

Pressure reducer SG Datasheet



General information



Technical description

The SG family is designed for applications requiring high flow rates, making it ideal for large-scale beer, sparkling water and beverage distribution systems.

The reducer body is equipped with a safety valve, two high-pressure lines, and two low-pressure lines with G1/4" threads.

Two versions of the high-pressure valve are available, allowing for optimal management of carbon dioxide, nitrogen, or mixed gases. Pressure adjustment is achieved via the screw located on the top of the cover.

Materials

The reducer body and the fittings for cylinder are made of nickel-plated CW614N. The internal high-pressure seals are all PTFE. The high-pressure valve, protective plate, and mounting brackets are made of steel. The cylinder connection gaskets are available in various materials.

Features

The maximum deliverable volumetric flow rate is 160NL/min. SG reducers are typically used in large dispensing systems as primary reducers to which one or more SC reducers can be connected.

Versions with rear connection and mounting brackets are available.

Various cylinder connection solutions, as well as outlets and pressure gauges, are available.

Applications

Domestic

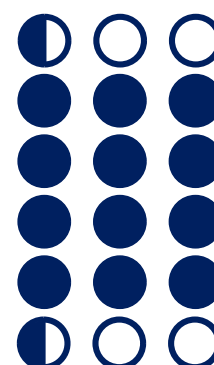
Ho.Re.Ca.

Professional

Soft drink

Beer

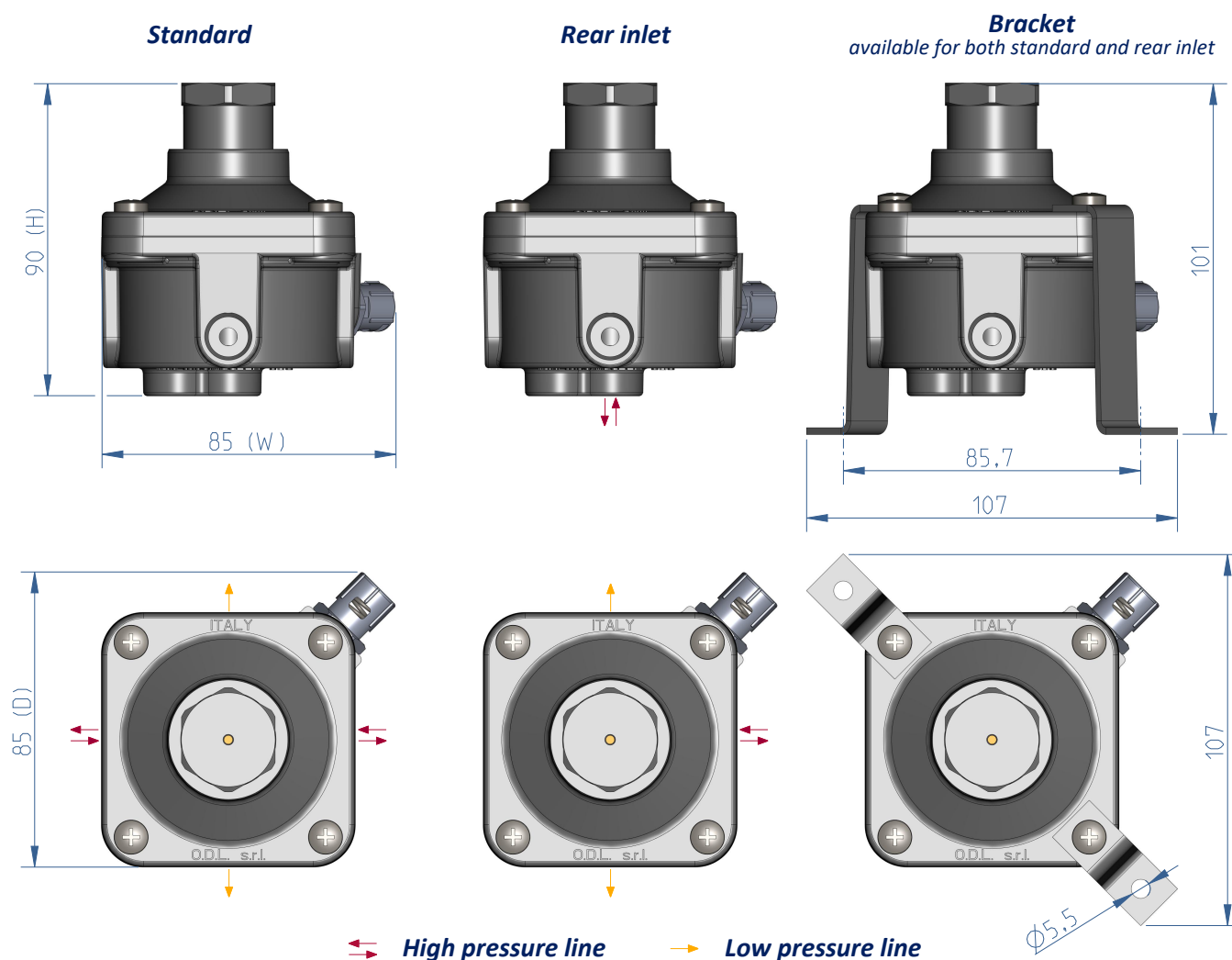
Sparkling water



Pressure reducer SG Datasheet



Main-body features



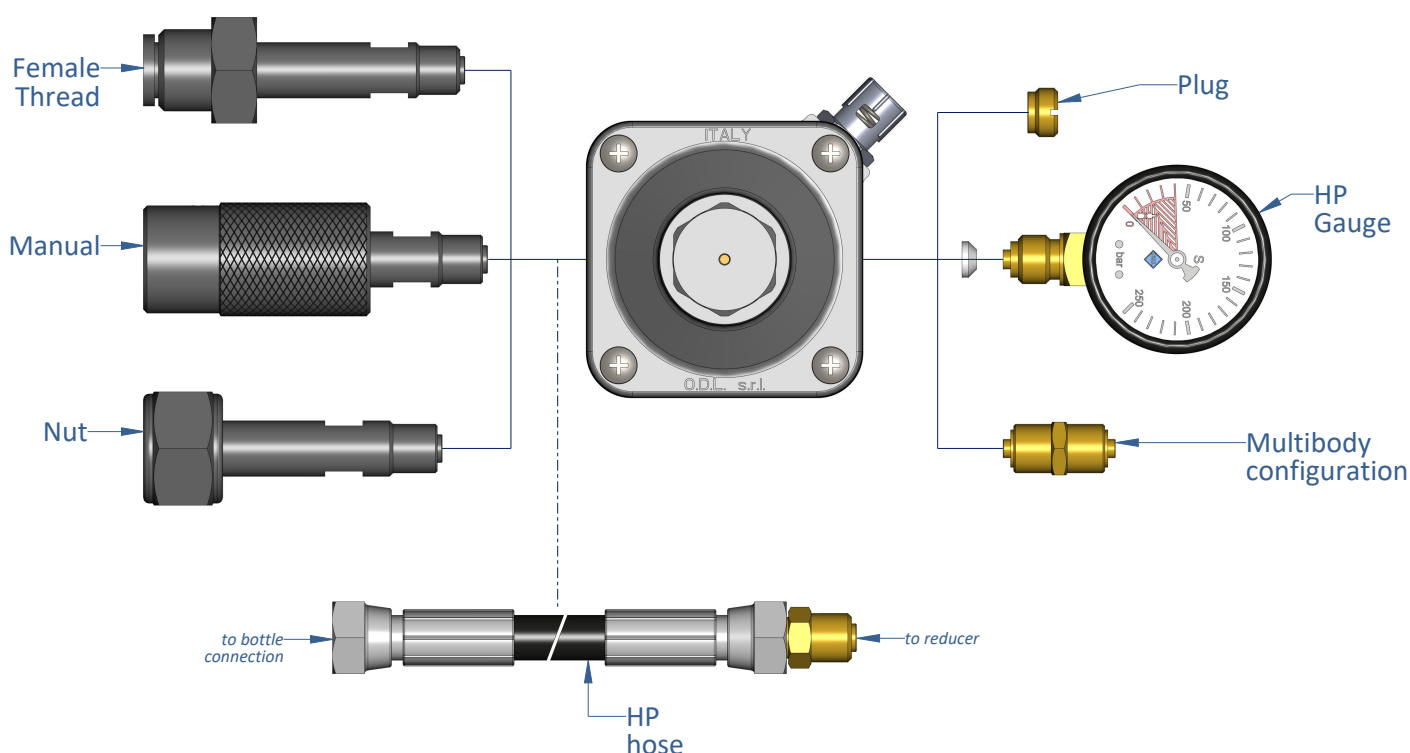
	Standard	Rear inlet	Bracket
Height "H"- Width "W"- Depth "D" mm	90x85x85	90x85x85	101x107x107
Body threads -	G1/4"		
Diaphragm diameter mm	67.5		
Pressure relief valve -	1		
Pressure relief valve orifice Ø mm	6		
Relief valve initial opening pressure bar	Up to 8		
Maximum overpressure %	10		
Working fluids	CO ₂ , N ₂ , mix		
Maximum inlet pressure CO ₂ (N ₂ or mix) bar	100 (300)		
Maximum outlet pressure bar	7		
Type of regulation	Limited, fixed or free		
High pressure line burst pressure bar	1300		
Low pressure chamber burst pressure bar	170		
Maximum ambient operation temperature °C	Up to 50		
Maximum storage temperature °C	From -5 to 60		

Pressure reducer SG Datasheet



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 connctcions features

CO ₂ thread	W 21.8 1/14", M11x1, Stub ACME 21.6 2G, G 3/4" other on request
N ₂ thread	W 21.7 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

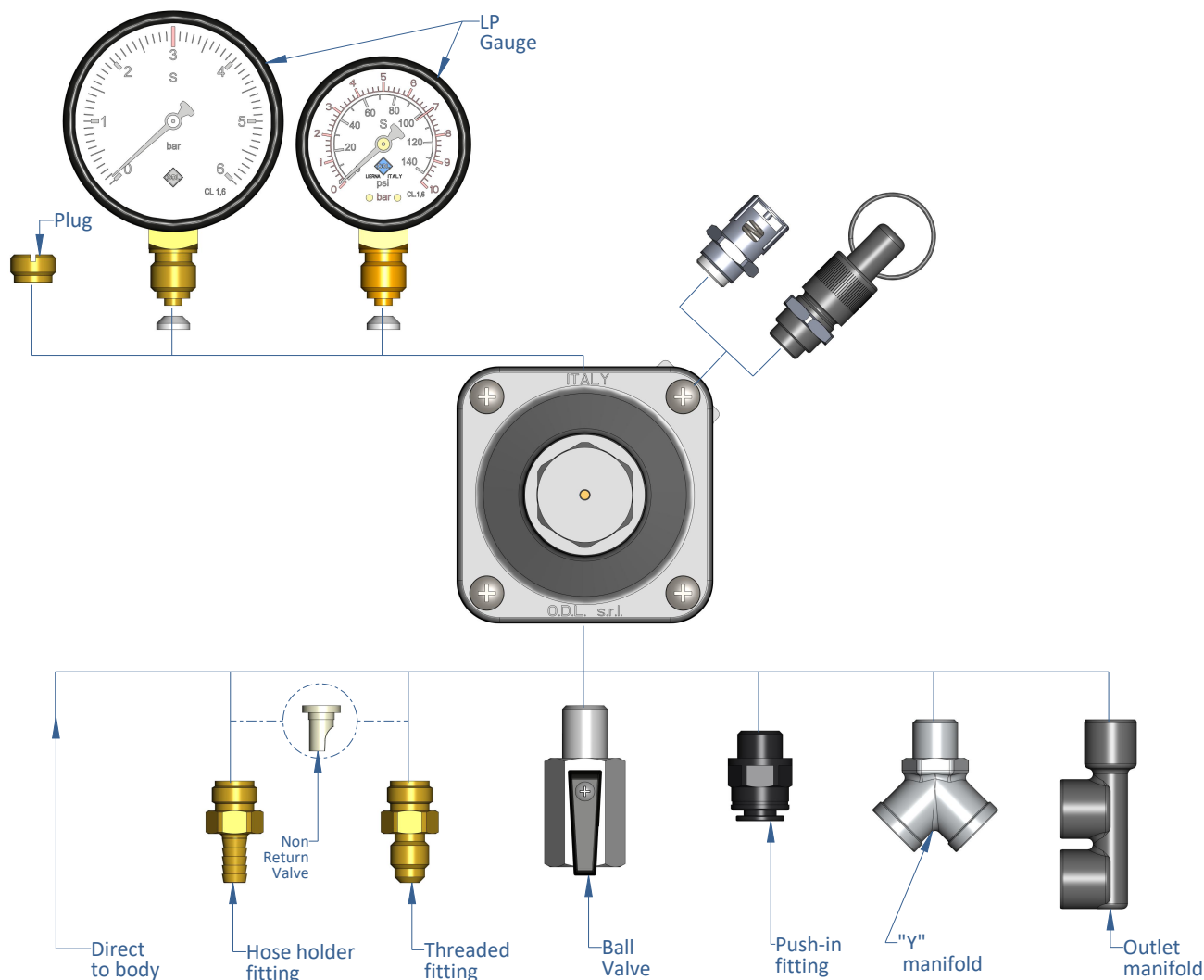
Multibody	Up to 5 bodies could be connected, see our dedicated datasheet
Notes	Usually HP line opposite to bottle connection is dedicated to HP gauge, if this is not requested a plug should be installed.

Pressure reducer SG 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 reducing body.



Pressure Relief Valve features

PRV initial relief Up to 8bar

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", 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

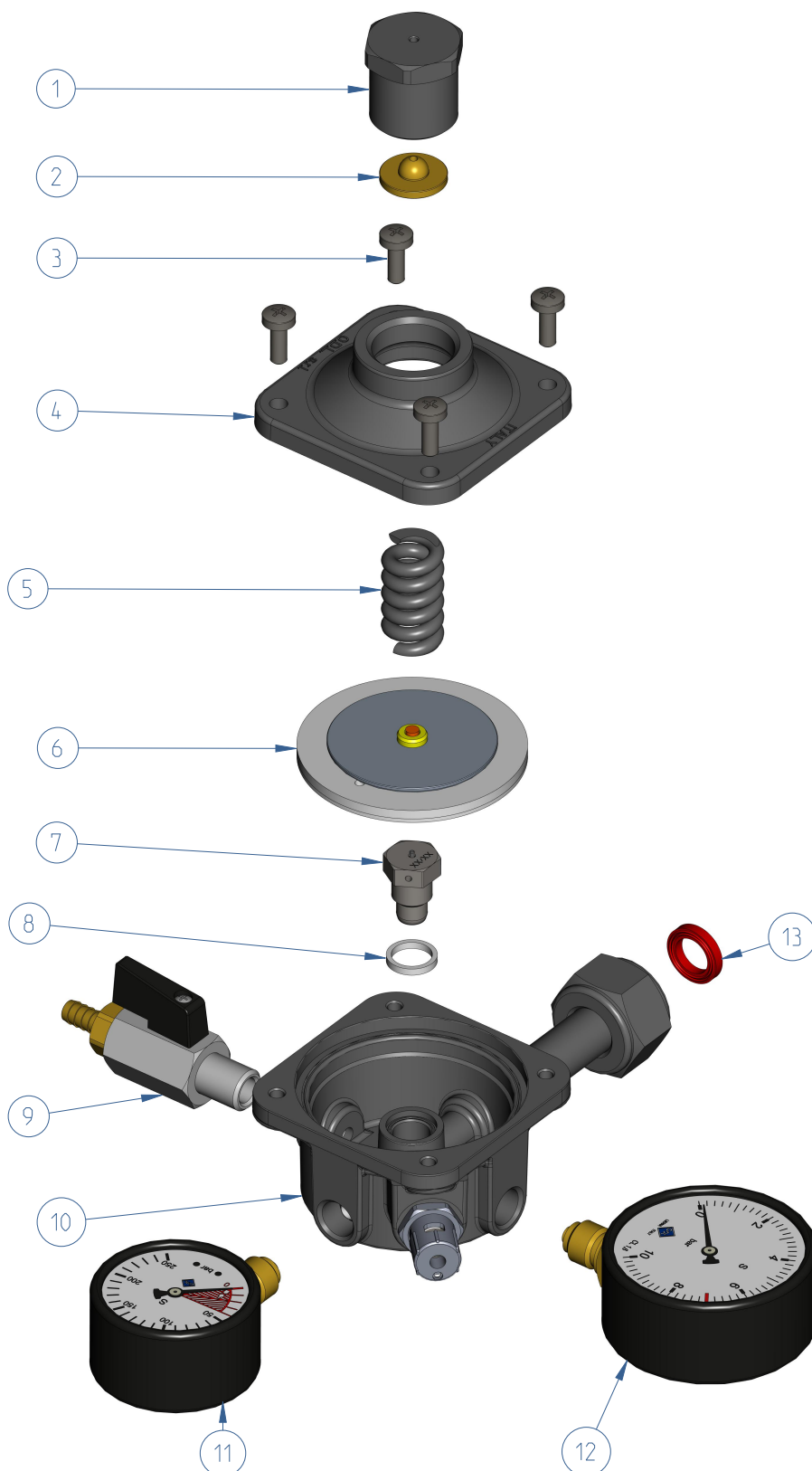
Notes Normally, only one of the two outlets is used for the outlet fittings. The second outlet is intended for the pressure gauge; if not used, it may be plugged or left open.

Pressure reducer SG 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
BC: Bottle connection

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

Pressure reducer SG Datasheet

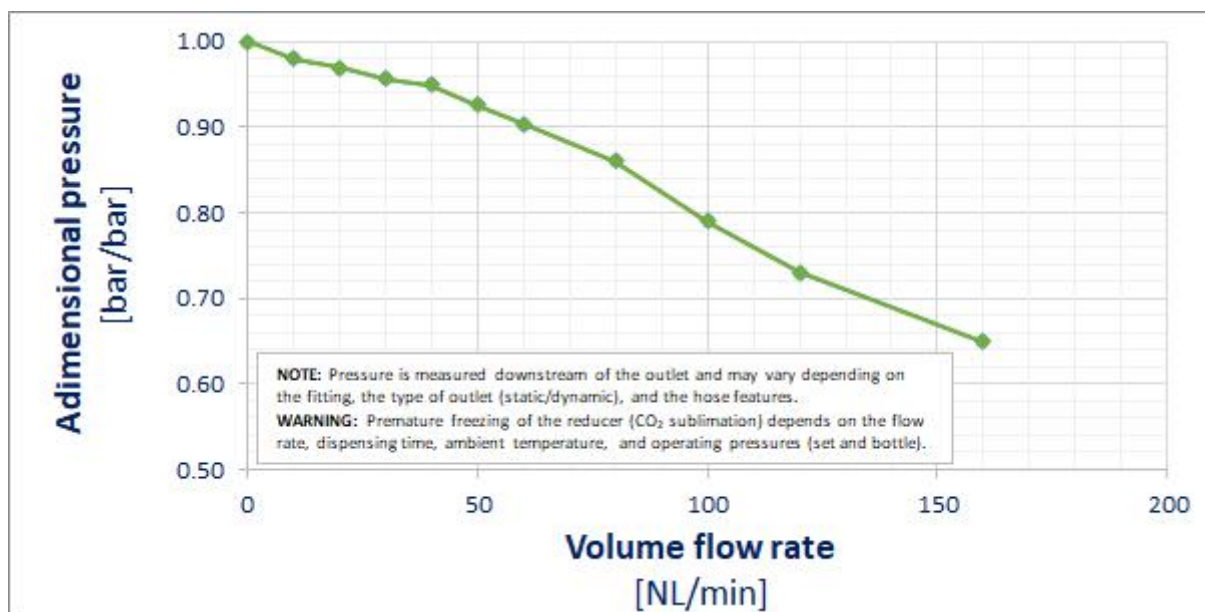


Performance

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 7.5 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: $7.3\text{bar} = 0.97 \times 7.5\text{bar}$.



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 models are certified to SK standards.