

# Pressure reducer SN Datasheet



## General information

### Technical description

The SN reducer family is specifically designed with minimal overall dimensions, allowing for seamless integration into machines and easy connection to small CO<sub>2</sub> cylinders.

The outlet pressure can be adjusted manually either via a knob or, when vertical space is limited or a fixed setting is required, via a screw on the cover.

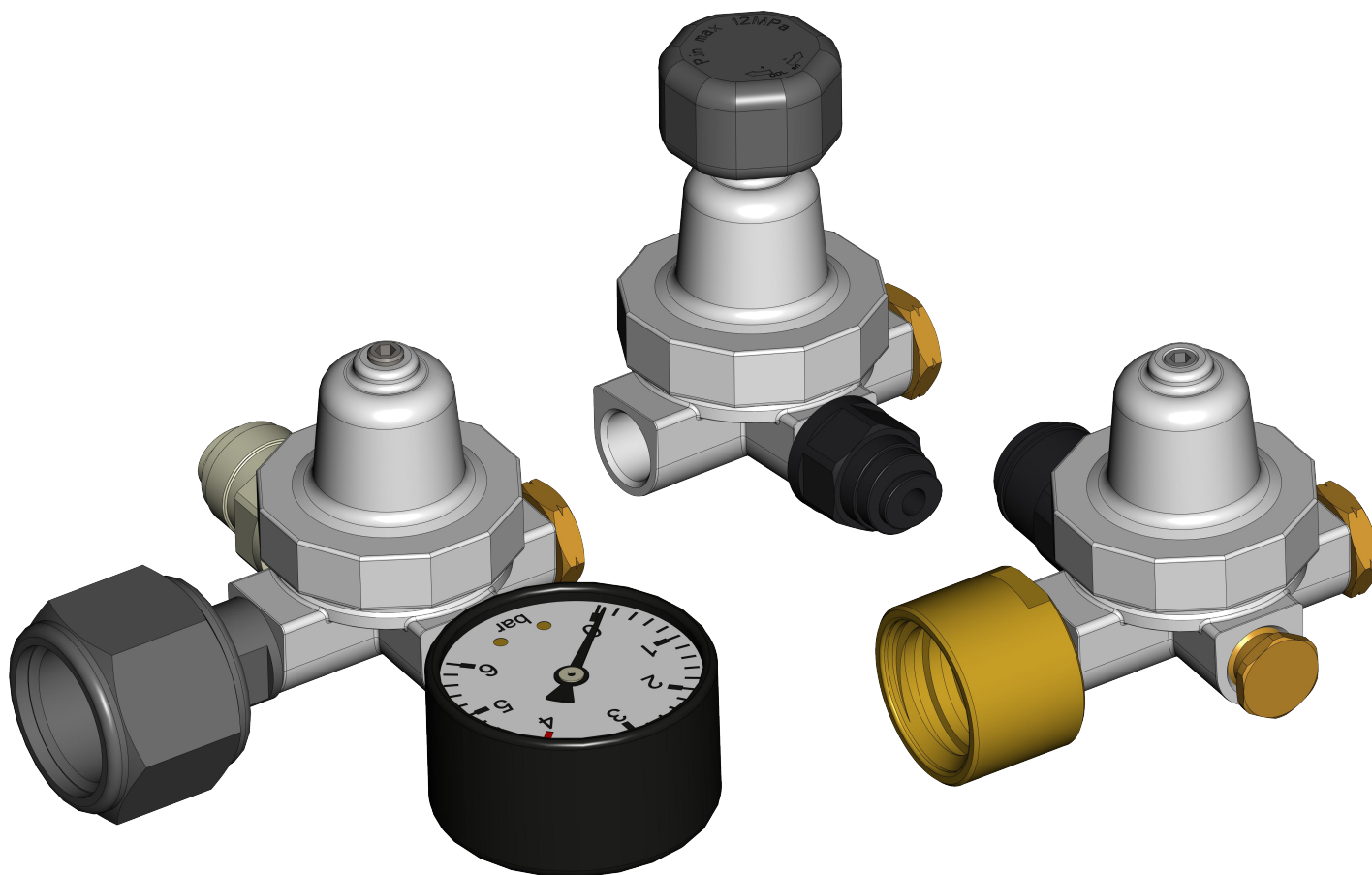
Each reducer body is equipped with a safety valve and three service lines with G1/8" or M11 connections.

### Features

The maximum deliverable volumetric flow rate is 30 NL/min. Various bottle connection solutions are available, as are outlets, pressure gauges, and adjustment knobs.

### Materials

The body, lid, and cylinder fittings are made of nickel-plated CW614N, internal high-pressure seals are all made in PTFE. The bottle connection gaskets are available in various materials.



## Applications

Domestic



Ho.Re.Ca.



Professional



Soft drink



Beer



Sparkling water

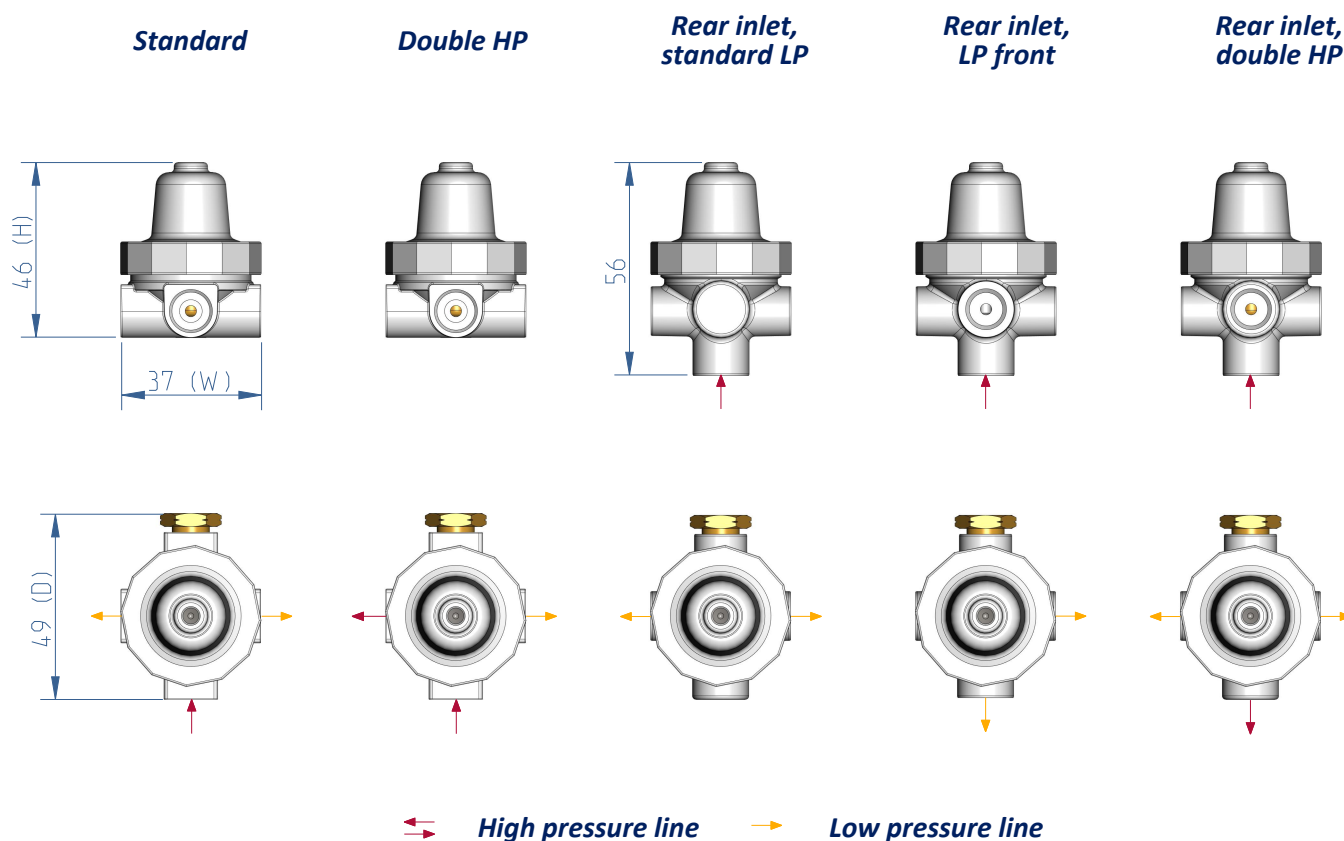


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## Reducer body features

Only the standard model is in stock; other versions are available upon request.  
For information regarding dimensional tolerances, please contact ODL.



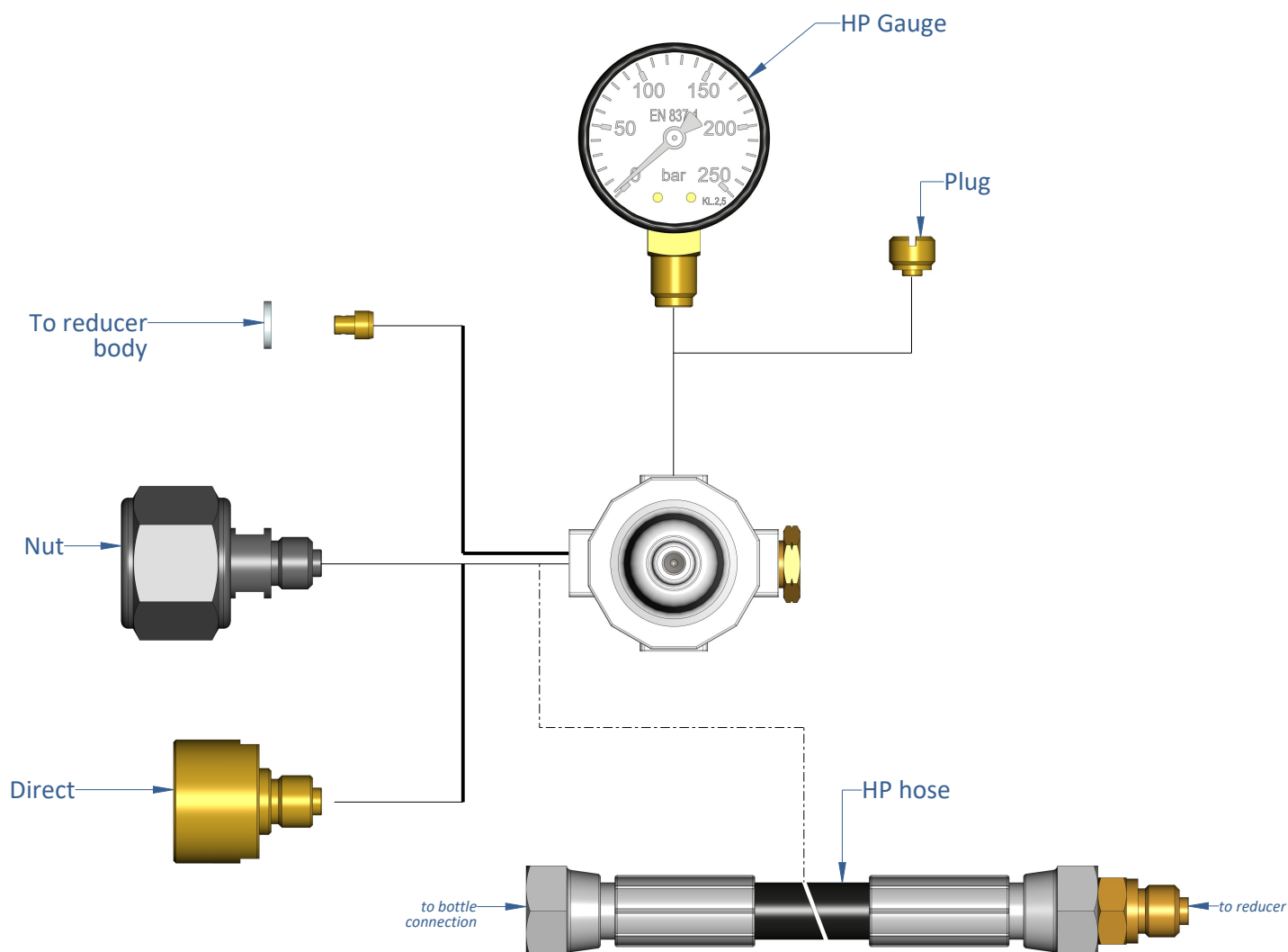
|                                            | Standard                                     | Double HP       | Rear inlet, standard LP | Rear inlet, LP front | Rear inlet, double HP |
|--------------------------------------------|----------------------------------------------|-----------------|-------------------------|----------------------|-----------------------|
| Height "H"- Width "W"- Depth "D" mm        | 46x37x49                                     | 46x37x49        | 90x71x71                | 56x37x49             | 56x37x49              |
| Body threads on high pressure lines -      | M11x1 or G1/8"                               | M11x1 and G1/8" | M11x1                   | M11x1                | M11x1 and G1/8"       |
| Body threads on low pressure lines -       | G1/8"                                        |                 |                         |                      |                       |
| Diaphragm diameter mm                      | 29                                           |                 |                         |                      |                       |
| Pressure relief valve orifice diameter mm  | 4                                            |                 |                         |                      |                       |
| Working fluids -                           | CO <sub>2</sub>                              |                 |                         |                      |                       |
| High pressure line burst pressure bar      | 1300                                         |                 |                         |                      |                       |
| Low pressure chamber burst pressure bar    | >100                                         |                 |                         |                      |                       |
| Pressure relief valve -                    | 1                                            |                 |                         |                      |                       |
| Relief valve initial opening pressure bar  | Up to 7                                      |                 |                         |                      |                       |
| Maximum overpressure %                     | 30                                           |                 |                         |                      |                       |
| Maximum inlet pressure CO <sub>2</sub> bar | 180                                          |                 |                         |                      |                       |
| Maximum outlet pressure bar                | 6                                            |                 |                         |                      |                       |
| 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 configurations shown refer to the "double HP" reducer body, which is not available in stock. In the "Standard" configuration it's not possible to install an HP gauge.



### Bottle connctetions features

|                 |                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------|
| To reducer body | Available threads M11x1 or G1/8"                                                            |
| With nut        | W 21.8 1/14" thread and 28 or 30mm wrench, other solutions on request                       |
| Direct          | Stub Acme 2G Ø21-6, other solutions on request                                              |
| Hose            | Length from 1m to 1.5m, burst pressure up to 860bar, bottle connections of SC could be used |

### High pressure gauge

|                      |            |
|----------------------|------------|
| Diameter             | 40mm       |
| Scale range          | 0-250bar   |
| Other configurations | On request |

### Other featuers

|           |                                                                     |
|-----------|---------------------------------------------------------------------|
| Multibody | Up to 5 bodies could be connected, contact ODL for any information. |
|-----------|---------------------------------------------------------------------|

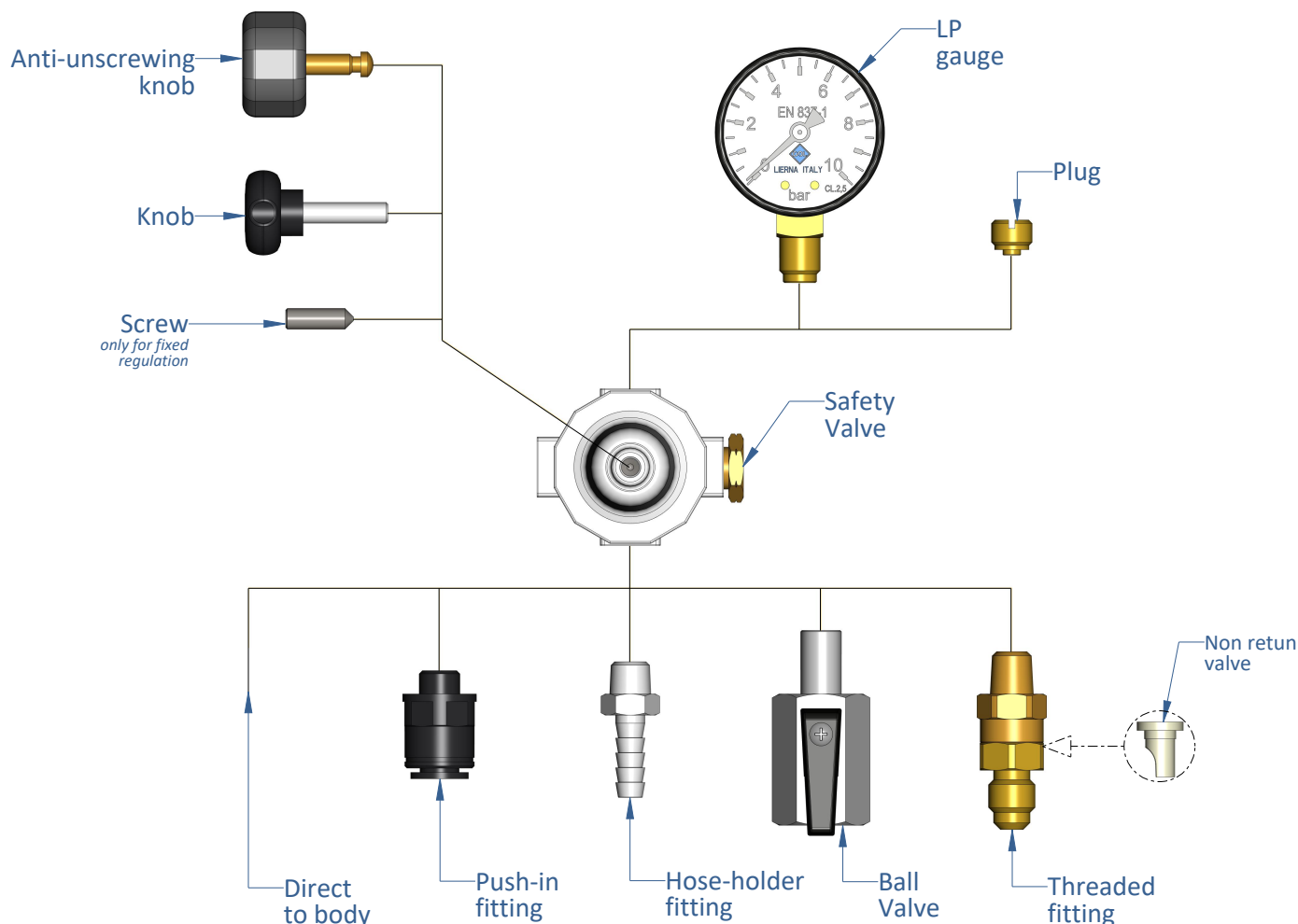
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## Low Pressure lines and regulation features



### Pressure regulations features

|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| Anti-unscrewing knob                        | Laser markings are possible on the top of this knob |
| Knob                                        | Different knob shapes are available                 |
| Screw                                       | With socket or torx head, used for fixed regulation |
| Regulation could be fixed, limited or free. |                                                     |

### Low Pressure Gauge

|                      |                           |
|----------------------|---------------------------|
| Diameter             | 40mm                      |
| Scale range          | 0-1.6bar, 0-6bar, 0-10bar |
| Other configurations | Set point marker          |

### Outlet fittings

|                         |                                                                         |
|-------------------------|-------------------------------------------------------------------------|
| Push-in plastic fitting | Available dimensions are Ø4mm, Ø6mm, Ø8mm and Ø1/4"                     |
| Hose holder diameter    | Ø8.1mm other on request                                                 |
| Ball valve              | Outlet connection G1/8", can be used in combination with other fittings |
| Threaded fitting        | 7/16"-20UNF other on request                                            |

|       |                                                                                                                                                                           |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

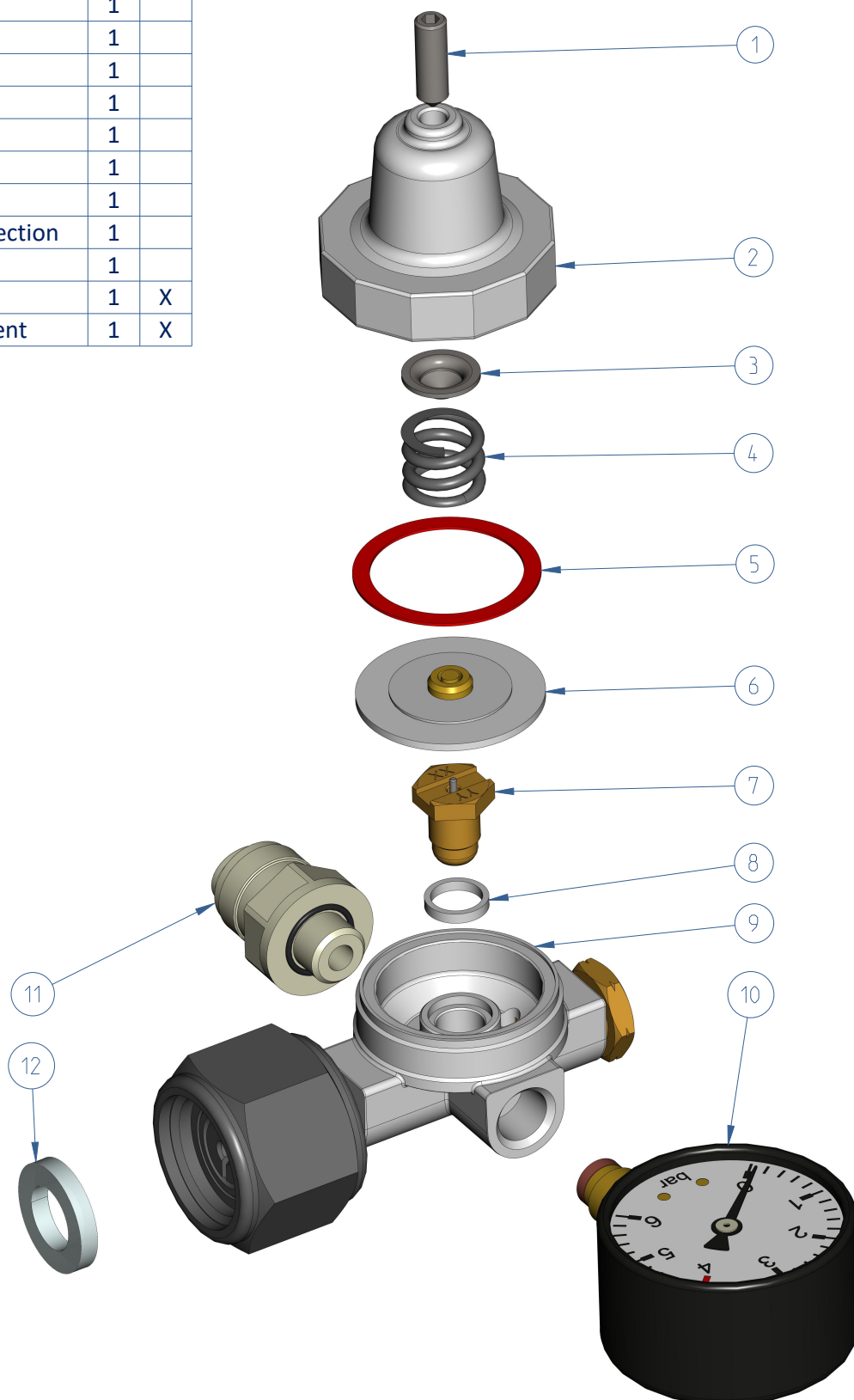
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## Spare parts

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

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



### Acronyms

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

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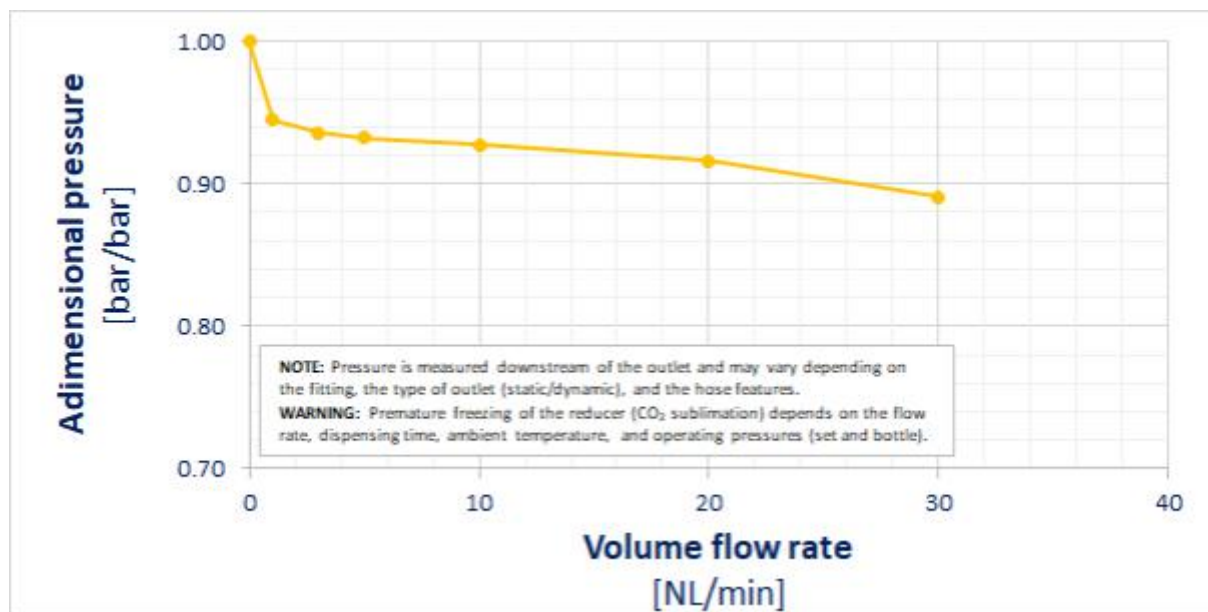


## Performance

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:  $4.85 \text{ bar} = 0.97 \times 5 \text{ bar}$ . Therefore, if the regulator is set to 5 bar under no-flow conditions, the effective downstream pressure will be 4.85 bar at a flow rate of 20 NL/min.



## 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 SN models are certified for SK and UL standards.