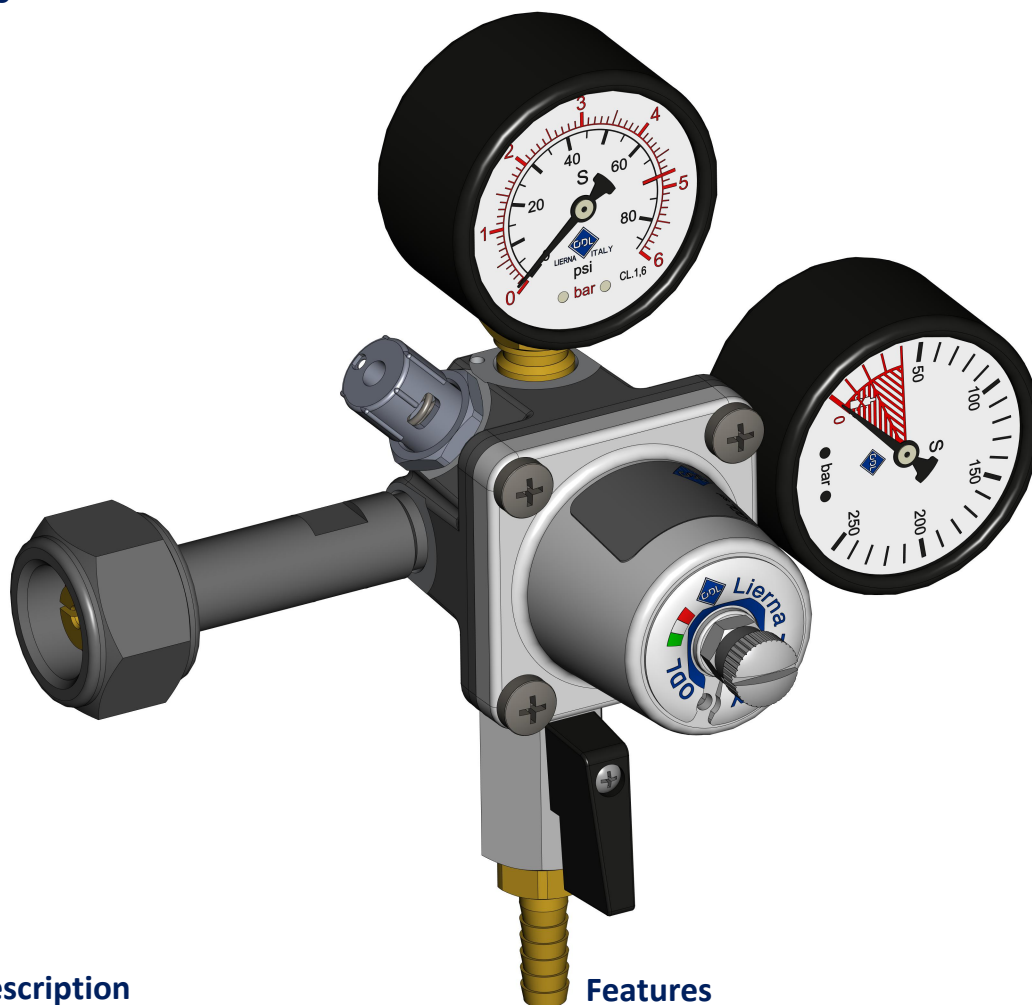


Pressure reducer SC Datasheet



General information



Technical description

The SC reducer series is the most complete and versatile line available. It provides precise pressure regulation for a wide range of applications.

The reducer body is equipped with one or two integrated safety relief valves; two high-pressure lines and two low-pressure lines with G1/4" threads and dedicated threads for brackets. Two versions of the high-pressure valve are available, ensuring optimal management of various gases, including CO₂, N₂, or mixed gases. Pressure adjustment is conveniently performed via the screw located on the top cover.

Materials

The high-pressure valve, the gauge protection plate, and the mounting supports are manufactured from steel.

The main reducer body and the cylinder connection fittings are constructed from nickel-plated CW614N brass.

Internal high-pressure seals are made entirely of PTFE. Cylinder connection gaskets are available in a variety of materials.

Features

The maximum deliverable volumetric flow rate is 45NL/min.

The diaphragm incorporates an overpressure mechanism that allows for pressure relief during the adjustment process when lowering the set-point value.

The reducer body is available in various configurations, including: rear inlet, double safety relief valve and secondary reducer.

For enhanced application capacity, up to six reducer bodies can be interconnected to increase the number of available controlled lines.

Applications

Domestic



Ho.Re.Ca.



Professional



Soft drink



Beer



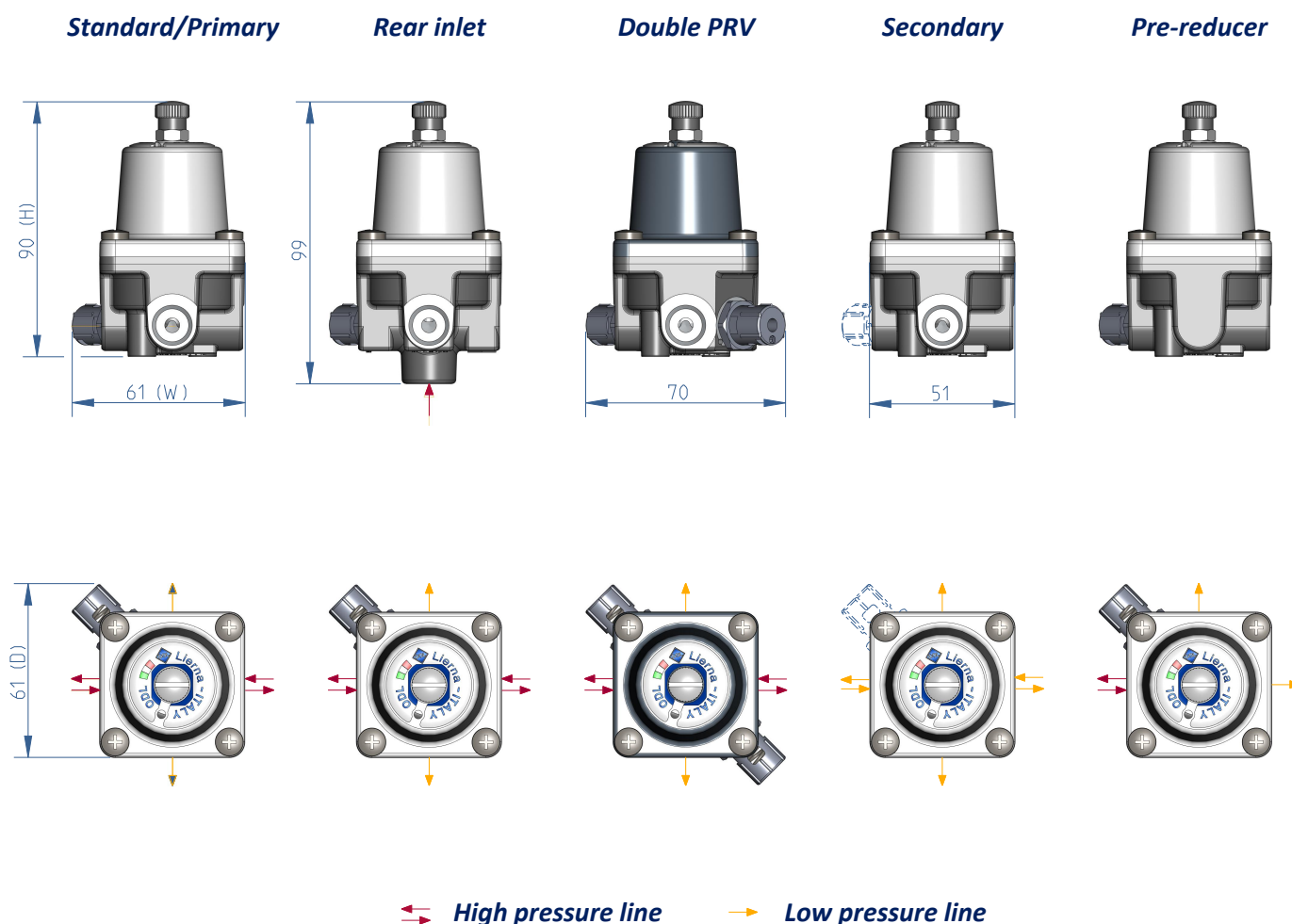
Sparkling water



Pressure reducer SC Datasheet



Main-body features



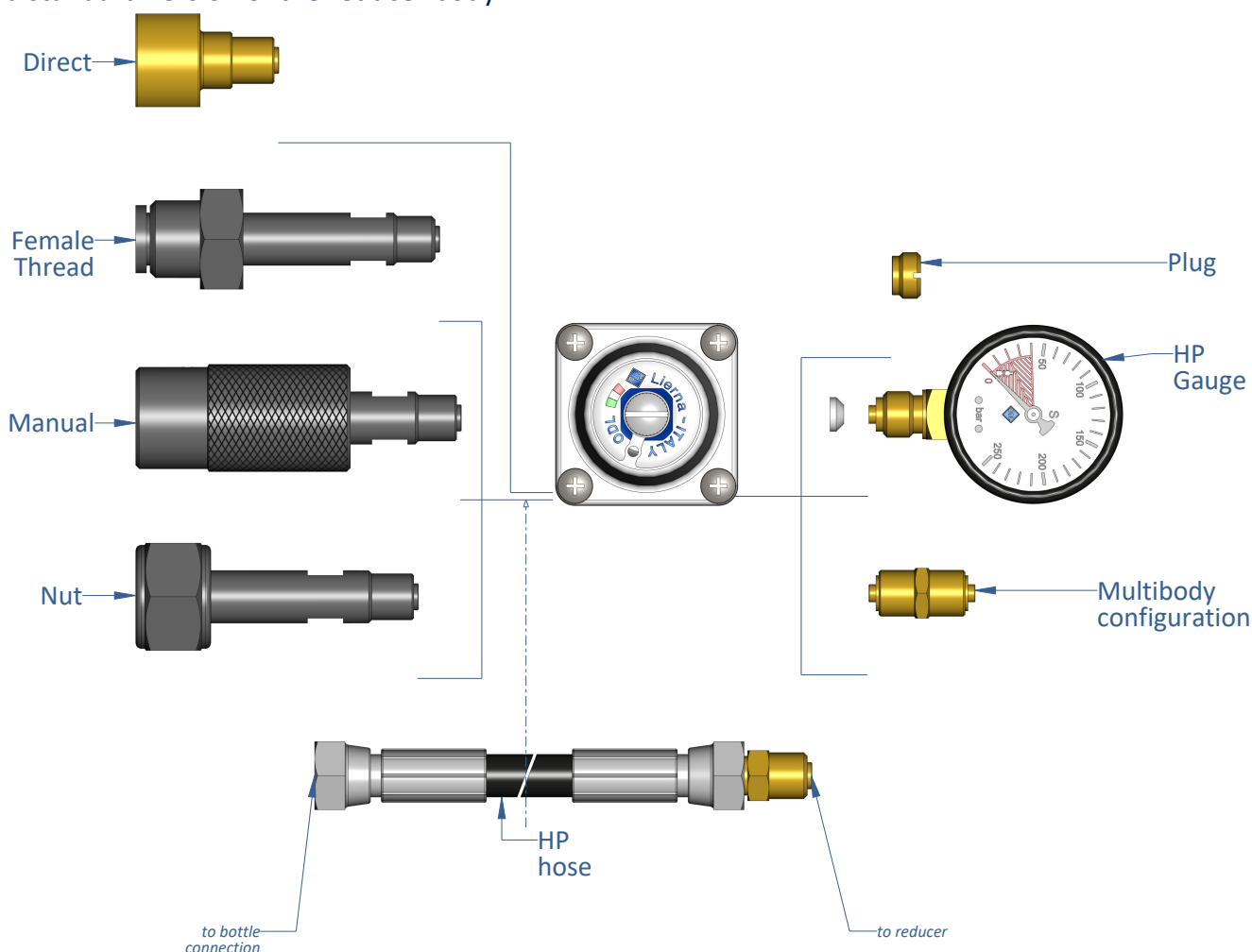
		Standard	Rear inlet	Double PRV	Secondary	Pre-reducer
Height "H"- Width "W"- Depth "D"	mm	90x61x61	99x61x61	90x71x71	90x51x51	90x61x61
Body threads	-	G1/4", NPT1/4"	G1/4"	G1/4"	G1/4"	G1/4"
Diaphragm diameter	mm	47				
Pressure relief valve orifice diameter	mm	6				
Working fluids	-	CO ₂ , N ₂ , mix	CO ₂ , N ₂ , mix	CO ₂ , N ₂ , mix	CO ₂	CO ₂ , N ₂ , mix
High pressure line burst pressure	bar	1300				
Low pressure chamber burst pressure	bar	>60				
Pressure relief valve	-	1	1	2	0 or 1	1
Relief valve initial opening pressure	bar	Up to 8				
Maximum overpressure	%	20				
Maximum inlet pressure CO ₂ (N ₂ or mix)	bar	100 (300)				
Maximum outlet pressure	bar	7				
Type of regulation	-	Limited, fixed, free and with dedicated tool				
Maximum ambient operation temperature	°C	up to 50				
Maximum storage temperature	°C	from -5 to 60				

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High Pressure line features

The drawing below summarizes the possible configurations that can be adopted on the high pressure line using a standard version of the reducer body.



Bottle connctetions features

CO2 thread	W 21.8 1/14", M11x1, Stub ACME 21.6 2G, G 3/4" other on request
N2 thread	W 21.7W 1/14", W 24.32 1/14", G 5/8" other on request
Bottle nut wrench	28mm, 30mm, 32mm other on request
Length	From 20mm to 76mm
Sealing element	Flat gasket or OR
Hose	Length from 1m to 1.5m, burst pressure up to 1200bar for N2 and 860bar for CO2

High pressure gauge

Diameter	50mm
Scale range	0-250bar, 0-315bar, 0-31.5MPa
Configurations	Empty bottle marker, double scale (bar and MPa)

Other featuers

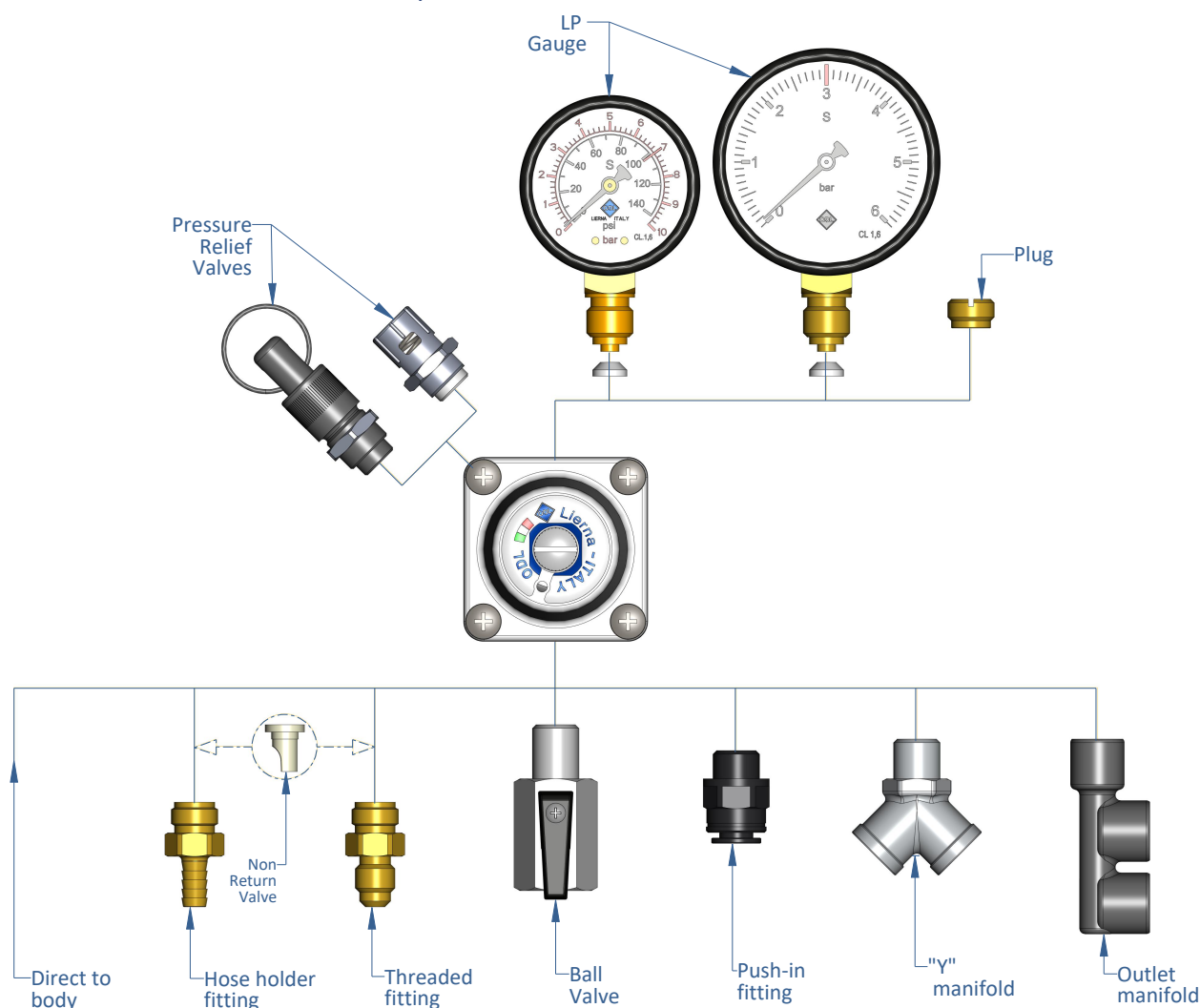
Multibody	Up to 6 bodies could be connected, contact ODL for informations
Mounting bracket	Several fixing solutions are available, contact ODL for informations
Notes	Usually HP line opposite to bottle connection is dedicated to HP gauge, if this is not requested a plug should be installed.

Pressure reducer SC Datasheet



Low Pressure lines features

The drawing below summarizes the possible configurations that can be adopted on the low pressure line using a standard version of the reducer body.



Pressure Relief Valve features

PRV initial relief Up to 8bar, for US up to 11bar

PRV configurations Standard or with ring

Low Pressure Gauge

Diameter 50mm or 63mm

Scale range 0-6bar, 0-10bar, 0-0.1MPa

Other configurations Set point marker, double scale (bar and MPa)

Outlet fittings

Hose holder diameter $\varnothing 4.5$, $\varnothing 7.2$, $\varnothing 8.1$, $\varnothing 9.6$, $\varnothing 10.5$ and $\varnothing 11.5$ mm other on request

Threaded fitting Male G1/4", G3/8", 20UNF-7/16", other on request

Ball valve Outlet connection G 1/4", can be used in combination with other fittings

Push-in plastic fitting Available dimensions are $\varnothing 4$ mm, $\varnothing 6$ mm, $\varnothing 8$ mm, $\varnothing 3/8$ " and $\varnothing 1/4$ "

"Y" brass outlet Outlet connection G 1/4", can be used in combination with other fittings

Manifold brass outlet Outlet connection G 1/4", up to 4 lines and can be used in combination with other fittings

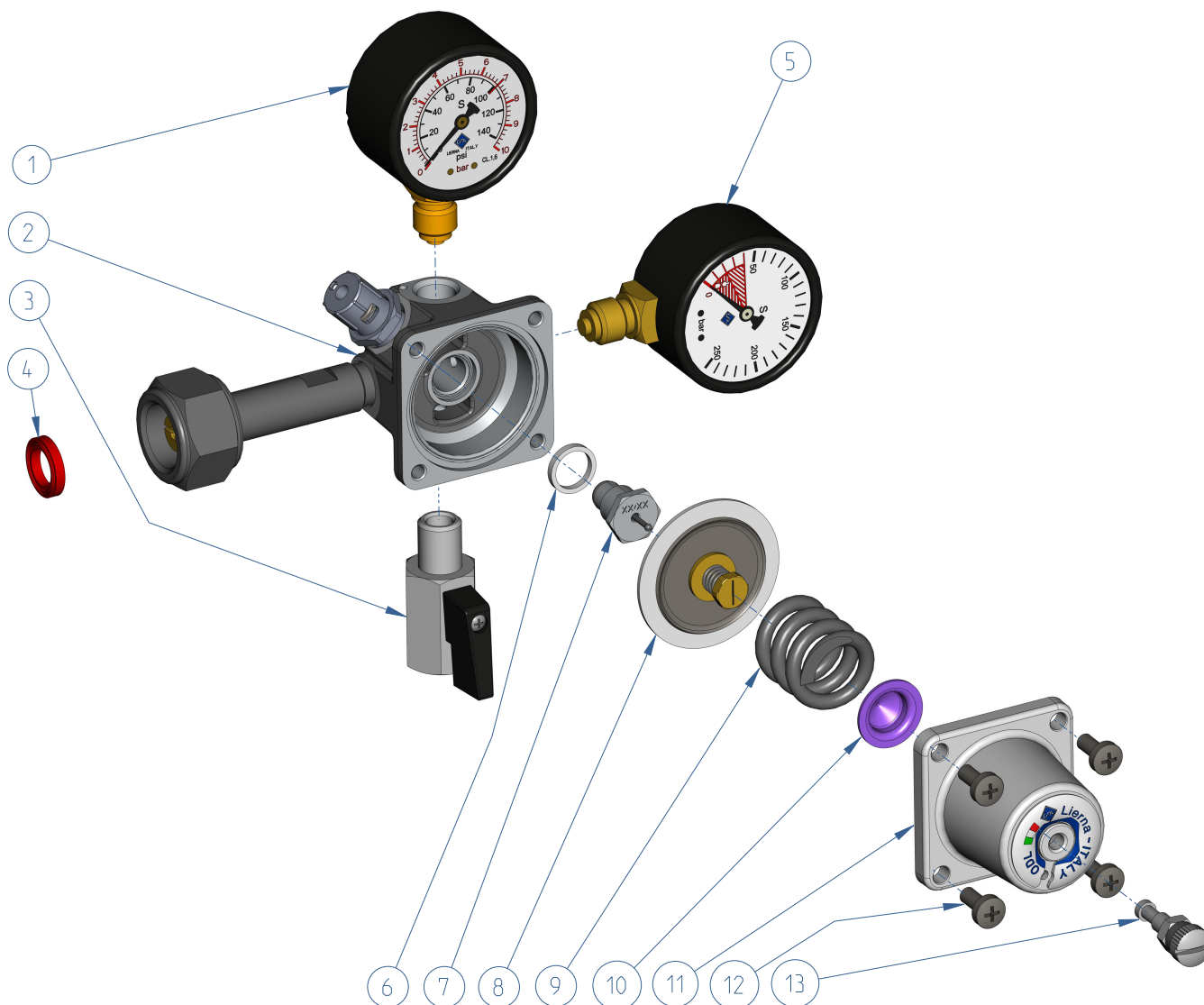
Notes Normally, only one of the two outlets is used for the outlet fittings. The second outlet is intended for the pressure gauge; if not used, it may be plugged or left open.

Pressure reducer SC Datasheet



Spare parts

All spare parts available are reported in the table, for other contact ODL.



Acronyms

HP and LP: High and Low Pressure
PRV: Pressure Relief Valve
HPV: High Pressure Valve
SP: Spare Part

ID	Description	Q.ty	SP
1	LP gauge with gasket	1	X
2	Body with bottle connection and PRV	1	
3	Outlets	1	X
4	Bottle sealing element	1	X
5	HP gauge with gasket	1	X
6	HPV gasket	1	X
7	High Pressure Valve	1	X
8	Diaphragm assembly	1	X
9	Regulation spring	1	
10	Spring pusher	1	
11	Cover	1	
12	Cover screws	4	
13	Regulation screw	1	X

Pressure reducer SC Datasheet

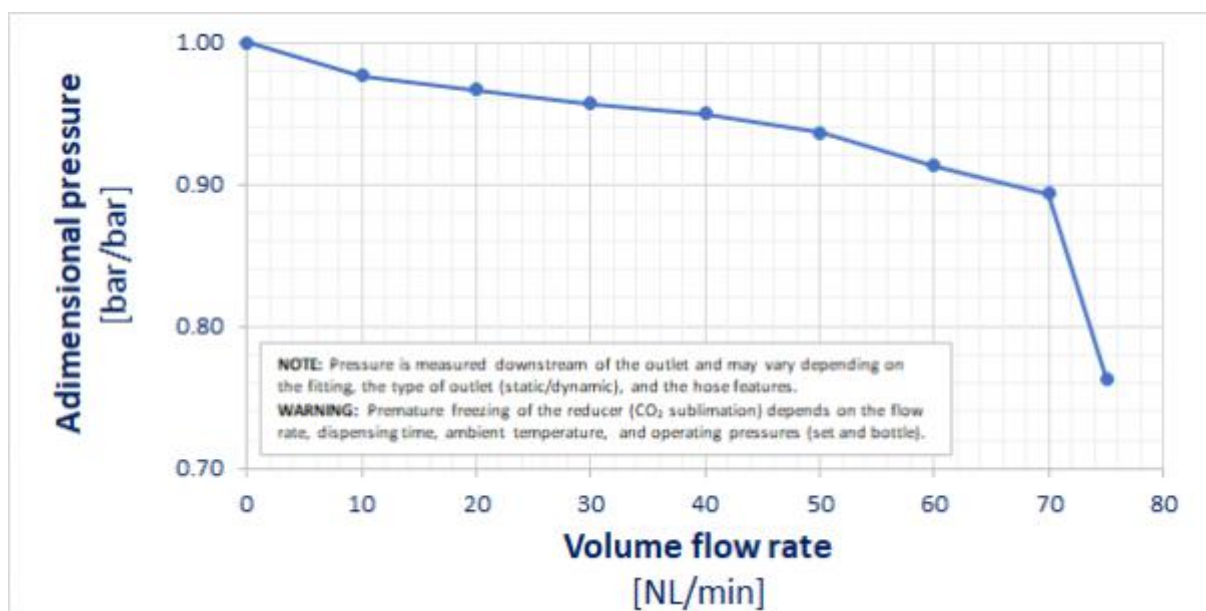


Performance

The plot below presents the pressure reducer's flow characteristic curves, obtained with carbon dioxide.

The value on the vertical axis is the ratio between the measured outlet pressure at a specific flow rate and the corresponding under no-flow condition (set-up pressure).

For example, with a set pressure of 5 bar and a required flow rate of 20 NL/min, the corresponding coefficient from the graph is 0.97. The downstream pressure under operating conditions is obtained by multiplying this coefficient by the set pressure:
 $4.85 \text{ bar} = 0.97 \times 5 \text{ bar}$.



Maintenance, cleaning and sanitization

The information provided below is for guidance only. For complete details, please consult the product's Warnings and Instructions Manual.

The pressure regulator is designed to ensure reliable operation with minimal maintenance. The time interval between two maintenance operations can be influenced by numerous factors, including the working environment, the location, the type of gas used, and the load spectrum. It is recommended to replace the diaphragm, cylinder gasket, and high-pressure valve every 2 years.

If necessary, the external cleaning of the regulator can be done using a cloth and water.

For internal sanitization, ODL recommends verifying the chemical compatibility of the chosen sanitizing fluid with the materials present in the regulator; for guidance on the maximum temperatures and pressures to be used during sanitization, please contact ODL.

Food standards and certifications

This family of pressure reducer is compliant with these community and Italian legislation and their subsequent updates and changes and other international standards:

- Regulation (EC) No. 1935/2004,
- Regulation (EC) No. 2023/2006,
- EU Regulation 10/2011,
- D. M. 21/03/1973,
- Presidential Decree 777/82;
- Directive 2014/68/EU.

Please contact ODL for information on which SC models are certified to NSF, SK, ISO 2503 and UL standards.