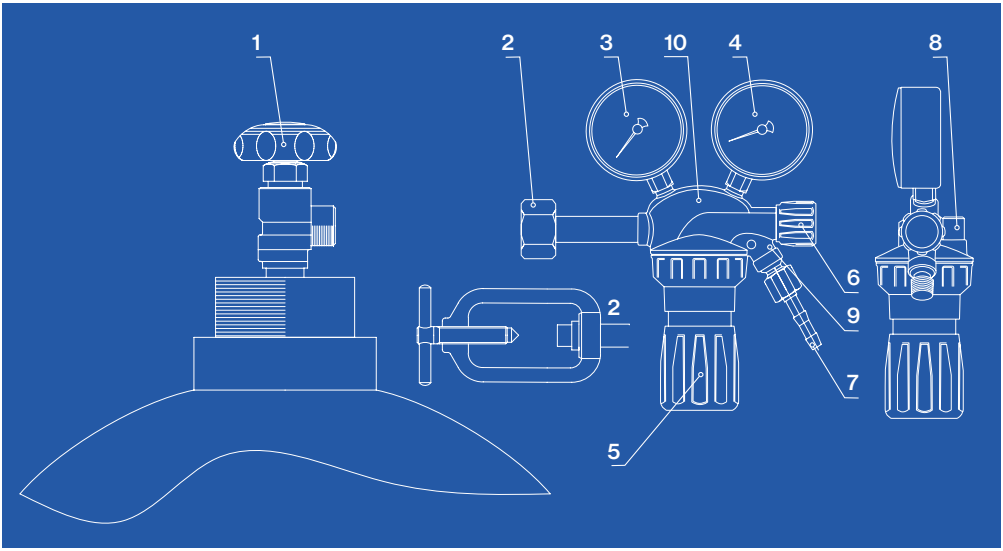
Air Liquide | PRIMEJET/PRIMEFLOW

Technical cylinder pressure regulators
User manual



Description according to EN ISO 2503

1. Cylinder valve
2. Inlet connection
3. High pressure gauge
4. Low pressure gauge
   (gauge l/min in pressure regulator with flowmeter gauge)
5. Pressure adjustment screw
6. Shut-off valve
7. Outlet connection
   (E.g.. hose nozzle with union.
   Nut not included.)
8. Pressure relief valve
9. Regulating office throttle (for pressure control), only in pressure regulators with flowmeter gauge
10. Type designation, name of manufacturer and/or distributor

This operating manual is intended to ensure the safe use of the pressure regulator for its intended purpose. Reading and following instruction in the operating manual contributes to preventing hazards, reduces downtime and increases the reliability and service life of the devices.

Marking gas type

A	=	Acetylene
O	=	Oxygen
P	=	LPG
N	=	CO2, Nitrogen, Inert gas
H	=	Hydrogen
D	=	Compressed air
M	=	Methane/Natural gas
Y	=	MPS
P1	=	Highest admission pressure
P2	=	Maximum outlet pressure or flow

Device class according to EN ISO 2503

Date of production – Code

Manufacturer Code

THIS OPERATING MANUAL MUST ALWAYS REMAIN AVAILABLE WITHIN REACH.

Safety instructions see also Point 2: in case of doubt the manufacturer or distributor should be contacted.

1 Use

1.1 Intended use

These cylinder pressure regulators are intended for use with compressed gases released under pressure, on pressurized gas cylinders up to 300 bar filling pressure (depending on technical design) as well as for liquid gases, to reduce the corresponding cylinder pressure and to keep the desired working pressure constant. The pressure regulator must only be used for gases for which a symbol is present on the pressure regulator (see symbols Point 3).

1.2 Unintended use

- Pressure regulation valves must not be used for liquids
- Pressure regulators must not be operated in ambient temperatures below -20 °C and above 60 °C
- Do not use pressure regulators for aggressive gases such as ethylamine, diethylamine, ammonia etc.

1.3 Directive 97/23/EC: Pressurised equipment (PED)

AIR LIQUIDE equipment of DN < 25 mm (e.g. pressure regulators, valves, non return valves…) satisfy to requirement of article 3§3 of 97/23/EC directive and at the state of the art. Consequently, these equipments shall not be CE marked as defined in article 15. By design, these equipment may integrate pressure relief valves or burst disks. In this case, those ones shall neither be CE marked according to paragraph 2 of annex II. In other case, pressure relief valves and burst disks shall be CE Marked.

2 Safety instructions

All indications labeled with this symbol are considered as special safety instructions.

2.1 The pressure regulators conform to the recognized state of the art, as well as the requirements of existing standards.

- No changes or alterations may be performed without the manufacturer's permission.

2.2 No adapters should be installed between the cylinder valve and the cylinder pressure regulator.

Improper operation, or use for purposes other than those intended can create hazards for the user and other persons, as well as damage to the pressure regulator.

2.3 Regulations that are applicable in Germany:

2.3.1 Accident prevention regulations / DGUV rules

- 100-001"Principles of prevention"
- 113-001 "Explosion prevention rules" Name plate
- 100-500 "Operation of work equipment"

2.3.2 Laws, directives, technical regulations

Product safety law (ProdSG) with the specific:

- Product safety directives (ProdSV), e.g.Explosionprotectiondirective(11.ProdSV) or Pressure device directive (14. ProdSV) 5. Dimensional drawing
- Work safety directive with Appendix 1 – 3
- Work safety technical rules (TRBS)
- Hazardous materials technical rules (TRGS)
- Plant safety technical rules (TRAS)

2.3.3 Bulletins, norms and guidelines

- Pressure equipment directive, 2014/68/EU
- Bulletin Use of compressed gas cylinders (DVS 0212)
- Refer to the safety data sheets of each specific gas type

2.4 Regulations that are applicable in Austria:

- Employee protection law ASchG

- Work equipment directive (AM-VO) BGBL. II. Nr. 164/2000 igF.
- General operating instructions for acetylene welding and cutting equipment according to § 26 para. 4 of the AM-VO.

2.5 Regulations that must be observed in Switzerland:

- 832.20 Federal Act on Accident Insurance (AIA)

  Art. 82 The employer is obligated to take all the necessary steps to prevent workplace accidents and occupational diseases, which, according to experience, are necessary, can be applied according to the latest technology and are appropriate for the respective circumstances.
- 822.11 Employment Act, EmpA

  Art. 6 The employer is obligated to take all the necessary steps to protect the health of his employees, which, according to experience, are necessary, can be applied according to the latest technology and are appropriate for the respective type of business.
- 832.30 Ordinance on the Prevention of Accidents and Occupational Diseases (APO)

  Art. 3 To safeguard occupational safety, the employer must make all the arrangements and protective measures that correspond with the provisions of this Ordinance and the other provisions applicable for his business governing occupational safety, as well as all other recognized technical regulations relating to safety and occupational health. The employer must ensure that the effectiveness of the protective measures and protective devices are not compromised. If buildings, parts of buildings, work equipment (machines, apparatus, tools or plants used at work) or work practices are changed or new substances are being used, the employer must adapt the protective measures and protective devices to suit the new conditions.

  Art. 6 The employer must ensure that all employees working in his company, including employees of another company, are informed of the dangers involved in their activities and are informed of the measures to take in order to prevent them. This information and instructions must be relayed at the time the individual is hired and on the occasion of every significant change in the working conditions and repeated if necessary.
- 819.121 Ordinance on the Safety of Pressure Equipment (Pressure Equipment Regulation, DGV)
- 832.312.12 Ordinance on the Safety and Health Protection of Workers in the Use of Pressure Equipment (Use of Pressure Equipment Ordinance, DGVV)
- 930.111 Ordinance on Product Safety (ProdSO)

3 Starting operation

The sequence must be strictly respected!

Explosion hazard! All parts such as tools and hands that come into contact with oxygen must be kept free from oil and grease.

3.1 Before starting work, the instructions in this operating manual must be read and followed during the work!

3.2 Check if the pressure regulator is suitable for the intended gas type and pressure (see symbol Point 3).

3.3 Check if the cylinder valve connector and the seal are clean and undamaged. In case of any damage, the pressure regulator must not be connected.

Before screwing on the pressure regulator, open the cylinder valve once briefly and close it again in order to blow out any possible dirt. Do not stand in front of the valve when doing this or hold your hand in front of the valve. (except for hydrogen and hydrogen mixtures, propane, corrosive, toxic and irritant gases, and flammable test gases). Ensure good ventilation.

3.4 Connect the regulator with screw connection to the bottle valve (1) using a suitable spanner or connection bracket (2) in a gas-tight manner. For regulators with manual connection (O-ring seal), this screw connection must be tightened by hand. No tools must be used for manual connection. The mounting position of the regulator must always be vertical in relation to the pressure gauges.

3.5 Connect the hose to the hose connector on the outlet stud (7) and to the consumer device. Hoses and hose connections (hose nozzles) shall be used according to actual and related standard. Secure the hoses with suitable hose clips.

3.6 Adjusting the pressure

Before releasing the gas into the system, check the following:

1. Correct version of the cylinder pressure regulator
2. All indicators at zero
3. Pressure fully turned off on the pressure adjustment screw (5) (anticlockwise)
4. Re-adjustment valves are closed.

Then close the shut-off valve (6) and release pressure and pressure regulator by unscrewing the pressure adjustment screw (5). Open the cylinder valve slowly, the high-pressure gauge (3) indicates the cylinder pressure. Open the shut-off valve (6) and slightly open the corresponding shut-off valve of the consumer device. Then screw down the pressure adjustment screw (5) to set the desired outlet pressure (operating pressure) and check it on the low pressure gauge (4). Correct the pressure setting if the pressure dips.

Carry out leak test with Air Liquide leak detection spray!

4 Stopping operation

- For short shutdown periods: close the shut-off valve on the pressure regulator.
- For longer shutdown periods: Close the cylinder valve, release pressure, pressure regulator has zero pressure, loosen pressure adjustment screw (5). Close the shut-off valves on the pressure regulator and the consumer device. Never tighten or loosen screw connectors while they are under pressure!

5 Operation and maintenance note

5.1 Always protect the pressure regulator from damage (visual inspection at regular intervals).

The factory settings of the connection seals must not be changed.

5.2 Ensure that the connector seals, sealing surfaces and gauges are in perfect condition.

If a fault occurs, for example if the outlet pressure rises when output = 0, if there are leaks into the atmosphere, the guages are defective, or when the safety valve is activated, shut off the pressure regulator , close the cylinder valve immediately.

Air Liquide recommends annual periodic inspections of the pressure regulator by competent, authorized personnel.

Faults that occur can have many causes. For your own safety, avoid tampering or making repairs on your own.

6 Repairs

Repairs to the pressure regulators must only be done by competent and trained personnel in authorized specialist workshops. Only original spare parts must be used for repairs.

6.1 If unauthorized repairs or changes are made by the user or a third party without permission from the manufacturer, then liability for the consequences is rescinded.

7 Cylinder pressure regulators with flow meter gauge

For these pressure regulators, points 1 to 7 in this operating manual also apply. The flow quantity set by the pressure adjustment screw (5) is indicated on the flow meter gauge (4). In pressure regulators with a flow meter gauge, a regulating office/ throttle (for pressure control) (9) is built in. Check if a regulating office/ throttle (for pressure control) is already installed in your equipment. If yes this must be removed because the mounting holes are not adapted to the pressure regulator.

8 Indications to Cylinder pressure regulator having Flowmeter

Setting of the required flow:

1. Close shut-off valve (6)
2. Open slowly cylinder valve (1).
   The inlet gauge (3) is indicating the cylinder pressure.
3. Open shut-off valve (6) and corresponding shut-off valve of the implement.
4. Set the desired flow by adjustment valve (6).

9 Guarantee

The standard warranty period is one year from the date of delivery in accordance with the general terms and conditions of Air Liquide Deutschland GmbH, Air Liquide Austria GmbH and Carbagas AG. The standard warranty period is only valid for goods that have been used according to the operating manual and generally applicable industry practices and standards.

10 Note

Please use the product only for the purpose that Air Liquide intended and only if you are competent in the application and follow the technical safety guidelines or safety procedures. If there are any doubts related to the use of the product, request specific Air Liquide product information beforehand or talk to an Air Liquide specialist.

The QR Code leads you to the online version of this manual.

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