (type 2 and 3)
- ★ O₂ compatible (see technical data)
- ★ Regulator with cartridge technology

Special requirements on request

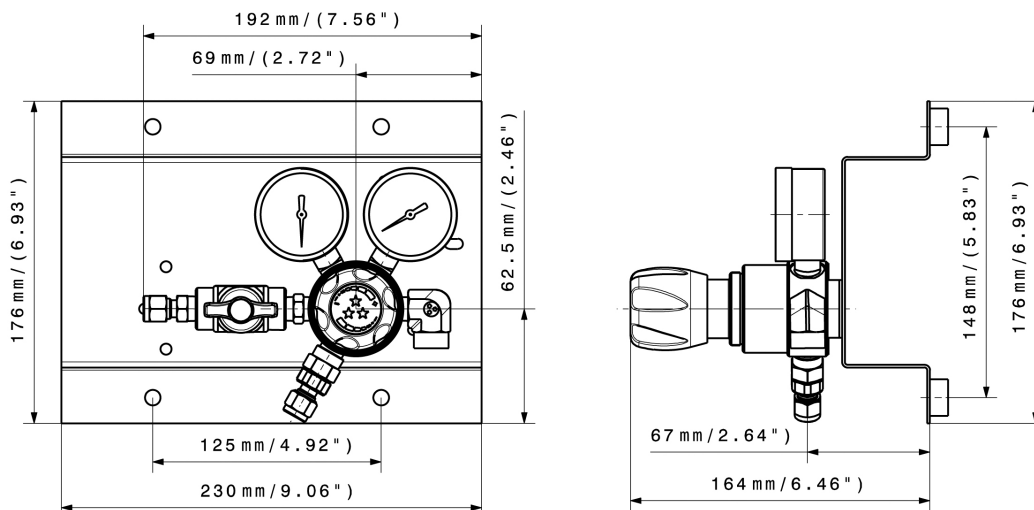
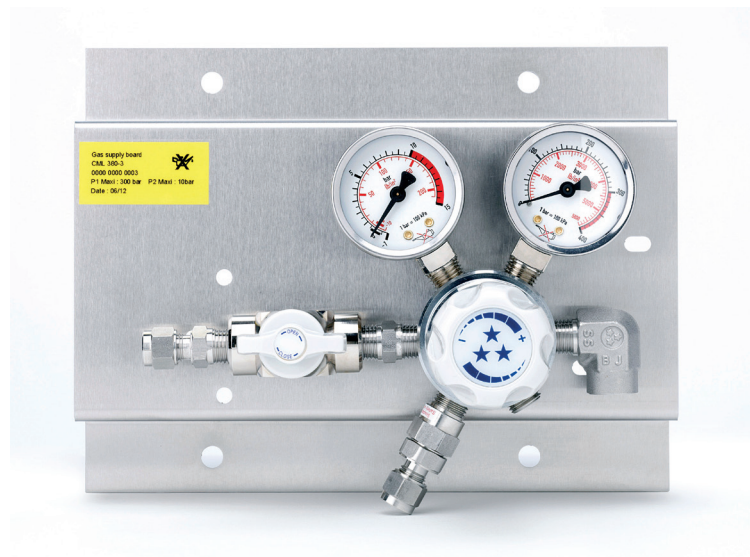
APPLICATIONS

- Ideally suited for pure and corrosive gases for high purity applications dedicated to the supply of gas to analyzers and to the creation of controlled atmosphere in laboratories, control units, and for petrochemical applications where high flows are required
- Used in combination with a switch over board for the regulation of the emergency source during maintenance on the principal source. This avoids installing some extension and reducing the amount of leaking points

KEY FEATURES

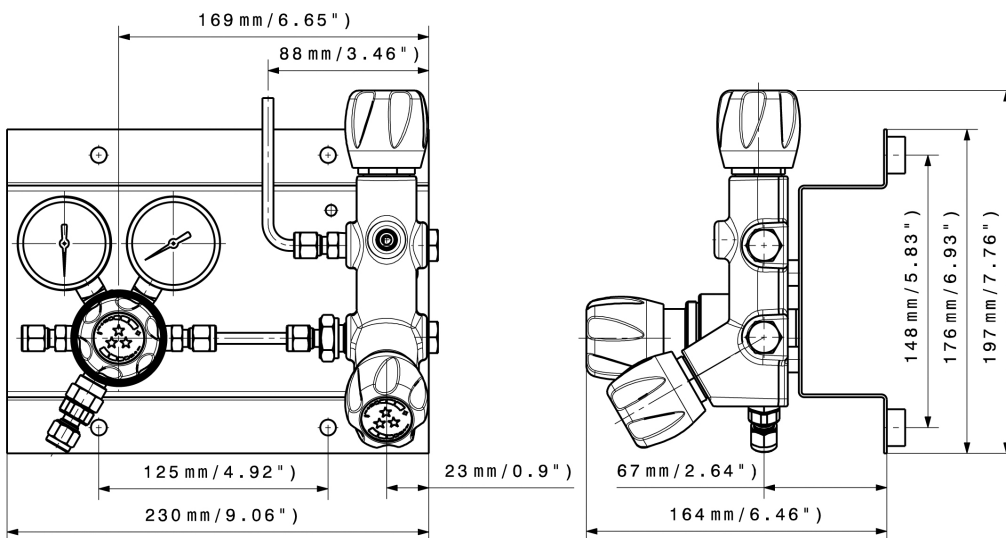
- Ready to install with all components pre-mounted on a board.
- Best-in-class pressure stability with Cartridge Technology: the effect of inlet pressure fluctuations on outlet pressure are minimized. Cartridge Technology enables the delivery of a very stable outlet pressure and flow even with high flow line regulators.
- Cartridge technology increases regulator life and reduces ownership costs.
- Can be equipped with a collection tube on the safety relief valve and purge outlet.
- Can also be equipped with an outlet shut-off valve.
- The CM 280 – CM 380 can be connected to an alarm box using contact gauges.

VERSION TYPE 1



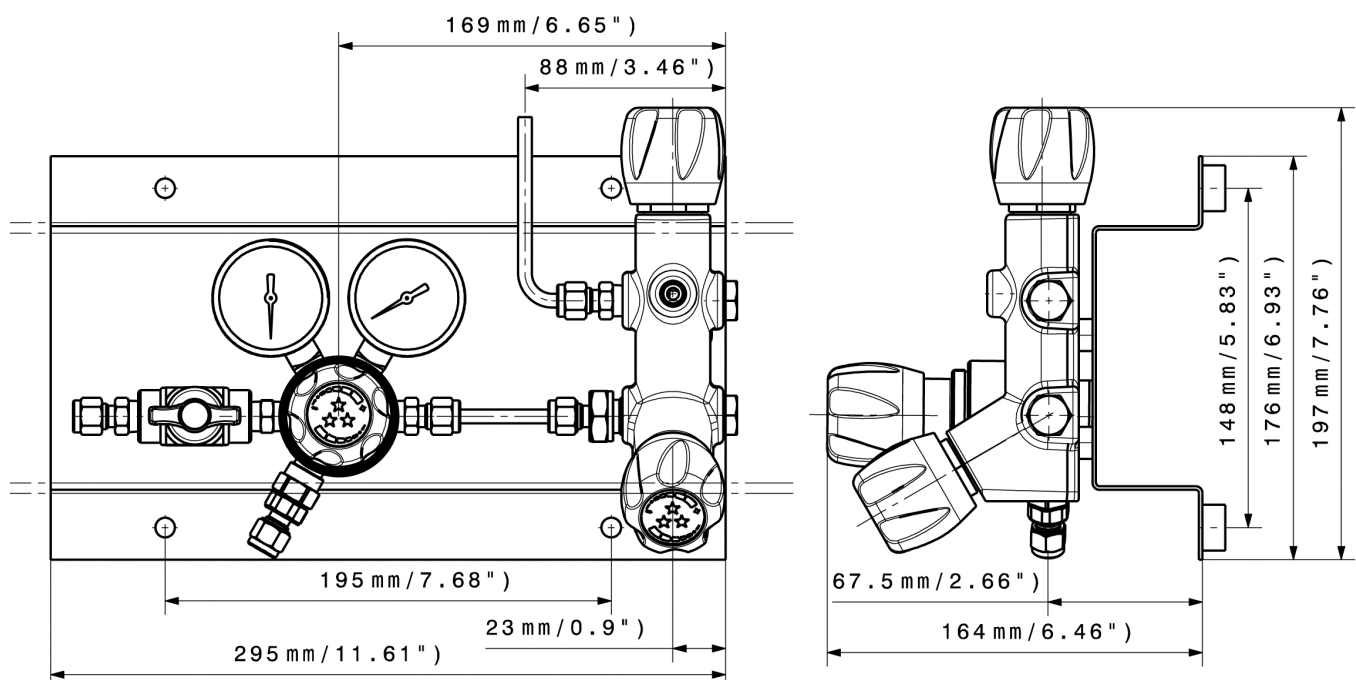
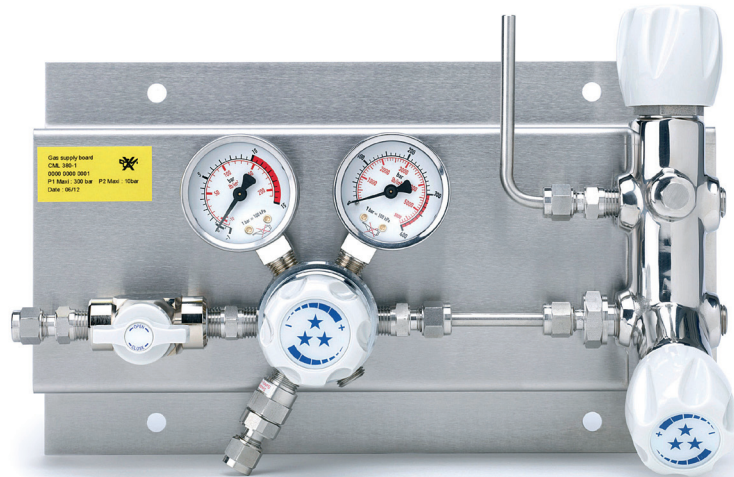
SERIES CM 280 - CM 380 | SUPPLY BOARD

VERSION TYPE 2



SERIES CM 280 - CM 380 | SUPPLY BOARD

VERSION TYPE 3



SPECIFICATIONS

Female ports	¼" NPT (Inlet/Outlet)	Weight	± 2,9 kg (CM-1) / 4,5 kg (CM-2) / 4,8 kg (CM-3) ± 6.3 lbs / 9.9 lbs / 10.5 lbs	Inlet pressure	200/300 bar 2900/4350 psi
Seat seal	PCTFE	Leak rate	10 ⁻⁸ mbar ℓ/s He	Outlet pressure	10/16/35 bar 145/232/507.5 psi
Seal material	PTFE	Temperature range	- 40°C to + 60°C - 40°F to + 140°F	Nominal Flow CV	10/20/30 Nm ³ /h (N ₂) 0.1
Diaphragm	Hastelloy®	Gauges	High and low pressure (¼" NPT)	Oxygen use	Ok with Brass and Stainless Steel

PRODUCT CONFIGURATOR

CM	Body Material		Inlet Pressure		Version Type		Outlet Pressure		Inlet Connection		Outlet*		O-ring Material (Safety relief valve)		Gauges		Ports Configuration								
	L	I	280	380	1	2	3	10	16	35	N	N	UMS6	UMS6	UMS8	UMS10	1	0	1	2	3	1	A	R	CL
	Chrome plated brass	L	200 bar 2900 psi	280	1	10 bar 145 psi	10	¼" NPT	N	¼" NPT	N	EPDM standard	0	With std gauges	1	Standard configuration	A								
	Stainless Steel	I	300 bar 4350 psi	380	2	16 bar 232 psi	16			Tube fitting 6mm	UMS6	FPM	1	HP inductive contact gauge	2	Mirror version	R								
					3	35 bar 508 psi	35			Tube fitting 8mm	UMS8			LP inductive contact gauge	3	With connected purge and safety valve	CL								
										Tube fitting 10mm	UMS10			HP & LP inductive contact gauge	1	With connected purge and safety valve	RCL								

*When regulator = brass, fittings = brass
When regulator = stainless steel, fittings = stainless steel

GAS COMPATIBILITY

KEY TO GAS COMPATIBILITY:

Locate your gas type in the below chart and see the gas compatibility of each standard material type. Only select materials that are compatible with your gas type.

GAS COMPATIBILITY WITH MATERIALS

GAS		B or SS 316L	PA 6.6	PTFE	PCTFE	NBR	FPM (VITON®)	EPDM
Acetylene	C_2H_2	B		OK	OK			
Argon	Ar	B	OK	OK	OK	OK	OK	OK
Butane	C_4H_{10}	B	OK	OK	OK	OK	OK	
Carbon dioxide	CO_2	B	OK	OK	OK	OK		OK
Carbon monoxide	CO	B	OK	OK	OK	OK		OK
Ethane	C_2H_6	B	OK	OK	OK	OK	OK	
Helium	He	B	OK		OK	OK	OK	OK
Hydrogen	H_2	B	OK		OK	OK	OK	OK
Krypton	Kr	B	OK	OK	OK	OK	OK	
Methane	CH_4	B	OK	OK	OK	OK	OK	
Nitric Oxide	NO	SS 316L	Please consult - depends on proportion of NO in the mixture					
Nitrogen	N_2	B	OK	OK	OK	OK	OK	OK
Nitrous Oxide	N_2O	SS 316L	Please consult - depends on proportion of N_2O in the mixture					
Oxygen	O_2	B					OK	OK
Propane	C_3H_8	B	OK	OK	OK	OK		
Silane	SiH_4	SS 316L		OK	OK		OK	
Ammonia	NH_3	SS 316L	OK	OK	OK			OK
Ethylene	C_2H_4	B	OK	OK	OK			
Hydrogen Sulfide	H_2S	SS 316L	OK	OK	OK		OK	OK
Sulphur Dioxide	SO_2	SS 316L		OK	OK			OK
Sulphur Hexafluoride	SF_6	B	OK	OK	OK	OK	OK	OK

VITON® is a registered trademark of the DUPONT NEMOUR Company
Hastelloy® is a registered trademark of HAYNES INTERNATIONAL Inc.

CONVERSION CHARTS

FLOW CONVERSION

	m ³ /h	l/h	foot ³ /min	l/s	cm ³ /s
m ³ /h	1	1 x 10 ³	0.589	0,2778	277,78
l/h	1 x 10 ⁻³	1	5.885 x 10 ⁻⁴	2,778 x 10 ⁻⁴	0,2778
foot ³ /min	1,69	1,699 x 10 ³	1	0,4719	471,95
l/s	3,6	3,6 x 10 ³	2.119	1	10 ³
cm ³ /s	3,6 x 10 ⁻³	3,6	2.119 x 10 ⁻³	10 ⁻³	1

PRESSURE CONVERSION

	bar	mbar	kPa	MPa	atm	psi
bar	1	10 ³	100	0,1	0,987	14.5
mbar	10 ⁻³	1	0,1	10 ⁻⁴	9,869 x 10 ⁻⁴	14.5 x 10 ⁻³
kPa	10 ⁻²	10	1	10 ⁻³	9,869 x 10 ⁻³	0.145
MPa	10	10 ⁴	10 ³	1	9,869	145
atm	1,013	1013	101,3	1,013 x 10 ⁻¹	1	14.69
psi	6,89 x 10 ⁻²	68,9	6,89	6,89 x 10 ⁻³	6,8 x 10 ⁻²	1

TEMPERATURE

C°	F°	K°	R°
-20	-4	253	456
-10	14	263	474
0	32	273	492
10	50	283	510
20	68	293	528
30	86	303	546
40	104	313	564
50	122	323	582
60	140	333	600
70	158	343	618
80	176	353	636
90	194	363	654
100	212	373	672
200	392	473	852
300	572	573	1032
400	752	673	1212
500	932	773	1392
600	1112	873	1572
700	1292	973	1752
800	1472	1073	1932
900	1652	1173	2112
1000	1832	1273	2292

DIMENSION

metric	inches	inch fractional	inch decimal	metric (mm)
3	0.135	1/16"	0.063	1,59
6	0.270	1/8"	0.125	3,18
8	0.360	3/16"	0.188	4,76
10	0.450	1/4"	0.250	6,35
12	0.540	5/16"	0.313	7,94
14	0.630	3/8"	0.375	9,53
16	0.720	1/2"	0.500	12,70
18	0.810	7/16"	0.438	11,11
20	0.900	5/8"	0.625	15,88
22	0.990	3/4"	0.750	19,05
25	1.125	7/8"	0.875	22,23
		1"	1.000	25,40

NLPM: NLPM units of Flow Rate, practiced in Europe, define what shall be a Flow Rate of a given gas stream at Tgas, Pgas temperature & pressure, if it changed to pressure of 1atm (101.325 kPa) and temperature of 0°C (273.15K)

A WORLD OF GAS CONTROL SOLUTIONS

COMPLETE SOLUTIONS FROM SOURCE TO PROCESS.

ROTAREX is helping engineers worldwide to get better gas results: from ultra high purity production and medical care facilities to industrial and LPG applications, as well as alternative energy vehicles, fire suppression, diving, aerospace, cryogenics, laboratory, petro-chemical and welding. ROTAREX applies over 90 years of know-how and experience to custom design, develop and manufacture the high performance valves, regulators and fittings to suit your needs, all in one hand. Discover the difference ROTAREX can make in your world.

CYLINDER VALVES

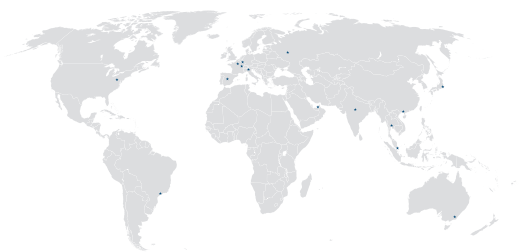
EQUIPMENT

FIRETEC

AUTOMOTIVE

LPG/SRG

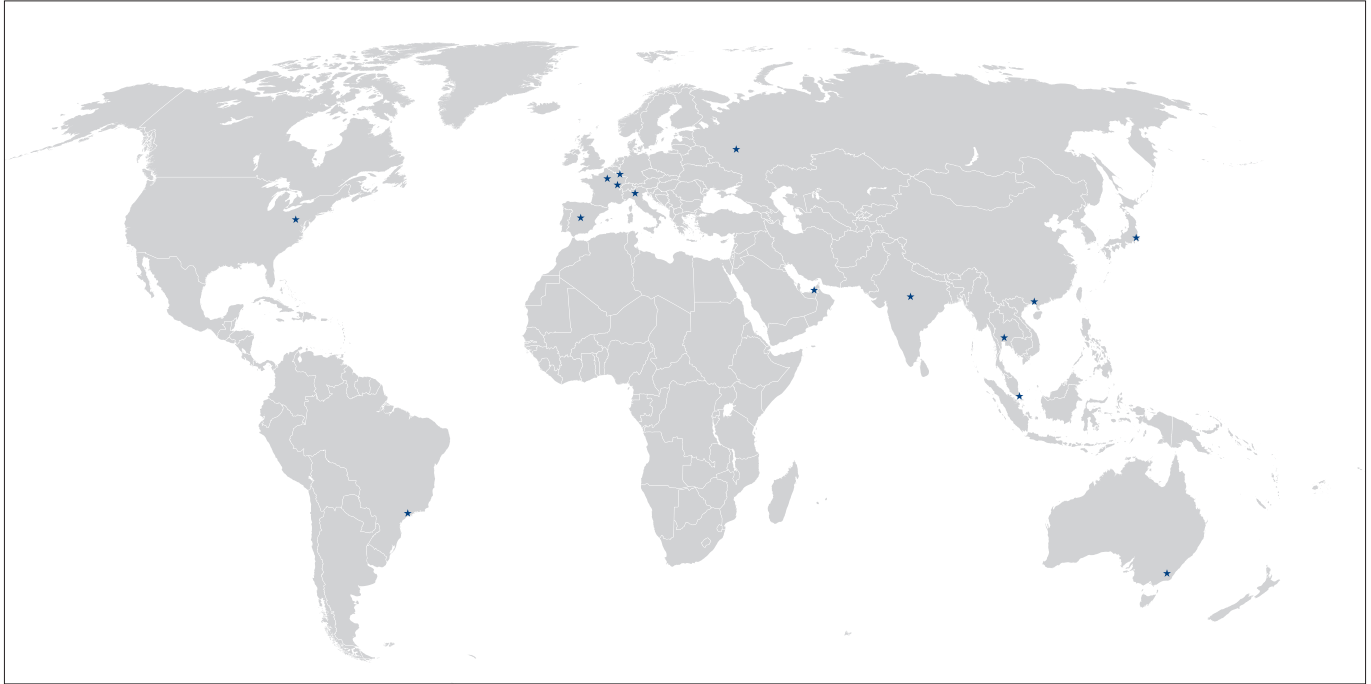
MEDITEC





WORLDWIDE HEADQUARTERS

ROTAREX S.A.
24, rue de Diekirch, BP 19
L-7505 Lintgen
Luxembourg
Tel.: +352 32 78 32-1
Fax: +352 32 78 32-854
E-mail: info@rotarex.com



REGIONAL / COUNTRY HEAD QUARTERS

NORTH AMERICA

USA
Rotarex North America
221 Westec Drive
Westmoreland Technology Park I
Mt. Pleasant, Pennsylvania 15666 USA
Tel.: +1 724-696-43 40
Fax: +1 724-696-43 64
E-mail: info@rotarex-inc.rotarex.com

SOUTH AMERICA

BRASIL
Rotarex Brazil Ltda
Cond. Ind. Portal da Anhanguera Estr.
Municipal Gov. Mário Covas, S/N
13279-411 Bairro Macuco -Valinhos
Sao Paulo Brazil
Tel.: +55 11 3518 0800
Fax: +55 19 3869-1503
E-mail: info@brazil.rotarex.com

EUROPE

FRANCE
Rotarex France S.A.
168 av. Charles de Gaulles
92522 Neuilly sur Seine France
Tel.: +33 8 10 04 19 60
Fax: +33 1 70 37 53 89
E-mail: info@france.rotarex.com

ITALY
Rotarex Italia S.r.l.
46 Via Giacomo Matteotti
I-25080, Cliverghe di Mazzano (BS) Italy
Tel.: +39 030 212 05 50
Fax: +39 030 212 23 62
E-mail: info@italia.rotarex.com

SPAIN
Rotarex Spain
7 - 8º G2 C/ Estébanez Calderón
E-28020 Madrid Spain
Tel.: +34 650 908 856
E-mail: info@spain.rotarex.com

RUSSIA
Rotarex Rus
Office 539 Nauchniy proezd, 6, Building 1
117246 Moscow Russia
Tel.: +7 (495) 233-2624
Fax: +7 (495) 223-2624
E-mail: info@russia.rotarex.com

ASIA

MIDDLE EAST
Rotarex Middle East
Jebel Ali Free Zone - Lob 14 #224
P.O. Box 261952 - JAFZA
Dubai, U.A.E.
Tel.: +971 (0) 4 88 76 701
Fax: +971 (0) 4 88 76 702
E-mail: info@middle-east.rotarex.com

CHINA
Rotarex Star
60 Yuan Zhong Road
Shanghai Nanhui Industrial Zone
201300, Shanghai China
Tel.: +86-21 5800 4000
Fax: +86-21 5800 3226
E-mail: info@star.rotarex.com

SINGAPORE
Rotarex Fareast Pte Ltd
10 Ubi Crescent
Ubi Techpark, Lobby C, #06-55
408564 Singapore
Tel.: +65 64 72 37 27
Fax: +65 64 72 45 28
E-mail: info@singapore.rotarex.com

JAPAN
Rotarex Japan Ltd
2F, 5-1 Blog, 2-10-6 Shiba
Minato-Ku, Tokyo
105-0014 JAPAN
Tel.: +81 3 6809 6973
Fax: +81 3 6809 6975
E-mail: info@japan.rotarex.com

INDIA
Rotarex ENGG. PVT. LTD.
1003, Vishwa Deep, Building
Plot No. 11, Distt. Centre,
110058 Janakpuri, - India
Tel.: +91-11 415 790 28
E-mail: info@rotarex.in

THAILAND
Rotarex (Thailand) Co Ltd.
297, Wanglee Tower
3rd floor, Unit C, Surawong Road
Suriyawong, Bangrak,
Bangkok 10500 Thailand
Tel.: +66 2635 71 79
E-mail: info@thailand.rotarex.com

SOUTH KOREA
Rotarex Luz Tech Co.
305-500, 547 Yongsan-dong
Yuseong-gu
Taejon, Korea
Tel.: +82 42 825 8911
Fax: +82 42 825 8913
E-mail: info@rotarex.co.kr

OCEANIA

AUSTRALIA
Rotarex Australia/New Zealand
26 Calvert Parade
NSW 2106 Newport Beach Australia
Tel.: +61 0404 820 615
E-mail: info@australia.rotarex.com