We are pleased to announce that APRAGAZ, approved Pergola on its final assessment, and that Pergola was granted on March 11, 2003 UNI EN ISO 9001.

This standard has been achieved through the concerted efforts of our customers, who have made it possible for us to obtain the goal of “TOTAL QUALITY”.

Through your efforts and research we guarantee that Pergola will provide the highest standard of service to ensure success.

Today you can be assured that with Pergola you will have a partner in quality and excellence.

International Standards

Many products of the Group carry the approval of National and International Organizations. For example:

<table>
<thead>
<tr>
<th>APRAGAZ</th>
<th>CGA</th>
<th>CHLORINE INSTITUTE</th>
<th>CZECH REPUBLIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELGIUM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIR LIQUIDE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRANCE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GERMANIY</td>
<td>DTN - DVGW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLAND</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROMANIA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please be so kind to verify with us approvals, accessories (tubes, tubes materials, tubes fixing, anti-filling devices, tools for anti-filling devices, caps, sealants and settings) and optional features. Approvals of any kind have to be expressly specified on orders or enquires.

For orders please refer to:

Via Statale 11, n° 11/13 - 25011 PONTE S. MARCO di CALCINATO (BS) - ITALY
Tel. +39 030 9663.111 - Fax +39 030 9980894
Website: www.cavagnagroup.com
Cavagna Group High Pressure Equipment Division have been awarded by APRAGAZ (European EC notified body) the certificate “CE” and “\(\pi\)” mark for approved equipment according to Directive 97/23 EC, 99/36 EC, 93/42 EC.
Advanced Solutions for Gas Control

HIGH PRESSURE EQUIPMENT DIVISION

2 YEARS LIMITED WARRANTY

1 - Compliance of the products
Subject to the provisions of this article, the seller guarantees the compliance of the products supplied; by the term “compliance of the products” is meant that they correspond in quantity, quality, and type with what was agreed in the contract and that they are without defects that could render them unfit for the use to which they are intended to be put.

2 - Extent of the guarantee
The guarantee against defects is limited only to product defects due to defects in planning, materials or construction that can be attributed to the seller, and does not apply in the case where the buyer is unable to prove a correct preservation of the products, and neither that he has modified them without the agreement of the seller.

Furthermore, the seller is not liable for defects in product compliance due to the normal wear of those parts, which by their nature, are subject to rapid and continuous wear and tear (for example: lining, etc.).

In general, in no case is the seller liable for defects in compliance, whose cause lies in a fact subsequent to the transfer of risk to the buyer.

The present guarantee is valid only when the products are installed, used and maintained in conformity with the instructions furnished by the seller (inserted in the Warning Paper) and with the requests and dispositions of the voluntary or mandatory laws and regulations existing in the country where the products are used or, where there’s no laws, in conformity with the good technical work rules of the sector.

3 - Claims
The buyer is required to control the compliance of the products and the absence of flaws. The buyer should report any flaws or defects in product compliance, in the following ways and at the following times:

a) claims for shortage or damages apparent from exterior examination of package contents must be expedited as soon as the products arrived at their place of destination or risk forfeiture;

b) claims relevant to quantity, colour, quality flaws or defects or non-compliance that the buyer would be able to point out as soon as he takes possession of the goods, must be made shortly after the time when the products arrived at their place of destination and, in any event, on lapse of the guarantee not later than 15 days after that time;

c) hidden flaws, defects or non-compliance (that is, those not identifiable according to the inspection imposed by law and by the preceding subparagraph on the buyer) must be reported shortly after the discovery and in any event, on lapse of the guarantee, not later than 2 years from the delivery date.

Claims must be made by registered letter, addressed to the head office of the seller and must describe in detail the flaws or disputed non-compliance.

In order to preserve this warranty, the buyer will not execute any intervention on the product (disassembling, repair, modification, etc.) without the seller prior written agreement.

The buyer forfeits his guarantee rights if he does not consent to every reasonable control requested by the seller, or if after the seller has requested the return of the defective products at his own expenses, the buyer omits to return them within 5 working days from the request.

In the event that the claim turns out to be unfounded, the buyer will be required to reimburse the seller for all the expenses sustained by him in verifying the claim (travel, expert valuations, transport expenses etc.).

4 - Remedies
Following a report by the buyer duly made in accordance with the previous point 3, the seller, within a reasonable period having regard to the context of the claim, may, at his discretion:

a) supply EXW to the buyer products of the same kind and quantity as those that have been proved to be defective or not in compliance with what was agreed; in such a case the seller can require the return or the defective products, which become his property.

b) declare in writing the cancellation of the contract, offering the restitution of the sum paid against the restitution of the supplied products.

No other cost (such as disassembling and/or reassembling of the products, transportation from/to the premises of buyer’s customers, etc.) shall be charged to the seller.

5 - Limit of seller’s liability
The guarantee contained in the previous points supersedes all legal warranty for defects and compliance, and excludes any other possible liability of the seller, however originating, from the products supplied. In particular, the buyer can not put forward another claim for compensation in respect of any further damages, reduction of the price or cancellation of the contract. Once the period of the guarantee has expired no valid claim can be made against the seller.

In no event shall seller be liable to buyer for any direct, incidental, indirect, consequential or exemplary damages, including without limitation any claim for damages based on lost revenues or profits, however caused.

No exceptions to the provisions of the present point and to the previous ones will be considered valid unless expressly and specifically defined and accepted by the parties in writing.

6 - Technical regulations
Whereas for that which concerns the product characteristics the seller complies with the legislation and the technical regulations prevailing in Italy and the European Directives, and that will be furnished on request, the buyer assumes the whole risk of any difference between the European Directives plus the Italian regulations and those of the country of destination of the products, and indemnifies the seller in respect of it, unless if they have been previously communicated to him.

The seller guarantees the performance of products of his manufacture only and exclusively in relation to uses, destinations, applications, tolerances, capacities, etc... that have been expressly indicated by him, with the sole exception of uses, destinations and applications that, to the common knowledge acquired by normal users, are clearly and unequivocally attributable to the products in question.

The buyer is not authorised to dispose of the products supplied to him by the seller in a way which does not conform to the indications described in the previous subparagraph and in the instruction given by seller.

Where the buyer intends the said products to be resold, it shall be his responsibility:

a) informing his purchasers of the indications in question;

b) any further periods of guarantee he decides to grant to his purchasers exceeding the ones granted to him by Seller according to paragraph 3

7 - Personal injuries and property damages
Seller shall indemnify buyer from and against any and all claims, demands, losses, liabilities alleged by third parties relating to personal injuries and property damages suffered as a result of a defective product. In such event, seller will exclusively be responsible within the limits, terms and conditions of the product liability insurance policy held by it (a copy of the current policy is available upon request).

In case of potential damages to third parties that may arise from a defective product, the parties shall work together in good faith to determine the nature and extent of the appropriate measures to be taken, including recall operations. It is understood that the costs and expenses associated with the recall or other measures shall be paid by seller within the limits, the terms and the conditions set forth in its liability insurance policy, with the exclusion of the costs connected to the finding of the Products in the market, that will be supported by the Buyer.
Since 1931 the Cavagna Group has been a premier manufacturer of cylinder valves and related equipment. Recognized around the world, Cavagna meets or exceeds the highest industry and regional standards for quality. This commitment has resulted in the expansion of our growing client base to over 112 countries worldwide.

Headquartered in Brescia Italy, Cavagna is a respected global leader in the forging and machining of brass, zinc, alloys and steel. Originally founded in 1931 under another name, today the group produces an enormous variety of gas products at six production facilities located in the Lumezzane district of northern Italy.

Years of experience and devotion to highly automated and controlled production facilities, the group moved into many new market segments through its own research and development activities coupled with several key acquisitions.

Today we offer our customers a complete solution for their gas handling needs. Our product offering includes LP gas valves, ASME, fork lift and motor fuel tank valves, medium and high pressure cylinder valves for industrial, medical and specialty gases and a range of high and low pressure LP and natural gas regulators.

Cavagna is recognized by over 40 national and international standards agencies, including such Canadian and U.S. organizations as the AGA, ASME, CGA, IAS and UL. Most recently Cavagna has secured its approval by the European notified body Apragaz for its High Pressure Industrial and Specialty Gas and LP-Gas Cylinder valve line.

The Cavagna Group operates twenty-one world wide operations making it one of the world’s largest producers of gas valves, regulators and related equipment.

Our North America Distribution Center was opened in 1997, this 15,000 square foot facility located in Morrisville New Jersey provides our customer with immediate on time shipments from our extensive inventories. The group’s commitment to local inventory has allowed our sales to both our Canadian and U.S. clients to grow as the provide 24 hour order processing.

Our commitment to customer service is paramount to our corporate philosophy to “Think Globally and Act Locally”.

We are an aggressive company with a superb safety record. Our various market interests have allowed us to develop a product line unparallel in our industry.

Growth and service go hand in hand with Cavagna’s commitment to total quality. It is this commitment that drove the groups achievement of ISO certification in the early 1990’s. To further our goal in the area of quality and to significantly move ahead of our competition, Cavagna has recently embarked on a six-sigma program to pursue a higher level of overall corporated quality. This program is being supported by our top management and will involve every face of our firm’s resources.

Quality and capabilities have certainly paid us dividends over the years. The objective of our R & D group, our quality department or our engineering group are obtained because of Cavagna’s corporate philosophy which grounds his milestones on the quality of the human resources employed to guarantee the safety and reliability of its products world wide.

We look forward to the privilege to serve your needs in the future.
Key features

- O-Ring technology provides superior leak integrity
- Easy operation and long service life
- 100% leak test to 1.2 times working pressure
- All marking on the valve neck, protects against damage
- Large seat orifice provides faster vacuum and filling rates
- Durable forged brass body manufactured by Cavagna Group
- Unique seat holder design
- Available configurations include: Inlet threads (NGT, DIN477, BS, EN, EN ISO)

Technical Specifications

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Max Working Pressure</th>
<th>3300 PSIG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test Pressure</td>
<td>870 PSIG</td>
</tr>
<tr>
<td>Temperature - Storage</td>
<td>Min -65°F</td>
<td>Max 155° F</td>
</tr>
<tr>
<td>Temperature Operating</td>
<td>Min -50°F</td>
<td>Max 120° F</td>
</tr>
<tr>
<td>Cycle life min</td>
<td>5000</td>
<td></td>
</tr>
</tbody>
</table>

Torque Values for PBA Acetylene valves

- Max Operating torque @ 0 PSIG inlet pressure: 1 N/m, 8.8 lbs / inch
- Max Operating torque @ 240 PSIG inlet pressure: 1 N/m, 8.8 lbs / inch
- Max Operating torque @ 2900 PSIG inlet pressure: 2 N/m, 17.7 lbs / inch

Max Overtorque: 25 N/m, 221 lbs / inch

Flow capacity (CV): n/a

Seat orifice: 3,5 mm, 0,137”

Materials

- Valve Body: Forged Brass EN12165 alloy
- Back up ring: PTFE
- Hand wheel: Aluminium
- Seat: PA 612-Zytel
- O-rings: EPDM
- Antifriction ring: Delrin
- Bonnet: Brass alloy conforming EN12164

Conforms to all requirements of:

- CGA V 9: Standard for Gas Cylinder Valves
- CGA S-1.1: Standard for Pressure Relief Devices
- CGA V-1: Compressed Gas Cylinder Valve Outlet and Inlet Connections
- EN849: European Norm
- CE - π: The Council of European Union

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBA 8 300 0</td>
<td>Commercial</td>
<td>300</td>
<td>.825”-14 NGO RH Ext.</td>
<td>1/2” NGT</td>
</tr>
<tr>
<td>CBA 1 300 0</td>
<td>Commercial</td>
<td>300</td>
<td>.825”-14 NGO RH Ext.</td>
<td>3/4”-14 NGT</td>
</tr>
<tr>
<td>CBA 6 300 0</td>
<td>Commercial</td>
<td>300</td>
<td>.825”-14 NGO RH Ext.</td>
<td>1”-11 1/2 NGT</td>
</tr>
<tr>
<td>CBA 1 415 0</td>
<td>Canadian Style</td>
<td>415</td>
<td>.850”-14 NGO LH Int.</td>
<td>3/4”-14 NGT</td>
</tr>
<tr>
<td>CBA 8 510 0</td>
<td>P.O.L.</td>
<td>510</td>
<td>.885”-14 NGO LH Int.</td>
<td>1/2” NGT</td>
</tr>
<tr>
<td>CBA 1 510 0</td>
<td>P.O.L.</td>
<td>510</td>
<td>.885”-14 NGO LH Int.</td>
<td>3/4”-14 NGT</td>
</tr>
<tr>
<td>CBA 6 510 0</td>
<td>P.O.L.</td>
<td>510</td>
<td>.885”-14 NGO LH Int.</td>
<td>1”-11 1/2 NGT</td>
</tr>
</tbody>
</table>

The features described in this illustration do not bind the manufacturer.
Key features

• Rugged brass forged body manufactured by Cavagna Group
• O-Ring design provides industries best leak tightness and easy operation
• Compact handwheel provides better access to the valve handwheel and eliminated interference with cylinder collar
• Inlet screen prevents filler mass or felts from entering the valve
• Easy to read valve markings roll stamped on the valve neck - not on the wrench flats
• Soft seat design provides positive shut off

Technical Specifications

Pressure:
Max Working Pressure 3300 PSIG
Test Pressure 870 PSIG

Temperature - Storage
Min -65°F Max 155°F

Temperature Operating
Min -50°F Max 120°F

Cycle life min 5000

Torque Values for PBA Acetylene valves
Max Operating torque @ 0 PSIG inlet pressure 1 N/m 8,8 lbs / inch
Max Operating torque @ 240 PSIG inlet pressure 1 N/m 8,8 lbs / inch
Max Operating torque @ 2900 PSIG inlet pressure 2 N/m 17,7 lbs / inch

Maximum Overtorque 25 N/m 221 lbs / inch

Flow capacity n/a

Seat orifice 3,5 mm 0,137"

Materials

Valve Body Forged Brass EN121645
Hand Wheel Aluminium
Bonnet Brass EN12164
Seat PA 612 Zytel 158
O-Rings EPDM
Back up Ring PTFE
Antifriction ring Delrin
Filter Stainless Steel

Conforms to all requirements of:

CGA S-1.1 Standard for Pressure Relief Devices
CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
EN849 European Norm
CE - π The Council of European Union
CGAV9 Standard for Gas Cylinder valves

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBO 1 S10 0</td>
<td>510</td>
<td>.885-14 NGO LH Int.</td>
<td>3/4-14 NGT</td>
</tr>
</tbody>
</table>
Key features

• Handwheel design permits easy access to the valve stem and bonnet to perform leak checks in compliance with DOT requirements.

• Positive spindle nut seal with the valve body eliminates the need for constant tightening of packing nuts.

• Robust brass handwheel prevents breakage and corrosion associated with aluminium versions.

• Self-locking zinc coated steel nut affixes handwheel to the Sturdy Brass Stem.

• Proven double O-Ring technology assures positive leak tight operation extending service life.

• Easy low torque operation eliminates the need for wrenches or keys.

• Soft seat extends service life and reduces leakage.

• Handwheel design eliminates costly valve repairs reducing overall “Cost of Ownership”

Technical Specifications

Pressure:
Proof: 100 bar min 1450 PSIG min
Test: 60 bar 870 PSIG

Temperature - Storage:
Min -65°F Max 155°F

Temperature Operating:
Min -65°F Max 120°F

Cycle life min: 5000

Torque Values for PBH/PBI Acetylene valves:
Operating torque @ 500 PSIG: (200) 3 lbs/inch (520) 3 lbs/inch
Seat orifice: (200) .133 (520) .133

Materials
Valve Body: Forged Brass EN12165
Hand Wheel: Brass EN12164
Bonnet Nut: Brass EN12164
Seat: PA 612 Zytel 158
O-Rings: EPDM
Back up Ring: PTFE
Fusible plug: 212 F Integral Fusible metal
Strainer: AISI 304 100 mesh

Conforms to all requirements of:
CGA S-1.1 Standard for Pressure Relief Devices
CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
CGAV9 Standard for Gas Cylinder valves

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBH 5 S20 3</td>
<td>S20</td>
<td>.895-18 NGO RH Ext.</td>
<td>3/8-18 NGT</td>
</tr>
<tr>
<td>PBI 5 200 3</td>
<td>200</td>
<td>.625-20 NGO RH Ext.</td>
<td>3/8-18 NGT</td>
</tr>
</tbody>
</table>
**Key features**

- Valve body made of rugged forging brass produced by Cavagna Group
- Fusible metal pressure relief device
- Large wrench flats for easy installation
- Teflon packing and anti extrusion rings prevent packing leakage
- Plated steel stem resists damage from wrenches and corrosion

**Technical Specifications**

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Proof</th>
<th>100 bar min</th>
<th>1450 PSIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>60 bar</td>
<td>870 PSIG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature - Storage</th>
<th>Min</th>
<th>-65°F</th>
<th>Max</th>
<th>155°F</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Temperature Operating</th>
<th>Min</th>
<th>-50°F</th>
<th>Max</th>
<th>120°F</th>
</tr>
</thead>
</table>

| Cycle life min | 5000 |

**Torque Values for PBB/PBC Acetylene valves:**
See Ordering information below.

**Materials**

- Valve Body: Forged Brass EN12165 alloy
- Pressure Relief: 212 F Integral Fusible Metal
- Packing Nut: Brass EN12164
- Packing: Teflon (PTFE)
- Packing Gland: Brass EN12164 alloy
- Packing Washer: Brass EN12165 alloy
- Stem: Steel UNI4838
- Strainer: AISI 304 100 mesh

**Conforms to all requirements of:**
- CGA V 9 Standard for Gas Cylinder Valves
- CGA S-1.1 Standard for Pressure Relief Devices
- CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBB 5 520 3</td>
<td>Acetylene</td>
<td>520</td>
<td>.895-18 NGO RH Ext.</td>
<td>3/8-18 NGT</td>
</tr>
<tr>
<td>PBC 5 200 3</td>
<td>Acetylene</td>
<td>200</td>
<td>.625-20 NGO RH Ext.</td>
<td>3/8-18 NGT</td>
</tr>
</tbody>
</table>

**Torque Values**

<table>
<thead>
<tr>
<th>Description</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Torque @ 0 psig Inlet Pressure</td>
<td>6 to 10 in lbs</td>
</tr>
<tr>
<td>Closing Torque @ 500 psig Inlet Pressure</td>
<td>6 - 10 in lbs</td>
</tr>
<tr>
<td>Packing Nut Installation Torque</td>
<td>80 - 100 in lbs</td>
</tr>
<tr>
<td>Stem Installation Torque</td>
<td>45 ± 5 in lbs</td>
</tr>
</tbody>
</table>

**Flow Data**

<table>
<thead>
<tr>
<th>CGA Outlet Number</th>
<th>200</th>
<th>520</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat Orifice Diameter (inches)</td>
<td>.133</td>
<td>.133</td>
</tr>
<tr>
<td>Flow Constant: Cv - Full Open</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Flow CFM @ 240 PSIG Inlet</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
**Key features**

- Rugged brass forged body manufactured by Cavagna Group
- Durable stainless steel stem resists corrosion and damage and provides smooth, long term operation
- Unique chevron style packing and specially machined internals keep the stem in constant contact with the packing - Eliminating chronic stem leaks
- Self wiping metal to metal seat design guarantees positive gas shut-off
- Tamper resistant packing nut
- Vertical outlet provides easy access and operation with collar style cylinders

**Technical Specifications**

<table>
<thead>
<tr>
<th>Pressure:</th>
<th>Proof</th>
<th>1500 PSIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>500 PSIG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature - Storage</th>
<th>Min -65°F</th>
<th>Max 155°F</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Temperature Operating</th>
<th>Min -50°F</th>
<th>Max 120°F</th>
</tr>
</thead>
</table>

| Cycle life min | 5000 |

<table>
<thead>
<tr>
<th>Torque Values for PBW Acetylene valves</th>
<th>Operating torque @ 0 PSIG inlet pressure 0,8 N/m 6 lbs / inch</th>
<th>Closing torque @ 200 PSIG inlet pressure 1 N/m 8,8 lbs / inch</th>
</tr>
</thead>
</table>

| Packing nut installation torque | 25 N/m 221 lbs / inch |

**Materials**

- Valve Body: Forged Brass EN12165
- Bonnet Nut: Brass EN12164
- Packing ring: Teflon®
- Stem: Stainless steel AISI 303

**Conforms to all requirements of:**

- CGA S-1.1 Standard for Pressure Relief Devices
- CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
- CGAV9 Standard for Gas Cylinder valves

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBW 1 510 0</td>
<td>S10</td>
<td>.885-14 NGO LH Int.</td>
<td>3/4-14 NGT</td>
</tr>
</tbody>
</table>

The features described in this illustration do not bind the manufacturer.
**Key features**

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- 100% leak test according to EN 849
- All marking on the valve neck, protects against damage
- Large seat orifice provides faster vacuum and filling rates
- Durable hot forged brass bodies manufactured by Cavagna Group
- All valves are “π” marked according to 99/36 EC
- Valves designed according to EN 849
- All inlets and outlets standards available
- BAM approved

**Technical Specifications**

- Max Working Pressure: 230 bar
- Temperature operating: -45°C +65°C
- Orifice size: 4 mm
- Cycle life: Min 2000 cycles

**Materials**

- Handwheel: Aluminium or Zamak
- Valve Body: Brass alloy conforming to EN12165
- Seat pad: PA 612 - Zitel® or ebonite
- O-ring: EPDM
- Filter: Stainless steel
- Spindle: Brass

**Options**

- Outlet available with yoke configuration
- Stainless steel stem key operated
- Personalized handwheel logo cap
- SS filter available on the inlet
Key features

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- 100% leak test according to EN 849
- All marking on the valve neck, protects against damage
- Durable hot forged brass bodies manufactured by Cavagna Group
- All valves are “π” marked according to 99/36 EC
- Valves designed according to EN 849
- All inlets and outlets standards available
- BAM approved

Technical Specifications

Max Working Pressure: 230 bar
Temperature operating: -45°C +65°C
Orifice size: 4 mm
Cycle life: Min 2000 cycles

Materials

- Handwheel: Aluminium or Zamak
- Valve Body: Brass alloy conforming to EN12165
- Seat pad: PA 612 - Zitel® or ebonite
- O-ring: EPDM
- Filter: Stainless steel
- Spindle: Brass

Options

- Outlet available with yoke configuration
- Stainless steel stem key operated
- Personalized handwheel logo cap
- SS filter available on the inlet

The features described in this illustration do not bind the manufacturer.
Key features

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- 100% leak test to 1.2 times cylinder service pressure
- All marking on the valve neck, protects against damage
- Large seat orifice provides faster vacuum and filling rates
- Available bursting discs for all DOT cylinders
- Durable forged brass body manufactured by Cavagna Group
- Passes stringent oxygen adiabatic compression test
- Unique seat holder design
- Standard pressure relief device thread - .650-19UNS-2B
- Color coded safety device for easy burst disc identification
- Available configurations include:
  - Inlet threads (NGT, UNF, DIN477, BS, EN, EN ISO)
  - All CGA outlets available
- Available with inlet thread for DT
- Unitized “plug style” bursting disc

Technical Specifications

<table>
<thead>
<tr>
<th>Pressure</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof</td>
<td>11,520 PSIG</td>
</tr>
<tr>
<td>Test</td>
<td>3000 PSIG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature - Storage</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof</td>
<td>-65°F</td>
<td>155°F</td>
</tr>
<tr>
<td>Test</td>
<td>-50°F</td>
<td>120°F</td>
</tr>
</tbody>
</table>

Cycle life min 5000

Torque Values for PBA Acetylene valves

<table>
<thead>
<tr>
<th>Inlet pressure</th>
<th>Max Operating torque</th>
<th>Max Overtorque</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 PSIG inlet pressure</td>
<td>1 N/m</td>
<td>8.8 lbs / inch</td>
</tr>
<tr>
<td>240 PSIG inlet pressure</td>
<td>1 N/m</td>
<td>8.8 lbs / inch</td>
</tr>
<tr>
<td>2900 PSIG inlet pressure</td>
<td>2 N/m</td>
<td>17.7 lbs / inch</td>
</tr>
<tr>
<td>25 N/m</td>
<td>221 lbs / inch</td>
<td></td>
</tr>
</tbody>
</table>

Flow capacity CV / Full open n/a

Seat orifice 4.5 mm .177”

Materials

- Valve Body: Forged Brass according to EN12165 alloy
- Bursting disc: Nickel alloy
- Bursting disc body: Brass (also available with 212°F fusible metal)
- Back up Ring: PTFE
- Bonnet: Brass
- Handwheel: Aluminium
- Seat: Polyamide
- O-rings: EPDM
- Antifriction: Delrin
- Stem: Brass according to EN 12164 alloy

Conforms to all requirements of:

- CGA V 9 Standard for Gas Cylinder Valves
- CGA S-1.1 Standard for Pressure Relief Devices
- CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
- EN849 European Norm
## Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBA 350 6 xxxx</td>
<td>Hydrogen</td>
<td>0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
</tr>
<tr>
<td>CBA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 1 695 6 xxxx</td>
<td></td>
<td>3,001 to 5,500 psi</td>
<td>695</td>
<td>1.045-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 703 6 xxxx</td>
<td></td>
<td>5,501 to 7,500 psi</td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
</tr>
<tr>
<td>CBA 8 580 1 xxxx</td>
<td>Krypton</td>
<td>0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td></td>
<td>3,001 to 5,501 psi</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td></td>
<td>5,501 to 7,500 psi</td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
</tr>
<tr>
<td>CBA 8 350 6 xxxx</td>
<td>Methane (R50)</td>
<td>0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
</tr>
<tr>
<td>CBA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 1 695 6 xxxx</td>
<td></td>
<td>3,001 to 5,501 psi</td>
<td>695</td>
<td>1.045-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 703 6 xxxx</td>
<td></td>
<td>5,501 to 7,500 psi</td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
</tr>
<tr>
<td>CBA 8 350 6 xxxx</td>
<td>Natural Gas</td>
<td>0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
</tr>
<tr>
<td>CBA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 1 695 6 xxxx</td>
<td></td>
<td>3,001 to 5,501 psi</td>
<td>695</td>
<td>1.045-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 703 6 xxxx</td>
<td></td>
<td>5,501 to 7,500 psi</td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
</tr>
<tr>
<td>CBA 8 580 1 xxxx</td>
<td>Neon</td>
<td>0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td></td>
<td>3,001 to 5,501 psi</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td></td>
<td>5,501 to 7,500 psi</td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
</tr>
<tr>
<td>CBA 8 580 1 xxxx</td>
<td>Nitrogen</td>
<td>0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td></td>
<td>3,001 to 5,501 psi</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td></td>
<td>5,501 to 7,500 psi</td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
</tr>
</tbody>
</table>
### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBA 8 346 1 xxxx</td>
<td>Air (R729)</td>
<td>346</td>
<td>.825&quot;- 14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBA 9 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 1 347 1 xxxx</td>
<td></td>
<td>347</td>
<td>.825-14 NGO RH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 702 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 8 580 1 xxxx</td>
<td>Argon</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td></td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 8 555 1 xxxx</td>
<td>Butane/Propane</td>
<td>555</td>
<td>.903-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 555 1 xxxx</td>
<td>Liquid Withdrawal</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBA 9 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 8 320 1 xxxx</td>
<td>Carbon Dioxide</td>
<td>320</td>
<td>.825-14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 320 1 xxxx</td>
<td>(R744)</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBG 9 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 8 350 6 xxxx</td>
<td>Carbon Monoxide</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 350 6 xxxx</td>
<td>0 to,3000 psi</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 1 695 6 xxxx</td>
<td></td>
<td>695</td>
<td>1.045-14 NGO LH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 703 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 8 660</td>
<td>1,2 Dichloroethylene</td>
<td>660</td>
<td>1.030-14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 660</td>
<td>(R1130)</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 660</td>
<td>(Face Washer Seal)</td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 660</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBA 9 660</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td>Helium</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td>0 to,3000 psi</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 6 680 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CBA 3 680 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CBG 9 680 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td></td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
</tbody>
</table>

The features described in this illustration do not bind the manufacturer.
### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBA 8 326 1 xxxx</td>
<td>Nitrous Oxide</td>
<td>326</td>
<td>.825-14 NGO RH Ext.</td>
<td>1/2”-14 NGT</td>
</tr>
<tr>
<td>CBA 1 326 1 xxxx</td>
<td>Nitrous Oxide</td>
<td>326</td>
<td>3/4”-14 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 6 326 1 xxxx</td>
<td>Nitrous Oxide</td>
<td>326</td>
<td>1-11 1/2 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 3 326 1 xxxx</td>
<td>Nitrous Oxide</td>
<td>326</td>
<td>.750”-16 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 9 326 1 xxxx</td>
<td>Nitrous Oxide</td>
<td>326</td>
<td>1.125”-12 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 8 540 1 xxxx</td>
<td>Oxygen</td>
<td>540</td>
<td>.903-14 NGO RH Ext.</td>
<td>1/2”-14 NGT</td>
</tr>
<tr>
<td>CBA 1 540 1 xxxx</td>
<td>Oxygen</td>
<td>540</td>
<td>3/4”-14 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 6 540 1 xxxx</td>
<td>Oxygen</td>
<td>540</td>
<td>1-11 1/2 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 3 540 1 xxxx</td>
<td>Oxygen</td>
<td>540</td>
<td>.750”-16 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 9 540 1 xxxx</td>
<td>Oxygen</td>
<td>540</td>
<td>1.125”-12 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 1 577 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>577</td>
<td>.960-14 NGO RH Ext.</td>
<td>3/4”-14 NGT</td>
</tr>
<tr>
<td>CBA 1 701 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>701</td>
<td>3/4”-14 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 8 660 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>660</td>
<td>1.030-14 NGO RH Ext.</td>
<td></td>
</tr>
<tr>
<td>CBA 1 660 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>660</td>
<td>3/4”-14 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 6 660 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>660</td>
<td>1-11 1/2 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 3 660 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>660</td>
<td>.750”-16 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 9 660 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>660</td>
<td>1.125”-12 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 8 580 1 xxxx</td>
<td>Xenon</td>
<td>580</td>
<td>.965-14 NGO RH Ext.</td>
<td>1/2”-14 NGT</td>
</tr>
<tr>
<td>CBA 1 580 1 xxxx</td>
<td>Xenon</td>
<td>580</td>
<td>3/4”-14 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 6 580 1 xxxx</td>
<td>Xenon</td>
<td>580</td>
<td>1-11 1/2 NGT</td>
<td></td>
</tr>
<tr>
<td>CBA 3 580 1 xxxx</td>
<td>Xenon</td>
<td>580</td>
<td>.750”-16 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 9 580 1 xxxx</td>
<td>Xenon</td>
<td>580</td>
<td>1.125”-12 UNF</td>
<td></td>
</tr>
<tr>
<td>CBA 1 680 1 xxxx</td>
<td>Xenon</td>
<td>680</td>
<td>1.045-14 NGO RH Ext.</td>
<td>3/4”-14 NGT</td>
</tr>
<tr>
<td>CBA 1 677 1 xxxx</td>
<td>Xenon</td>
<td>677</td>
<td>3/4”-14 NGT</td>
<td></td>
</tr>
</tbody>
</table>

**xxxx Denotes Pressure Relief Device burst disc rupture pressure.**

**Available with:**

4 and 7 thread oversize inlets: To order change the first number “1” in the part number to “4” or “7”

**example:** CBA 1 320 1 xxxx becomes CBA 4 320 1 xxxx

Chrome Plating: To order, change the letter “B” in the part number to letter “D”

**example:** CBA 1 540 1 xxxx becomes CDA 1 540 1 xxxx

Fusible backed pressure relief devices in 165F and 212F nominal melting temperatures:

To order, change the eighth position in the part number to “5” for 165F and “6” for 212F

**example:** CBA 1350 1 xxxx becomes CBA 1 350 5 xxxx for 165 or CBA 1 350 6 xxxx for 212F
Key features

- Valves manufactured to the exacting standards as required by the Chlorine Institute
- Forging body manufactured in aluminium silicon bronze alloy “B”
- Monel one piece stem with self clearing ACME thread
- Chlorine Institute approved Teflon packing

Technical Specifications

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Proof</th>
<th>3000 PSIG min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>500 PSIG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature - Storage</th>
<th>Min</th>
<th>-65°F</th>
<th>Max</th>
<th>155° F</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Temperature Operating</th>
<th>Min</th>
<th>-50°F</th>
<th>Max</th>
<th>120° F</th>
</tr>
</thead>
</table>

| Cycle life min | 5000 |

<table>
<thead>
<tr>
<th>Torque Values for PZL Series</th>
<th>Operating torque @ 0 PSIG</th>
<th>3.3 - 3.9 Nm</th>
<th>30 - 35 lbs / inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating torque @ 100 PSIG</td>
<td>3.3 - 3.9 Nm</td>
<td>30 - 35 lbs / inch</td>
<td></td>
</tr>
<tr>
<td>Packing Nut Installation Torque</td>
<td>4.5 - 5.6 Nm</td>
<td>30 - 35 lbs / inch</td>
<td></td>
</tr>
<tr>
<td>Stem Nut Installation Torque</td>
<td>4.5 - 5.6 Nm</td>
<td>30 - 35 lbs / inch</td>
<td></td>
</tr>
</tbody>
</table>

Seat orifice Diameter:
Cylinder valve: 0.187
Ton Container valve: 0.312

Materials

- Valve Body: Aluminium Silicon Bronze
- Fusible Plug: Naval Brass with 165° F
- Outlet Cap: Brass
- Packing: Virgin Teflon®
- Packing Collar: ALSI bronze
- Packing Gland: Brass EN 12164
- Stem: Monel 400

Conforms to all requirements of:
- CGA V 9: Standard for Gas Cylinder Valves
- CGA S-1.1: Standard for Pressure Relief Devices
- CGA V-1: Compressed Gas Cylinder Valve Outlet and Inlet Connections
- Chlorine Institute Pamphlet 17

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
<th>Pressure Relief Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>PZL 0 820 0</td>
<td>820</td>
<td>1.030-14 NGO RH Ext.</td>
<td>3/4&quot;-14 NGT CL-1</td>
<td>No</td>
</tr>
<tr>
<td>PLZ 0 820 2</td>
<td>820</td>
<td>1.030-14 NGO RH Ext.</td>
<td>3/4&quot;-14 NGT CL-1</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Over sized 3/4” inlet threads available: CL-2, CL-3, CL-4
Valves also available with 1” NGT inlet thread.
Spare parts available separately.

Cavagna chlorine valves conform to all specifications as outlined in the Chlorine Institute Pamphlet #17.

The features described in this illustration do not bind the manufacturer.
Key features

- Valve designed according to EN 849
- All valves are “π” marked according to 99/36 EC
- Easy Handwheel operation under high pressure
- Markings on the neck valve protects against damage
- O-Ring seal type valve
- Hot forged brass body manufactured by Cavagna Group
- All inlets and outlets standards available

Technical Specifications

Maximum working pressure: 230 bar
Test pressure: 276 bar
Temperature operating: -45°C ÷ +65°C
Orifice size: 4,5 mm
Cycle life: min 2000 cycles

Materials

Handwheel: Aluminium
Valve Body: Brass alloy according to EN12165
Seat Disc: Polyamide
O-Rings: EPDM
Spindle: Brass
Antifriction ring: Delrin

Options

- Personalized Handwheel logo cap
- Bursting disc safety device
- Parallel thread
- Dip tube thread
- Special Packaging
- Chrome plated treatment
Key features

- Valve designed according to EN 849
- All valves are “π” marked according to 99/36 EC
- Easy Handwheel operation under high pressure
- Markings on the neck valve protects against damage
- O-Ring seal type valve
- Hot forged brass body manufactured by Cavagna Group
- All inlets and outlets standards available
- Internal Bursting disc with coloured plastic cap

Technical Specifications

- Maximum working pressure: 230 bar
- Test pressure: depending on bursting disc
- Temperature operating: -45°C ÷ +65°C
- Orifice size: 6 mm ÷ 7.5 mm
- Cycle life: min 2000 cycles

Materials

- Handwheel: Aluminium
- Valve Body: Brass alloy according to EN12165
- Seat Disc: Polyamide
- O-Rings: EPDM
- Spindle: Brass alloy according to EN12164
- Antifriction ring: Delrin
- Bursting disc: Nickel

Options

- Personalized Handwheel logo cap
- Bursting disc safety device
- Parallel thread
- Dip tube thread
- Various bursting disc available
- Chrome or Nickel plating treatment
- Coloured plastic cap on the bursting disc
- Plastic Handwheel with metallic insert
**Key features**

- O-Ring Technology ensure a better level of tightness under vacuum and service
- Every valve is submitted to Leak Test
- Easy operation under high pressure
- All valves are Marked around the neck
- A large seat orifice provides an easier and faster vacuum and filling operation
- Valves could be chromium plated

**Technical Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum working pressure</td>
<td>230 bar</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-20 to +65 °C</td>
</tr>
<tr>
<td>Max. Operating Torque</td>
<td>7 Nm</td>
</tr>
<tr>
<td>Max. Overtorque</td>
<td>25 Nm</td>
</tr>
<tr>
<td>Seat Orifice</td>
<td>1-5 bar</td>
</tr>
<tr>
<td>Deep tube connection</td>
<td>M10 x 1 (M10 x 0.75)</td>
</tr>
</tbody>
</table>

**Materials**

- **Valve Body**: Brass
- **Hand wheel**: Aluminum
- **Seat**: Kel-F
- **O-ring**: EPDM
- **Antifriction**: PEEK

**Options**

- Personalized Handwheel logo cap
- Parallel thread
- Dip tube thread
- Chromed or Nickel plating treatment
- Plastic Handwheel with metallic insert
- Sinterized bronze

**Conform to all requirements of EN849**

Valve issued on cylinder greater than 5 lt. must be protected by a suitable protection cap.
**Key features**

- O-Ring Technology ensure a better level of tightness under vacuum and service
- Every valve is submitted to Leak Test
- Easy operation under high pressure
- All valves are Marked around the neck
- A large seat orifice provides an easier and faster vacuum and filling operation
- Valves could be chromium plated
- On customers request on the exit of the valve is possible to assembly an antifilling device
- With pressure relief device available with different pressure setting
- Stainless steel filter
- Plastic anti-sediment tube installed in the inlet

**Technical Specifications**

- Maximum working pressure: 200 Bar
- Temperature Range: -20 +65 °C
- Max. Operating Torque: 7 N/m
- Max. Overtorque: 25 N/m
- Seat Orifice: 6.5mm.

**Materials**

- Valve Body: Brass
- Hand wheel: Aluminum
- Seat: Polyammid
- O-rings: CR
- Antifriction: DELRIN
- Spring: Stainless steel

**Options**

- With antifilling device
- Personalized Handwheel logo cap
- Chromed or Nickel plating treatment
- Without safety valve

**Conform to all requirements of EN849 and EN13953**

Valve issued on cylinder greater than 5 lt. must be protected by a suitable protection cap.
MANIFOLD VALVES FOR CYLINDER BUNDLES

**K 4000 series**

### Key features
- K4000 series, manifold valve for cylinder bundles and high flow systems
- Suitable for several gases
- Available with one, two, or three outlets
- “π” marked according to 99/36 EC

### Technical information
- Working pressure: 300 bar
- Test pressure: 360 bar
- Temperature operating: -46°C + 65°C
- Orifice size: 10 mm.

### Materials
- Body: Brass alloy
- Seat pad: Polyamide/White metal
- Internal tightness: PTFE
- Handwheel: Tropicalised zamak
- Spindle: Brass

### Options
- One square way
- Two straight ways
- Three ways

---

**MAIN VALVE CONNECTOR FOR CYLINDER BUNDLES**

### Key features
- Suitable for high flow use
- Suitable for all non corrosive gases

### Technical specification
- Working pressure: 300 bar
- Test pressure: 360 bar
- Temperature range: -45°C + 65°C
- Orifice size: 5 mm

### Materials
- Connector body: Brass alloy

The features described in this illustration do not bind the manufacturer.
Key features

- L 2000 series, manifold valve for cylinder bundles and filling systems
- Suitable for several gases
- Available with one, two, or three outlets
- Available with all thread spec configuration

Technical information

- Working pressure: 230 bar
- Test pressure: 276 bar
- Temperature range: -45°C + 65°C
- Orifice size: 4-6 mm.

Materials

Body: Hot forged brass alloy
Seat pad: Pa 66
Internal tightness: PTFE
Handwheel: Aluminium
Spindle: Brass

Options

- One square way
- Two straight ways
- Three ways
- Plastic logo cap
- Bursting disc
- Logo cap
- Chrome or nickel plating
Key features

- Residual pressure valve o-ring seal type for 230 bar working pressure. The valve is conforming to EN 849 and PR-EN ISO 15996
- Suitable for various gases including CO2 and Oxygen
- Very low $\Delta P$
  With this valve the $\Delta P$ value between the closing and opening pressure of the residual device is very low (order of size: two-three tenth of bar) and is not affected by the working pressure of 200 bar.
- Hot forged brass body manufactured by Cavagna Group
- Filling adaptor available separately
- This valve allows to use different adaptors with different nipples length
- Inlets and outlets in accordance with all standards
- All valves “π” marked in accordance with 99/36 EC
- Valves can be marked with CE according to 93/42 EC

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum working pressure</td>
<td>230 bar</td>
</tr>
<tr>
<td>Test pressure</td>
<td>276 bar</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-45°C ÷ +70°C</td>
</tr>
<tr>
<td>Seat orifice size</td>
<td>4 ÷ 6 mm</td>
</tr>
<tr>
<td>Guaranteed External Tightness</td>
<td>$\leq$ 6 cm³/h (0.11 Nml/min)</td>
</tr>
<tr>
<td>Guaranteed Internal Tightness</td>
<td>$\leq$ 6 cm³/h (0.11 Nml/min)</td>
</tr>
<tr>
<td>Residual pressure</td>
<td>2.5 ÷ 4 bar (according to customer specifications)</td>
</tr>
</tbody>
</table>

Materials

- Handwheel: Aluminium
- Seat pad: Polyamide
- O-ring: EPDM
- Valve Body: Brass alloy according to EN12165
- Spring: Stainless steel or copper beryllium
- Spindle: Brass

Options

- Personalized logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Key operated handwheel
- Filter
- Parallel thread
- Thread for dip tube installation
Key features

• Residual pressure valve o-ring seal type for 230 bar working pressure. The valve is conforming to EN 849 and PR-EN ISO 15996

• Suitable for various gases including CO₂ and Oxygen

• Very low ∆P
  With this valve the ∆P value between the closing and opening pressure of the residual device is very low (order of size: two-three tenth of bar) and is not affected by the working pressure of 230 bar.

• Hot forged brass body manufactured by Cavagna Group

• Filling adaptor available separately

• This valve allows to use different adaptors with different nipples length

• Inlets and outlets in accordance with all standards

Technical Specifications

Maximum working pressure: 230 bar
Test pressure: 276 bar
Temperature range: -45°C ÷ +70°C
Seat orifice size: 9,5 mm
Guaranteed External Tightness leak rate ≤ 6 cm³/h (0,11 Nml/min)
Guaranteed Internal Tightness ≤ 6 cm³/h (0,11 Nml/min)
Residual pressure 2,5 ÷ 4 bar (according to customer specifications)

Materials

Handwheel Aluminium
Seat pad Polyamide
O-ring EPDM
Valve Body Brass alloy according to EN12165
Spring Stainless steel or copper beryllium
Spindle Brass alloy according to EN12164

Options

- Personalized logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Key operation
- Filter
- Parallel thread
- Thread for dip tube installation
**Key features**

- Residual pressure valve o-ring seal type for 230 bar working pressure. The valve is conforming to EN 849 and PR-EN ISO 15996
- Suitable for various gases including CO₂ and Oxygen
- Very low $\Delta P$
  
  With this valve, the $\Delta P$ value between the closing and opening pressure of the residual device is very low (order of size: two-three tenth of bar) and is not affected by the working pressure of 200 bar.
- Hot forged brass body manufactured by Cavagna Group
- Filling adaptor available separately
- This valve allows to use different adaptors with different nipples length
- Inlets and outlets in accordance with all standards
- All valves “π” marked in accordance with 99/36 EC
- Valves can be marked with CE according to 93/42 EC

**Technical Specifications**

- Maximum working pressure: 230 bar
- Temperature range: -20°C to +65°C
- Max. Operating Torque: 7 N/m
- Max. Overtorque: 25 N/m
- Residual pressure: 1-5 bar
- Seat orifice: 4 mm
- Deep tube connection: M10 x 1 (M10 x 0.75)

**Materials**

- Valve Body: Brass
- Handwheel: Aluminium
- Seat: Polyammid
- O-ring: EPDM
- Antifriction: DELRIN

**Options**

- Personalized logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Key operated handwheel
- Filter
- Thread for dip tube installation
**Key features**

- **Working Pressure up to 200 bar**
  The valve body and all the internal components are designed to work easily and safely at this pressure. All tests scheduled in the new EN 849 have been carried out with reference to 200 bar working pressure.

- **Not Rotary Spindle**
  When turning the handwheel the spindle only goes up and down, therefore there is no friction on the seal element which is made in two parts. One for main tightness operated by the handwheel. The second, softer, exploits the calibration of a spring to retain the positive residual low pressure (about 3 bar).

- **No Requirement for special Nipples or Tool for Refilling**
  Unlike other types of residual pressure valves which require special filling heads, any standard filling station can recharge cylinders which have these valves fitted.

- **Security seal**
  A distinctive, simple plastic seal guarantees that the gas inside the cylinder is completely free of pollution and that the bottle has not been refilled by unauthorised operators. In order to refill or remove the residual gas from the bottle, it is necessary to break the seal. Security seals can be personalised.

- **Axial inlet stem**
  In order to accommodate the antifilling and residual pressure device, all the valves have an off set inlet connection to allow the application of a protective shroud on the cylinder. In this way the use of another special protection shroud (ie. a tulip one) may become necessary, whilst with the P-770 all protection guards are suitable.

- **Standard Filling Speed**
  Normally to fill a cylinder fitted with a residual valve a special adapter with a needle is needed to open the gas passage. It takes a longer time than that of a standard valve and for some gases, like CO₂, it is not acceptable. This does not occur with P-770, because when the seal is removed the valve is completely opened and no obstruction interferes with the flow of the gas.

- All valves “π” marked in accordance with 99/36 EC

**Technical Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working pressure</td>
<td>230 bar</td>
</tr>
<tr>
<td>Guaranteed External Tightness</td>
<td>leakage ≤ 6 cm³/h (0,11 Nml/min)</td>
</tr>
<tr>
<td>Guaranteed Internal Tightness</td>
<td>leakage ≤ 6 cm³/h (0,11 Nml/min)</td>
</tr>
<tr>
<td>Residual pressure</td>
<td>2,5 ÷ 4 bar (according to customer requirement)</td>
</tr>
<tr>
<td>Working Temperature*</td>
<td>-45°C ÷ +65°C</td>
</tr>
<tr>
<td>Seat orifice</td>
<td>3 mm</td>
</tr>
</tbody>
</table>

* In some European Countries and for special applications a working temperature range -30°C ÷ +65°C can be considered.

**Materials**

- Handwheel: Aluminium
- Body: Brass
- O-ring: EPDM
- Seat disc: Polyamide
- Bursting disc: Nickel
- Spindle: Brass

**Options**

- Personalized handwheel logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Key operation
- Filter
- Parallel thread
- Thread for dip tube installation

The features described in this illustration do not bind the manufacturer.
**Key features**

- Residual pressure valve, o-ring seal type for various gases including CO₂ and Oxygen.
- No requirement for adaptors or special nipples for refilling.
- Manually operated with a special tool available separately.
- **Security seal**
  A distinctive, personalised and simple seal guarantees that the gas inside the cylinder is free of contamination in order to refill or remove the residual gas from the bottle, it is necessary to break the seal.
- All valves are “π” marked according to 99/36 EC

**Technical Specifications**

- Working pressure max: 230 bar
- Test pressure: 276 bar
- Temperature range: -45°C ÷ +70°C
- Guaranteed External Tightness leakage ≤ 6 cm³/h (0,11 Nml/min)
- Guaranteed Internal Tightness leakage ≤ 6 cm³/h (0,11 Nml/min)
- Residual pressure device 2,5 ÷ 4 bar (according to customer specifications)

**Materials**

- Handwheel: Aluminium
- Valve Body: Brass alloy according to EN12165
- O-ring: EPDM
- Seat pad: Polyamide
- Bursting disc: Nickel
- Spring: Stainless steel or copper beryllium
- Seal: Plastic
- Bursting disc body: Brass
- Spindle: Brass

**Options**

- Personalized handwheel logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Filter
- Parallel thread
- Thread for dip tube installation
Key features

• Residual pressure valve, o-ring seal type for various gases including CO₂ and Oxygen. The valve is conforming to EN 849 for a working pressure of 230 bar.

• No requirement for adaptors or special nipples for refilling.

• All valves are “π” marked according to 99/36 EC

• Filling connector available separately

Technical Specifications

Working pressure max: 230 bar
Test pressure: 276 bar
Temperature range: -45°C ÷ +70°C
Guaranteed External Tightness leakage ≤ 6 cm³/h (0,11 Nml/min)
Guaranteed Internal Tightness leakage ≤ 6 cm³/h (0,11 Nml/min)
Residual pressure device 2,5 ÷ 4 bar (according to customer specifications)

Materials

Handwheel Aluminium
Valve Body Brass alloy according to EN12165
O-ring EPDM
Seat pad Polyamide
Bursting disc Nickel
Spring Stainless steel or copper beryllium
Seal Plastic
Bursting disc body Brass
Spindle Brass
Spring retainer Brass

Options

• Personalized handwheel logo cap
• Dip tube
• Bursting disc safety various settings
• Chrome plating
• Plastic Handwheel
• Filter
• Parallel thread
• Thread for dip tube installation
**Key features**

- Are available in brass, stainless steel AISI 303-316, in accordance with all international standardized cylinder valves outlets such as DIN - NF - NEN - BS - CGA, as per customer specification.

- The connectors can be used with all the different types of residual pressure valves:
  - P1320 PLUS series
  - P1320 series
  - P1010 series

- The design with a special retractile pin is also available, to allow the connectors to be used with the standard valves series.

**Options**

- Aluminium Handwheel
- Chrome plating

The features described in this illustration do not bind the manufacturer.
Key features

- High pressure valve, o-ring seal type for industrial gases including oxygen, up to 300 bar working pressure.
- Valve designed in accordance to EN 849
- Integrated pressure regulator reduces cylinder pressure from 300 bar to 150-100 bar depending on customer requirements.
- Residual pressure device incorporated into the valve.
- Bursting disc safety device protects the line and the equipment downstream.
- All inlets and outlets standard available.

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum working pressure</td>
<td>300 bar</td>
</tr>
<tr>
<td>Test pressure</td>
<td>360 bar</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-45°C ÷ +70°C</td>
</tr>
<tr>
<td>Pressure regulator reducing</td>
<td>150-100 bar</td>
</tr>
<tr>
<td>Residual pressure device</td>
<td>2 ÷ 4.5 bar</td>
</tr>
</tbody>
</table>

Materials

- Handwheel: Aluminium
- Valve Body: Brass alloy according to EN12165
- Bursting disc: Nickel
- Bursting body: Brass
- O-Rings: EPDM
- Seat Disc: Polyamide
- Regulator O-Rings: EPDM
- Spindle: Brass

Options

- Dip tube thread
- Personalized Handwheel logo cap
- Synthesized filter
- Chrome plating
- Bursting disc various setting
- Parallel thread

The features described in this illustration do not bind the manufacturer.
Key features

- High pressure valve, o-ring seal type for industrial gases including oxygen, up to 300 bar working pressure.
- Valve designed in accordance to EN-ISO 10297
- Integrated pressure reducer from 300 bar to 150-100 bar Mange depending on customer requirements.
- Residual pressure device incorporated into the valve
- Safety relief valve protect the line and the equipment downstream
- Active gauge
- All inlet and outlet standard available

Technical Specifications

- Maximum working pressure: 300 bar
- Test pressure: 360 bar
- Temperature range: -45°C ÷ +70°C
- Pressure regulator reducing range: 150-100 bar
- Residual pressure device: 2 ÷ 4,5 bar
- Safety relief valve setted at: 160 bar

Materials

- Handwheel: Aluminium
- Valve Body: Brass alloy according to EN12165
- O-Rings: EPDM
- Seat Disc: Polyamide
- Regulator O-Rings: EPDM
- Spindle: Brass

Options

- Active gauge
- Dip tube thread
- Personalized Handwheel logo cap
- Syntherized filter
- Chrome plating
- Safety relief valve various setting
- Parallel thread

The features described in this illustration do not bind the manufacturer.
Key features

• These valves are suitable for various industrial gases including Oxygen. Designed according to EN 849

• O-Ring seal type valves

• Easy handwheel operation under high pressure

• Marking on the valve neck protects against damage

• Large seat orifice provides faster vacuum and filling rates

• Outlets in accordance to ISO 5145

• Hot forged brass body manufactured by Cavagna Group

• All inlets and outlets standards available

• All valves “π” marked in accordance with 99/36 EC

• Non rotating spindle

Technical Specifications

Maximum working pressure: 300 bar
Test pressure: 360 bar
Temperature range: -45°C ÷ +65°C
Orifice size: 3,5 mm

Materials

Valve body Brass alloy according to EN12165
Seat Disc Polyamide
O-Rings Various materials
Handwheel Aluminium
Spindle Brass

Options

- Personalized Handwheel logo cap
- Filter
- Chrome plating
- Bursting disc
- Inlet Dip tube thread
- Plastic Handwheel

The features described in this illustration do not bind the manufacturer.
**Key features**

- Valve designed in accordance to EN 849.
- Body materials compatible with corrosive gases: carbon steel and stainless steel.
- Stainless steel spindles with PCTFE seat disc.
- Easy handwheel operation under high pressure
- Not rotating spindle
- Markings on the valve neck protects against damage
- All valves “π” marked in accordance with 99/36 EC
- All inlet and outlet standards available

**Technical Specifications**

- Maximum working pressure: 230 bar
- Test pressure: 276 bar
- Temperature range: -45°C ÷ +65°C
- Orifice size: 4 mm
- Cycle life: min 2000 cycles

**Materials**

- **Handwheel**: Aluminium
- **Body**: Stainless steel
- **Seat disc**: PCTFE
- **O-Ring**: Various
- **Spindle**: Stainless steel

**Options**

- Personalized Handwheel logo cap
- Dip tube Inlet thread
- Chrome Nickel or Plating
- Plastic Handwheel
- Bursting disc
- Stainless steel cap with chain on the outlet
Key features

- Valve designed in accordance to EN 849.
- Body materials compatible with corrosive gases: carbon steel and stainless steel.
- Stainless steel spindles with lead seat disc or metal to metal tightness.
- Double lock nut in the bonnet system.
- All valves “π” marked in accordance with 99/36 EC

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum working pressure</td>
<td>200 bar</td>
</tr>
<tr>
<td>Test pressure</td>
<td>240 bar</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-25°C ÷ +65°C</td>
</tr>
<tr>
<td>Orifice size</td>
<td>8 mm</td>
</tr>
<tr>
<td>Cycle life</td>
<td>min 2000 cycles</td>
</tr>
</tbody>
</table>

Materials

- Body: Carbon steel or Stainless steel
- Seat disc: Kel-f
- O-Ring: Teflon
- Handwheel: Aluminium
- Spindle: Stainless steel

Options

- Personalized Handwheel logo cap
- Dip tube Inlet thread
- Stainless steel chain on the outlet
- Nickel plating
- Dip tube various lengths
- Nickel plating nut
Key features

- Valve designed in accordance to ISO EN 10297
- Body materials compatible with chlorine gas
- Stainless steel spindle and valve seat
- Safety lock system on the gland nut

Technical Specifications

Maximum Working Pressure: 30 bar
Test pressure: 60 bar
Temperature range: -20°C - +65°C
Orifice diameter size: 8 mm
Cycle life: min 2000 open/close cycles

Materials

Body: nickel plated brass
Seat pad: PTCFE
Valve seat: S.S. Aisi 316
O-ring: Viton
Spindle: S.S. Aisi 316
Backup ring: PTFE

Options

- Body materials: carbon steel or stainless steel
- Personalized Handwheel logo cap
- Stainless steel chain and nut on the valve outlet
- Deep tube
- Filter
CYLINDER
BUNDLE CONNECTORS

FERRULE TYPE TIGHTNESS

Compatibility: Suitable for all non corrosive gases

Technical information:
Working pressure: 200 bar
Test pressure: 300 bar

Materials: Body: Brass alloy

Options: Available for ø 8 and 10 mm. pipes

Accessories: Nut for ø 8 and 10 mm. pipes
Ferrule for ø 8 and 10 mm. copper pipes
ø 8 and 10 mm. pipe connections

METAL TO METAL TYPE TIGHTNESS

Compatibility: Suitable for all non corrosive gases

Technical information:
Working pressure: 200 bar
Test pressure: 300 bar

Materials: Body: Brass alloy

Accessories: Stainless steel or copper pigtails various dimensions and thread specifications

O-RING TYPE TIGHTNESS

Compatibility: Available for all non corrosive gases

Technical informations:
Working pressure: 300 bar
Test pressure: 450 bar

Materials: Body: Brass alloy

Accessories: Stainless steel or copper pigtails various dimensions and thread specifications

The features described in this illustration do not bind the manufacturer.
Key features

- Low operating torque guaranteed due to soft sealing
- Valve seat secured against extrusion
- Extreme leak tightness achieved by diaphragm sealing
- High flow capacity to allow a fast filling and vacuum
- Clean room assembly
- 100% leak test to 1.2 times cylinder service pressure
- All markings on the valve neck protected against damage
- Durable forged brass body manufactured by Cavagna Group
- Unitized “plug style” bursting disc
- All CGA outlets available
- Different inlet threads available according to customer requirements

Options

Chrome or nickel plated treatment
Different diptube threads connections available
Personalized handwheel logocap
Various bursting disc settings available
Cleaned for UHP/ECD applications
Prepared for flow restrictor attachment

Technical Specifications

- Maximum Working pressure: 230 bar / 3360 PSI
- Test Pressure: 276 bar / 4000 PSI
- Storage Temperature: -65°F + 155°F
- Operating temperature: -50°F + 120°F
- Helium leak rate:
  - internal: $10^{-7}$ mbar/sec $= 1.45 \times 10^{-9}$ PSI/sec
  - external: $10^{-7}$ mbar/sec $= 1.45 \times 10^{-9}$ PSI/sec
  - safety: $10^{-8}$ mbar/sec $= 1.45 \times 10^{-10}$ PSI/sec
- Flow coefficient CV: 0,4
- Seat orifice dimension: 4 mm / 0,157”
- Cycle life: min 5000 cycles

Materials

- Body Material: Brass
- Diaphragm:
  - Stainless steel
  - Hastelloy
- Spindle: Brass
- Seat Disc:
  - PA 6,6
  - PCTFE
- Bursting Disc:
  - Nickel
  - AISI 316L

Conforms to all requirements of:

- CGA V 9 Standard for Gas Cylinder Valves
- CGA S-1.1 Standard for Pressure Relief Devices
- CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
- EN849 European Norm
- ISO 10297

Ordering information

- C= Cavagna valve
- B= Brass
- D= packless diaphragm valve

INLET:
- 1 = 3/4” NGT
- 4 = 3/4 " NGT 4 O.S
- 6 = 1 “ NGT
- 7 = 3/4” NGT 7 O.S
- 8 = 1/2 " NGT

OUTLET: CGA

- SAFETY TYPE :
  - 1- bursting disc
  - 5- bursting disc and fusible plug 165°F
  - 6 - bursting disc and fuse 212°F

BURSTING DISC SETTING PRESSURE

EX: CBD166013360

The features described in this illustration do not bind the manufacturer.
CSD series
Stainless Steel High Pressure Packless Diaphragm Seal Valve for High Purity Gases

Key features
- Low operating torque guaranteed due to soft sealing
- Valve seat secured against extrusion
- Extreme leak tightness achieved by diaphragm sealing
- High flow capacity to allow a fast filling and vacuum
- Clean room assembly
- 100% leak test to 1.2 times cylinder service pressure
- All markings on the valve neck protected against damage
- Unitized “plug style” bursting disc
- All CGA outlets available
- Different inlet threads available according to customer requirements

Options
Different diptube threads connections available
Personalized handwheel logocap
Various bursting disc settings available
All components in contact with the gas are electrochemically polished.
Cleaned for UHP/ECD applications
Prepared for flow restrictor attachment

Technical Specifications
Maximum Working pressure: 230 bar / 3360 PSI
Test Pressure: 276 bar / 4000 PSI
Storage Temperature: -65°F +155°F
Operating temperature: -50°F +120°F
Helium leak rate:
- internal: 10⁻⁷ mbar/sec = 1,45 x 10⁻⁹ PSI/sec
- external: 10⁻⁷ mbar/sec = 1,45 x 10⁻⁹ PSI/sec
- safety: 10⁻⁸ mbar/sec = 1,45 x 10⁻¹⁰ PSI/sec
Flow coefficient CV: 0,4
Seat orifice dimension: 4 mm / 0,157"
Cycle life: min 5000 cycles

Materials
Body Material: AISI 316 L
Diaphragm:
- Stainless steel
- Hastelloy
Spindle: AISI 316 L
Seat Disc:
- PA 6,6
- PCTFE

Conforms to all requirements of:
CGA V 9 Standard for Gas Cylinder Valves
CGA S-1.1 Standard for Pressure Relief Devices
CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
EN849 European Norm
ISO 10297

Ordering information
C= Cavagna valve
B= Brass
D= packless diaphragm valve
INLET:
1 = 3/4" NGT
4 = 3/4" NGT 4 O.S
6 = 1" NGT
7 = 3/4" NGT 7 O.S
8 = 1/2" NGT

OUTLET: CGA
SAFETY TYPE:
1- bursting disc
5- bursting disc and fusible plug 165°F
6- bursting disc and fuse 212°F

BURSTING DISC SETTING PRESSURE
EX: CSD166013360

The features described in this illustration do not bind the manufacturer.
Key features
• Low operating torque guaranteed due to soft sealing
• Valve seat secured against extrusion
• Extreme leak tightness achieved by diaphragm sealing
• High flow capacity to allow a fast filling and vacuum
• Clean room assembly
• 100% leak test according to EN 849
• All markings on the valve neck protected against damage
• Durable forged brass bodies manufactured by Cavagna Group
• All valves are “π” marked according to 99/36 EC
• Valves designed according to EN 849
• All inlets and outlets standards available

Options
Chrome or nickel plated treatment
Different diptube connections available
Personalized handwheel logo cap
Various bursting disc settings available
Cleaned for UHP/ECD applications
Prepared for flow restrictor attachment

Technical Specifications
Maximum Working pressure: 230 bar
Test Pressure: 276 bar
Temperature Range: -40°C +65°C
Helium leak rate:
  - internal: 10^{-7} mbar/sec
  - external: 10^{-7} mbar/sec
  - safety: 10^{-8} mbar/sec
Flow coefficient CV: 0.4
Seat orifice dimension: 4 mm
Cycle life: 2000 cycles

Materials
Body Material: Brass
Diaphragm: Stainless steel
       Hastelloy
Spindle: Brass
Seat Disc: PA 6.6
       PCTFE
Bursting Disc: Nickel
       AISI 316 L

Conforms to all requirements of EN 849

Ordering information
V= valve
D= Diaphragm
A1= brass body
       Seat disc: PCTFE
       Diaphragm: Stainless steel
       Hastelloy
N= Family
Gas Identification
Progressive number: to identify customer personalization, different inlet and outlet threads, bursting disc setting pressure.
Example: VDA1NOS001
**DIAS** series
Stainless Steel High Pressure Diaphragm
Seal Valve for High Purity Gases

---

**Key features**
- Low operating torque guaranteed due to soft sealing
- Valve seat secured against extrusion
- Extreme leak tightness achieved by diaphragm sealing
- High flow capacity to allow a fast filling and vacuum
- Clean room assembly
- 100% leak test according to EN 849
- All markings on the valve neck protected against damage
- All valves are “π” marked according to 99/36 EC
- Valves designed according to EN 849
- All inlets and outlets standards available

**Options**
- Different dip tube threads connections available
- Personalized handwheel logocap
- Various bursting disc settings available
- All components in contact with the gas are electrochemically polished.
- Cleaned for UHP/ECD applications
- Prepared for flow restrictor attachment

**Technical Specifications**
- **Maximum Working pressure:** 230 bar
- **Test Pressure:** 276 bar
- **Temperature Range:** -40°C +65°C
- **Helium leak rate:**
  - Internal: 10⁻⁷ mbar/sec
  - External: 10⁻⁷ mbar/sec
  - Safety: 10⁻⁸ mbar/sec
- **Flow coefficient CV:** 0.4
- **Seat orifice dimension:** 4 mm
- **Cycle life:** 2000 cycles

**Materials**
- **Body Material:**
  - AISI 304
  - AISI 316 L
- **Diaphragm:**
  - Hastelloy
  - Stainless Steel
- **Spindle:**
  - AISI 304
  - AISI 316 L
- **Seat Disc:**
  - PA 6.6
  - PCTFE
- **Bursting disc:**
  - nickel
  - AISI 316 L

**Conforms to all requirements of EN 849**

---

**Ordering information**
- **V=** valve
- **D=** Diaphragm
- **A1=** AISI 316 L body
  - **Seat disc:** PCTFE
  - **Diaphragm:**
    - AISI 316 L
    - Hastelloy or Stainless steel
- **N=** Family
- **Gas Identification**
- **Progressive number:** to identify customer personalization, different inlet and outlet threads, bursting disc setting pressure.

**Example:** VDA2NOS001

---

The features described in this illustration do not bind the manufacturer.
# Table of outlet connections for the most significant gases

<table>
<thead>
<tr>
<th>GAS</th>
<th>Chemical symbol</th>
<th>Dimensions</th>
<th>Standard</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSED AIR</td>
<td></td>
<td>W 30 x 1/14&quot;</td>
<td>UNI 11144-6</td>
<td>B</td>
</tr>
<tr>
<td>NITROGEN</td>
<td>N₂</td>
<td>W 21,7 x 1/14&quot;</td>
<td>UNI 11144-5</td>
<td>A</td>
</tr>
<tr>
<td>ARGON</td>
<td>Ar</td>
<td>W 24,5 x 1/14&quot;</td>
<td>UNI 11144-8</td>
<td>A</td>
</tr>
<tr>
<td>HELIUM</td>
<td>He</td>
<td>W 24,5 x 1/14&quot;</td>
<td>UNI 11144-8</td>
<td>A</td>
</tr>
<tr>
<td>HYDROGEN</td>
<td>H₂</td>
<td>W 20 x 1/14&quot; Sin.</td>
<td>UNI 11144-1H</td>
<td>B</td>
</tr>
<tr>
<td>METHANE</td>
<td>CH₄</td>
<td>W 20 x 1/14&quot; Sin.</td>
<td>UNI 11144-1H</td>
<td>B</td>
</tr>
<tr>
<td>CARBON MONOXIDE</td>
<td>CO</td>
<td>W 20 x 1/14&quot; Sin.</td>
<td>UNI 11144-1H</td>
<td>B</td>
</tr>
<tr>
<td>OXYGEN</td>
<td>O₂</td>
<td>W 21,7 x 1/14&quot;</td>
<td>UNI 11144-2</td>
<td>B</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>CO₂</td>
<td>W 21,7 x 1/14&quot; * Ø 27 x 2</td>
<td>UNI 11144-2</td>
<td>B</td>
</tr>
<tr>
<td>NITROUS OXIDE</td>
<td>N₂O</td>
<td>G 3/8&quot; A</td>
<td>UNI 11144-9</td>
<td>B</td>
</tr>
<tr>
<td>ACETYLENE</td>
<td>C₂H₂</td>
<td>Ø 20 x Ø 10 mm. G 5/8&quot; Sin.</td>
<td>UNI 11144-75</td>
<td>C</td>
</tr>
<tr>
<td>AMMONIA</td>
<td>NH₃</td>
<td>W 30 x 1/14&quot; Sin.</td>
<td>UNI 11144-3</td>
<td>B</td>
</tr>
<tr>
<td>SULPHUR DIOXIDE</td>
<td>SO₂</td>
<td>W 21,7 x 1/14&quot;</td>
<td>UNI 11144-2</td>
<td>B</td>
</tr>
<tr>
<td>PROPANE</td>
<td>C₃H₈</td>
<td>W 20 x 1/14&quot; Sin.</td>
<td>UNI 11144-1P</td>
<td>B</td>
</tr>
<tr>
<td>BUTANE</td>
<td>C₄H₁₀</td>
<td>W 20 x 1/14&quot; Sin.</td>
<td>UNI 11144-1P</td>
<td>B</td>
</tr>
<tr>
<td>CHLORINE</td>
<td>Cl₂</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>UNI 11144-4</td>
<td>B</td>
</tr>
<tr>
<td>ETHYLENE OXIDE</td>
<td>C₂H₄O</td>
<td>W 20 x 1/14&quot; Sin.</td>
<td>UNI 11144-1H</td>
<td>B</td>
</tr>
<tr>
<td>PHOSGENE</td>
<td>COCl₂</td>
<td>W 21,7 x 1/14&quot;</td>
<td>UNI 11144-2</td>
<td>B</td>
</tr>
<tr>
<td>REFRIGERANT</td>
<td></td>
<td>W 21,7 x 1/14&quot;</td>
<td>UNI 11144-2</td>
<td>B</td>
</tr>
</tbody>
</table>

* Only medical gases.

The features described in this illustration do not bind the manufacturer.

www.cavagnagroup.com
### Table of outlet connections for the most significant gases

<table>
<thead>
<tr>
<th>GAS</th>
<th>Chemical symbol</th>
<th>Dimensions</th>
<th>Standard</th>
<th>Type</th>
</tr>
</thead>
</table>
| COMPRESSED AIR             |                 | * Ø 24 x 2  
                           |                     | Ø 30 x 1,75         | NF E 29-650/D  
                           |                     | NF E 29-650/B        | B    |
| NITROGEN                   | N₂              | Ø 21,7 x 1,814              | NF E 29-650/C       | B    |
| ARGON                      | Ar              | Ø 21,7 x 1,814              | NF E 29-650/C       | B    |
| HELIUM                     | He              | Ø 21,7 x 1,814              | NF E 29-650/C       | B    |
| HYDROGEN                   | H₂              | Ø 21,7 x 1,814 LH           | NF E 29-650/E       | B    |
| METHANE                    | CH₄             | Ø 21,7 x 1,814 LH           | NF E 29-650/E       | B    |
| CARBON MONOXIDE            | CO              | Ø 21,7 x 1,814 LH           | NF E 29-650/E       | B    |
| OXYGEN                     | O₂              | Ø 22,91 x 1,814             | NF E 29-650/F       | A    |
| CARBON DIOXIDE             | CO₂             | Ø 21,7 x 1,814              | NF E 29-650/C       | B    |
| NITROUS OXIDE              | N₂O             | Ø 26 x 1,5                  | NF E 29-650/G       | A    |
| ACETYLENE                  | C₂H₂            | Ø 21 x Ø 10 mm,  
                           |                     | Ø 22,91 x 1,814 LH  | NF E 29-650/A  
                           |                     | NF E 29-650/H        | C    |
| AMMONIA                    | NH₃             | Ø 21,7 x 1,814              | NF E 29-650/C       | A    |
| SULPHUR DIOXIDE            | SO₂             | Ø 27 x 2                    | NF E 29-650/K       | B    |
| PROPANE                    | C₃H₈            | Ø 21,7 x 1,814 LH           | NF E 29-650/E       | B    |
| BUTANE                     | C₄H₁₀           | Ø 21,7 x 1,814 LH           | NF E 29-650/E       | B    |
| CHLORINE                   | Cl₂             | Ø 25,4 x 31,75              | NF E 29-650/J       | B    |
| ETHYLENE OXIDE             | C₂H₄O           | Ø 21,7 x 1,814 LH           | NF E 29-650/E       | B    |
| PHOSGENE                   | COCl₂           | Ø 27 x 2                    | NF E 29-650/K       | B    |
| REFRIGERANT                |                 | Ø 21,7 x 1,814              | NF E 29-650/C       | B    |

* Only medical gases.

www.cavagnagroup.com

The features described in this illustration do not bind the manufacturer.
## Table of outlet connections for the most significant gases

<table>
<thead>
<tr>
<th>GAS</th>
<th>Chemical symbol</th>
<th>Dimensions</th>
<th>Standard</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSED AIR</td>
<td></td>
<td>W 28,8 x 1/14&quot;</td>
<td>NEN3268 RU 6</td>
<td>B</td>
</tr>
<tr>
<td>NITROGEN</td>
<td>N&lt;sub&gt;2&lt;/sub&gt;</td>
<td>W 24,32 x 1/14&quot;</td>
<td>NEN3268 RU 3</td>
<td>B</td>
</tr>
<tr>
<td>ARGON</td>
<td>Ar</td>
<td>W 24,32 x 1/14&quot;</td>
<td>NEN3268 RU 3</td>
<td>B</td>
</tr>
<tr>
<td>HELIUM</td>
<td>He</td>
<td>W 24,32 x 1/14&quot;</td>
<td>NEN3268 RU 3</td>
<td>B</td>
</tr>
<tr>
<td>HYDROGEN</td>
<td>H&lt;sub&gt;2&lt;/sub&gt;</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>NEN3268 LU 1</td>
<td>B</td>
</tr>
<tr>
<td>METHANE</td>
<td>CH&lt;sub&gt;4&lt;/sub&gt;</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>NEN3268 LU 1</td>
<td>B</td>
</tr>
<tr>
<td>CARBON MONOXIDE</td>
<td>CO</td>
<td>W 1&quot; x 1/8&quot; LH</td>
<td>NEN3268 LU 4</td>
<td>B</td>
</tr>
<tr>
<td>OXYGEN</td>
<td>O&lt;sub&gt;2&lt;/sub&gt;</td>
<td>G 5/8&quot;</td>
<td>NEN3268 RI 2</td>
<td>A</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>CO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>W 21,8 x 1/14&quot;</td>
<td>NEN3268 RU 1</td>
<td>B</td>
</tr>
<tr>
<td>NITROUS OXIDE</td>
<td>N&lt;sub&gt;2&lt;/sub&gt;O</td>
<td>W 21,8 x 1/14&quot;</td>
<td>NEN3268 RU 1</td>
<td>B</td>
</tr>
<tr>
<td>ACETYLENE</td>
<td>C&lt;sub&gt;2&lt;/sub&gt;H&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Ø 20 x ø9 G 5/8&quot; LH</td>
<td>NEN3268 YOKE NEN3268 LI 2</td>
<td>C A</td>
</tr>
<tr>
<td>AMMONIA</td>
<td>NH&lt;sub&gt;3&lt;/sub&gt;</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>NEN3268 RU 4</td>
<td>B</td>
</tr>
<tr>
<td>SULPHUR DIOXIDE</td>
<td>SO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>NEN3268 RU 4</td>
<td>B</td>
</tr>
<tr>
<td>PROPANE</td>
<td>C&lt;sub&gt;3&lt;/sub&gt;H&lt;sub&gt;8&lt;/sub&gt;</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>NEN3268 LU 1</td>
<td>B</td>
</tr>
<tr>
<td>BUTANE</td>
<td>C&lt;sub&gt;4&lt;/sub&gt;H&lt;sub&gt;10&lt;/sub&gt;</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>NEN3268 LU 1</td>
<td>B</td>
</tr>
<tr>
<td>CHLORINE</td>
<td>Cl&lt;sub&gt;2&lt;/sub&gt;</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>NEN3268 RU 4</td>
<td>B</td>
</tr>
<tr>
<td>ETHYLENE OXIDE</td>
<td>C&lt;sub&gt;2&lt;/sub&gt;H&lt;sub&gt;4&lt;/sub&gt;O</td>
<td>W 1&quot; x 1/8&quot; LH</td>
<td>NEN3268 LU 4</td>
<td>B</td>
</tr>
<tr>
<td>PHOSGENE</td>
<td>COCl&lt;sub&gt;2&lt;/sub&gt;</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>NEN3268 RU 4</td>
<td>B</td>
</tr>
<tr>
<td>REFRIGERANT</td>
<td></td>
<td>W 21,8 x 1/14&quot;</td>
<td>NEN3268 RU 1</td>
<td>B</td>
</tr>
</tbody>
</table>

The features described in this illustration do not bind the manufacturer.
## Table of outlet connections for the most significant gases

<table>
<thead>
<tr>
<th>GAS</th>
<th>Chemical symbol</th>
<th>Dimensions</th>
<th>Standard</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSED AIR</td>
<td></td>
<td>.825&quot; - 14 NGO RH EXT</td>
<td>CGA 346</td>
<td>B</td>
</tr>
<tr>
<td>NITROGEN</td>
<td>N₂</td>
<td>.965&quot; - 14 NGO RH INT</td>
<td>CGA 580</td>
<td>A</td>
</tr>
<tr>
<td>ARGON</td>
<td>Ar</td>
<td>.965&quot; - 14 NGO RH INT</td>
<td>CGA 580</td>
<td>A</td>
</tr>
<tr>
<td>HELIUM</td>
<td>He</td>
<td>.965&quot; - 14 NGO RH INT</td>
<td>CGA 580</td>
<td>A</td>
</tr>
<tr>
<td>HYDROGEN</td>
<td>H₂</td>
<td>.825&quot; - 14 NGO LH EXT</td>
<td>CGA 350</td>
<td>B</td>
</tr>
<tr>
<td>METHANE</td>
<td>CH₄</td>
<td>.825&quot; - 14 NGO LH EXT</td>
<td>CGA 350</td>
<td>B</td>
</tr>
<tr>
<td>CARBON MONOXIDE</td>
<td>CO</td>
<td>.825&quot; - 14 NGO LH EXT</td>
<td>CGA 350</td>
<td>B</td>
</tr>
<tr>
<td>OXYGEN</td>
<td>O₂</td>
<td>.903&quot; - 14 NGO RH EXT</td>
<td>CGA 540</td>
<td>B</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>CO₂</td>
<td>.825&quot; - 14 NGO RH EXT</td>
<td>CGA 320</td>
<td>B</td>
</tr>
<tr>
<td>NITROUS OXIDE</td>
<td>N₂O</td>
<td>.825&quot; - 14 NGO RH EXT</td>
<td>CGA 320</td>
<td>B</td>
</tr>
<tr>
<td>ACETYLENE</td>
<td>C₂H₂</td>
<td>.885&quot; - 14 NGO LH INT</td>
<td>CGA 510</td>
<td>A</td>
</tr>
<tr>
<td>AMMONIA</td>
<td>NH₃</td>
<td>3/8&quot; - 18 NGT RH INT</td>
<td>CGA 240</td>
<td>A</td>
</tr>
<tr>
<td>SULPHUR DIOXIDE</td>
<td>SO₂</td>
<td>1.030&quot; - 14 NGO RH EXT</td>
<td>CGA 660</td>
<td>B</td>
</tr>
<tr>
<td>PROPANE</td>
<td>C₃H₈</td>
<td>.885&quot; - 14 NGO LH INT</td>
<td>CGA 510</td>
<td>A</td>
</tr>
<tr>
<td>BUTANE</td>
<td>C₄H₁₀</td>
<td>.885&quot; - 14 NGO LH INT</td>
<td>CGA 510</td>
<td>A</td>
</tr>
<tr>
<td>CHLORINE</td>
<td>Cl₂</td>
<td>1.030&quot; - 14 NGO RH EXT</td>
<td>CGA 660</td>
<td>B</td>
</tr>
<tr>
<td>ETHYLENE OXIDE</td>
<td>C₂H₄O</td>
<td>.885&quot; - 14 NGO LH INT</td>
<td>CGA 510</td>
<td>A</td>
</tr>
<tr>
<td>PHOSGENE</td>
<td>COCl₂</td>
<td>1/8&quot; - 27 NGT RH INT</td>
<td>CGA 160</td>
<td>A</td>
</tr>
<tr>
<td>REFRIGERANT</td>
<td></td>
<td>1.030&quot; - 14 NGO RH EXT</td>
<td>CGA 660</td>
<td>B</td>
</tr>
</tbody>
</table>
## Table of outlet connections for the most significant gases

<table>
<thead>
<tr>
<th>GAS</th>
<th>Chemical symbol</th>
<th>Dimensions</th>
<th>Standard</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSED AIR</td>
<td></td>
<td>G 5/8&quot;</td>
<td>BS 341 nr.3</td>
<td>A</td>
</tr>
<tr>
<td>NITROGEN</td>
<td>N₂</td>
<td>G 5/8&quot;</td>
<td>BS 341 nr.3</td>
<td>A</td>
</tr>
<tr>
<td>ARGON</td>
<td>Ar</td>
<td>G 5/8&quot;</td>
<td>BS 341 nr.3</td>
<td>A</td>
</tr>
<tr>
<td>HELIUM</td>
<td>He</td>
<td>G 5/8&quot;</td>
<td>BS 341 nr.3</td>
<td>A</td>
</tr>
<tr>
<td>HYDROGEN</td>
<td>H₂</td>
<td>G 5/8&quot; LH</td>
<td>BS 341 nr.2</td>
<td>A</td>
</tr>
<tr>
<td>METHANE</td>
<td>CH₄</td>
<td>G 5/8&quot; LH</td>
<td>BS 341 nr.2</td>
<td>A</td>
</tr>
<tr>
<td>CARBON MONOXIDE</td>
<td>CO</td>
<td>G 5/8&quot; LH</td>
<td>BS 341 nr.4</td>
<td>A</td>
</tr>
<tr>
<td>OXYGEN</td>
<td>O₂</td>
<td>G 5/8&quot;</td>
<td>BS 341 nr.3</td>
<td>A</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>CO₂</td>
<td>0,860&quot; x 14 TPI</td>
<td>BS 341 nr.8</td>
<td>B</td>
</tr>
<tr>
<td>NITROUS OXIDE</td>
<td>N₂O</td>
<td>11/16&quot; x 20 TPI</td>
<td>BS 341 nr.13</td>
<td>B</td>
</tr>
<tr>
<td>ACETYLENE</td>
<td>C₂H₂</td>
<td>G 5/8&quot; LH</td>
<td>BS 341 nr.2</td>
<td>A</td>
</tr>
<tr>
<td>AMMONIA</td>
<td>NH₃</td>
<td>G 1/2&quot; A</td>
<td>BS 341 nr.10</td>
<td>B</td>
</tr>
<tr>
<td>SULPHUR DIOXIDE</td>
<td>SO₂</td>
<td>G 1/2&quot; A</td>
<td>BS 341 nr.10</td>
<td>B</td>
</tr>
<tr>
<td>PROPANE</td>
<td>C₃H₈</td>
<td>G 5/8&quot; LH</td>
<td>BS 341 nr.4</td>
<td>A</td>
</tr>
<tr>
<td>BUTANE</td>
<td>C₄H₁₀</td>
<td>G 5/8&quot; LH</td>
<td>BS 341 nr.4</td>
<td>A</td>
</tr>
<tr>
<td>CHLORINE</td>
<td>Cl₂</td>
<td>G 5/8&quot; A</td>
<td>BS 341 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>ETHYLENE OXIDE</td>
<td>C₂H₄O</td>
<td>G 5/8&quot; A LH</td>
<td>BS 341 nr.7</td>
<td>B</td>
</tr>
<tr>
<td>PHOSGENE</td>
<td>COCl₂</td>
<td>G 5/8&quot; A</td>
<td>BS 341 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>REFRIGERANT</td>
<td></td>
<td>G 5/8&quot; A</td>
<td>BS 341 nr.6</td>
<td>B</td>
</tr>
</tbody>
</table>
# Table of outlet connections for the most significant gases

<table>
<thead>
<tr>
<th>GAS</th>
<th>Chemical symbol</th>
<th>Dimensions</th>
<th>Standard</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPRESSED AIR</td>
<td></td>
<td>G 5/8&quot;</td>
<td>DIN 477 nr.13</td>
<td>A</td>
</tr>
<tr>
<td>NITROGEN</td>
<td>N₂</td>
<td>W 24,32 x 1/14&quot;</td>
<td>DIN 477 nr.10</td>
<td>B</td>
</tr>
<tr>
<td>ARGON</td>
<td>Ar</td>
<td>W 21,8 x 1/14&quot;</td>
<td>DIN 477 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>HELIUM</td>
<td>He</td>
<td>W 21,8 x 1/14&quot;</td>
<td>DIN 477 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>HYDROGEN</td>
<td>H₂</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>DIN 477 nr.1</td>
<td>B</td>
</tr>
<tr>
<td>METHANE</td>
<td>CH₄</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>DIN 477 nr.1</td>
<td>B</td>
</tr>
<tr>
<td>CARBON MONOXIDE</td>
<td>CO</td>
<td>W 1&quot; x 1/8&quot; LH</td>
<td>DIN 477 nr.5</td>
<td>B</td>
</tr>
<tr>
<td>OXYGEN</td>
<td>O₂</td>
<td>G 3/4&quot;</td>
<td>DIN 477 nr.9</td>
<td>B</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>CO₂</td>
<td>W 21,8 x 1/14&quot;</td>
<td>DIN 477 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>NITROUS OXIDE</td>
<td>N₂O</td>
<td>G 3/8&quot;</td>
<td>DIN 477 nr.11</td>
<td>B</td>
</tr>
<tr>
<td>ACETYLENE</td>
<td>C₂H₂</td>
<td>Ø 15,3 x Ø 7,5</td>
<td>DIN 477 nr.3</td>
<td>C</td>
</tr>
<tr>
<td>AMMONIA</td>
<td>NH₃</td>
<td>W 21,8 x 1/14&quot;</td>
<td>DIN 477 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>SULPHUR DIOXIDE</td>
<td>SO₂</td>
<td>G 5/8&quot;</td>
<td>DIN 477 nr.7</td>
<td>B</td>
</tr>
<tr>
<td>PROPAINE</td>
<td>C₃H₈</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>DIN 477 nr.1</td>
<td>B</td>
</tr>
<tr>
<td>BUTANE</td>
<td>C₄H₁₀</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>DIN 477 nr.1</td>
<td>B</td>
</tr>
<tr>
<td>CHLORINE</td>
<td>Cl₂</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>DIN 477 nr.8</td>
<td>B</td>
</tr>
<tr>
<td>ETHYLENE OXIDE</td>
<td>C₂H₄O</td>
<td>W 21,8 x 1/14&quot; LH</td>
<td>DIN 477 nr.1</td>
<td>B</td>
</tr>
<tr>
<td>PHOSGENE</td>
<td>COCl₂</td>
<td>W 1&quot; x 1/8&quot;</td>
<td>DIN 477 nr.8</td>
<td>B</td>
</tr>
<tr>
<td>REFRIGERANT</td>
<td></td>
<td>W 21,8 x 1/14&quot;</td>
<td>DIN 477 nr.6</td>
<td>B</td>
</tr>
<tr>
<td>GAS</td>
<td>SIMBOLO QUIMICO</td>
<td>DIMENSIONES</td>
<td>NORMA</td>
<td>TIPO</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------</td>
<td>----------------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>AIRE COMPRIMIDO</td>
<td></td>
<td>M Ø 30 x 1,75 - DERECHA</td>
<td>MIE AP 7 - B</td>
<td>D - MACHO</td>
</tr>
<tr>
<td>NITROGENO</td>
<td>N₂</td>
<td>W Ø 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>ARGON</td>
<td>Ar</td>
<td>W 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>HELIO</td>
<td>He</td>
<td>W 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>HIDROGENO</td>
<td>H₂</td>
<td>W 21,7 x 1/14 - IZQUIERDA</td>
<td>MIE AP 7 - E</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>OXIGENO</td>
<td>O₂</td>
<td>W Ø 22,91 x 1/14 - DERECHA</td>
<td>MIE AP 7 - F</td>
<td>A - HEMBRA</td>
</tr>
<tr>
<td>ANHIDRIDO CARBONICO</td>
<td>CO₂</td>
<td>W 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>PROTOXIDO DE NITROGENO</td>
<td>N₂O</td>
<td>W Ø 16,66 x 19 - DERECHA</td>
<td>MIE AP 7 - U</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>ACETILENO</td>
<td>C₂H₂</td>
<td>W Ø 22,91 x 1/14 - IZQUIERDA</td>
<td>MIE AP 7 - H</td>
<td>A - HEMBRA</td>
</tr>
<tr>
<td>AMONIACO</td>
<td>NH₃</td>
<td>W 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>ANHIDRIDO SULFUROSO</td>
<td>SO₂</td>
<td>W Ø 22,91 x 1/14 - DERECHA</td>
<td>MIE AO 7 - S</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>PROPANO</td>
<td>C₃H₈</td>
<td>W 21,7 x 1/14 - IZQUIERDA</td>
<td>MIE AP 7 - E</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>BUTANO</td>
<td>C₄H₁₀</td>
<td>W 21,7 x 1/14 - IZQUIERDA</td>
<td>MIE AP 7 - E</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>CLORO</td>
<td>CL₂</td>
<td>W Ø 25,4 x 1/8 - DERECHA</td>
<td>MIE AP 7 - J</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>CLORO - BOTELLONES</td>
<td>CL₂</td>
<td>W Ø 31,75 x 1/7 - DERECHA</td>
<td>MIE AP 7 - T</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>REFRIGERANTES</td>
<td></td>
<td>W Ø 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>CRIOGENICOS</td>
<td></td>
<td>W Ø 21,7 x 1/14 - DERECHA</td>
<td>MIE AP 7 - C</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>CALIBRACION</td>
<td></td>
<td>M Ø 19 x 1,5 - IZQUIERDA</td>
<td>MIE AP 7 - M</td>
<td>B - MACHO</td>
</tr>
<tr>
<td>AIRE COMPRIMIDO PARA APARATOS DE RESPIRACION E INMERSION</td>
<td></td>
<td>W Ø 22,91 x 14 - DERECHA</td>
<td>MIE AP 7 - V2</td>
<td>A - HEMBRA</td>
</tr>
</tbody>
</table>
CRYOGENIC EQUIPMENT
**Key features**

- The valves are conceived for use on portable cryogenic cylinders and other in-line shut-off valve applications.
- Spring loaded stem.
- Low profile allows the valve to fit into tight areas.
- Cleaned for Oxygen service as per CGA G-4.1.
- Valve body geometry is compatible with the antiremoval devices for CGA fittings.
- Valves and internal components parts interchangeable with existing equipment.
- Conical swivel seal design helps prevent seat galling from overtorking.
- In order to avoid constantly retightening the packing nut, the valve has a spring loaded stem seal automatically adjust for any gasket wear.
- 100% leak tested

**Technical Specifications**

| Working Temperature: | -320° F to + 165° F |
| Maximum working pressure is 600 PSIG= | 41 Bar |
| Test Pressure is 720 PSIG= | 49 Bar |
| Gland nut closure torque: | 45-60 Nm |

Tightness in accordance with EN 1626

- External Helium Leak rate at 600 PSIG (41 Bar)= 9 mm³ • S⁻¹
- Maximum value admitted by the standard: 14 mm³ • S⁻¹
- Internal Helium Leak rate at 600 PSIG (41 Bar)= 800 mm³ • S⁻¹
- Maximum value admitted by the standard: 10000 mm³ • S⁻¹

**Materials**

- Body: brass
- Bonnet: brass
- Piston: special brass
- Spindle: brass
- Hand wheel: aluminium
- Spring: stainless steel
- Stem seal gasket: PTFE
- Seat disc: PTFE

**Conforms to all requirements of:**

- Pi marked in accordance with European Directive 99/36 EC
- Designed in accordance with EN 1626

---

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet</th>
<th>Outlet</th>
<th>CV factor</th>
<th>Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT1V11XXX</td>
<td>1/4&quot; F.NPT</td>
<td>1/4&quot; F.NPT</td>
<td>0,73</td>
<td>NO</td>
</tr>
<tr>
<td>CRT1V22XXX</td>
<td>3/8&quot; F.NPT</td>
<td>3/8&quot; F.NPT</td>
<td>1,09</td>
<td></td>
</tr>
<tr>
<td>CRT1V33XXX</td>
<td>1/2&quot; F.NPT</td>
<td>1/2&quot; F.NPT</td>
<td>1,11</td>
<td></td>
</tr>
<tr>
<td>CRT1V92XXX</td>
<td>.675 Tube</td>
<td>3/8&quot; F.NPT</td>
<td>1,09</td>
<td>YES</td>
</tr>
</tbody>
</table>

According to customer's requirements are available:

- Different Tube length
- Different Height of the stem
- Different orifice dimensions
- Personalization

The features described in this illustration do not bind the manufacturer.
Key features

- The cryogenic economizer regulator has been conceived to maintain pressure on cryogenic liquid within cryogenic container.
- Interchangeable with existing regulators.
- Made from solid brass.
- Compact size to fit any installation.
- Inlet filter to prevent external materials from entering into the regulator.
- Locknut is provided to maintain adjusting screw setting.

Technical Specifications

- Maximum inlet pressure: 350 PSIG
- Test pressure: 420 PSIG
- Working Temperature range is -320° F to +165° F

Materials

- Body: Brass
- Bonnet: Brass
- Seat Retainer: Brass
- Diaphragm Gasket: PTFE
- Springs: Stainless Steel

<table>
<thead>
<tr>
<th>Ordering Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
</tr>
<tr>
<td>RGCR125</td>
</tr>
<tr>
<td>RGCR150</td>
</tr>
<tr>
<td>RGCR300</td>
</tr>
</tbody>
</table>
**Key features**

- The cryogenic Pressure relief valves is designed to open and reseal at low pressure.
- Minimizes gas loss.
- Various thread sizes available.
- Cleaned and packaged for O2 service per CGA-4.1.
- 100% factory tested.
- Pipe away option if required.
- Drain Hole option if required.
- Colour labels to identify the discharge pressure settings available.

**Technical Specifications**

Various pressure setting available in 25 psi increments

Temperature range -320° F  +165° F

**Materials**

Body: brass or stainless steel  
Adjusting screw: brass  
Spring: stainless steel

Seat Material options:  
- Fluorosilicone for SVB and SVS styles for 15-139 PSIG (1 - 9,6 Bar)  
- PTFE for SVB and SVS styles for 140 - 600 PSIG (9,7 - 41 Bar)

**WARNING**

The maintenance of the pressure relief valve is really important and if not properly performed can cause injuries or property damage, therefore the valve has to be constantly inspected.

The service environment may affect the safe service life of the pressure relief valve.
# Ordering Information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Body and valve material</th>
<th>Inlet</th>
<th>Pressure Setting Range PSIG</th>
<th>Height</th>
<th>Wrenching Hex</th>
<th>Flow Performance SCFM Air/PSIA</th>
<th>Flow Performance m³ Air/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>SVB16XXXXX</td>
<td>Brass</td>
<td>1/8&quot;</td>
<td>17-600 (1-41)</td>
<td>2.6</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVS16XXXXX</td>
<td>Stainless steel</td>
<td>1/8&quot;</td>
<td>17-600 (1-41)</td>
<td>2.6</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVB11XXXXX</td>
<td>Brass</td>
<td>1/4&quot;</td>
<td>17-600 (1-41)</td>
<td>2.6</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVS11XXXXX</td>
<td>Stainless steel</td>
<td>1/4&quot;</td>
<td>17-600 (1-41)</td>
<td>2.6</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVB13XXXXX</td>
<td>Brass</td>
<td>1/2&quot;</td>
<td>17-600 (1-41)</td>
<td>2.6</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVS13XXXXX</td>
<td>Stainless steel</td>
<td>1/2&quot;</td>
<td>17-600 (1-41)</td>
<td>2.6</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVB21XXXXX</td>
<td>Brass</td>
<td>1/4&quot;</td>
<td>17-600 (1-41)</td>
<td>2.8</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVS21XXXXX</td>
<td>Stainless steel</td>
<td>1/4&quot;</td>
<td>17-600 (1-41)</td>
<td>2.8</td>
<td>7/8&quot; (22mm)</td>
<td>0.794</td>
<td>0.022</td>
</tr>
<tr>
<td>SVB24XXXXX</td>
<td>Brass</td>
<td>3/4&quot;</td>
<td>50-300 (3,4-20)</td>
<td>3.3</td>
<td>1-3/4&quot; (44mm)</td>
<td>6.85</td>
<td>0.194</td>
</tr>
<tr>
<td>SVS25XXXXX</td>
<td>Stainless steel</td>
<td>1&quot;</td>
<td>100-300 (3,4-20)</td>
<td>5.3</td>
<td>2-3/8&quot; (60mm)</td>
<td>11.1</td>
<td>0.315</td>
</tr>
</tbody>
</table>

**SV** Safety valve

**MATERIAL**
- B= body - brass
- S= body - stainless steel
- 1 = fluorosilicone seat
- 2 = PTFE seat

**INLET:**
- 1 = 1/4” NPT
- 2 = 3/8” NPT
- 3 = 1/2” NPT
- 4 = 3/4” NPT
- 5 = 1” NPT
- 6 = 1/8” NPT

XXX = setting pressure available in 25 PSIG increments

XX = personalizations - Drain Hole option - Pipe Away Option

Example: SVB1102501 = safety valve - brass body - fluorosilicone seat - 1/4” NPT - setting pressure 25 PSIG

---

**Fitting to mount pressure relief devices and gauges, available with different thread connections**

[Diagram showing fitting connections]
MEDICAL EQUIPMENT
Key features

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- 100% leak test to 1.2 times cylinder service pressure
- All marking on the valve neck, protects against damage
- Large Seat orifice provides faster vacuum and filling rates
- Available bursting discs for all DOT cylinders
- Durable forged brass body manufactured by Cavagna Group
- Passes stringent oxygen adiabatic compression test
- Unique seat holder design
- Standard pressure relief device thread - .650-19UNS-2B
- Color coded safety device for easy burst disc identification
- Available configurations include:
  - Inlet threads (NGT, UNF, DIN477, BS, EN, EN ISO)
- All CGA outlets available
- Unitized “plug style” bursting disc

Technical Specifications

<table>
<thead>
<tr>
<th>Pressure:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof</td>
<td>11.520 PSIG</td>
</tr>
<tr>
<td>Test</td>
<td>3000 PSIG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature - Storage</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>-65°F</td>
<td>155°F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature Operating</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>-50°F</td>
<td>120°F</td>
</tr>
</tbody>
</table>

| Cycle life min       | 5000  |

<table>
<thead>
<tr>
<th>Torque Values for PBA Acetylene valves</th>
<th>Max Operating torque @ 0 PSIG inlet pressure</th>
<th>1 N/m</th>
<th>8,8 lbs / inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Operating torque @ 240 PSIG inlet pressure</td>
<td>1 N/m</td>
<td>8,8 lbs / inch</td>
<td></td>
</tr>
<tr>
<td>Max Operating torque @ 2900 PSIG inlet pressure</td>
<td>2 N/m</td>
<td>17,7 lbs / inch</td>
<td></td>
</tr>
</tbody>
</table>

| Max Overtorque | 25 N/m | 221 lbs / inch |

| Flow capacity CV / Full open | n/a |

| Seat orifice | 4,5 mm | .177" |

Materials

- Valve Body: Forged Brass according to EN12165 alloy
- Bursting disc: Nickel alloy
- Bursting disc body: Brass (also available with 212°F fusible metal)
- Back up Ring: PTFE
- Bonnet: Brass
- Hand wheel: Aluminium
- Seat: Polyamide
- O-rings: EPDM
- Antifriction: Delrin
- Stem: Brass according to EN12164 alloy

Conforms to all requirements of:

- CGA V 9 Standard for Gas Cylinder Valves
- CGA S-1.1 Standard for Pressure Relief Devices
- CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
- EN849 European Norm
## Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydrogen</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 350 6 xxxx</td>
<td>0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/16 NGT</td>
</tr>
<tr>
<td>CDA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 1 703 6 xxxx</td>
<td>3,001 to 5,500 psi</td>
<td>695</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 695 6 xxxx</td>
<td>5,501 to 7,500 psi</td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td><strong>Krypton</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 580 1 xxxx</td>
<td>0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 680 1 xxxx</td>
<td>3,001 to 5,500 psi</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td>5,501 to 7,500 psi</td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td><strong>Methane (R50)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 350 6 xxxx</td>
<td>0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 703 6 xxxx</td>
<td>3,001 to 5,500 psi</td>
<td>695</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 695 6 xxxx</td>
<td>5,501 to 7,500 psi</td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td><strong>Natural Gas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 350 6 xxxx</td>
<td>0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 703 6 xxxx</td>
<td>3,001 to 5,500 psi</td>
<td>695</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 695 6 xxxx</td>
<td>5,501 to 7,500 psi</td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td><strong>Neon</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 580 1 xxxx</td>
<td>0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 680 1 xxxx</td>
<td>3,001 to 5,501 psi</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td>5,501 to 7,500 psi</td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td><strong>Nitrogen</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 580 1 xxxx</td>
<td>0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 680 1 xxxx</td>
<td>3,001 to 5,501 psi</td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td>5,501 to 7,500 psi</td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
</tbody>
</table>
### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDA 8 346 1 xxxx</td>
<td><strong>Air (R729)</strong> 0 psi to 3,000 psi</td>
<td>346</td>
<td>.825&quot;-14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 346 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 347 1 xxxx</td>
<td></td>
<td>347</td>
<td>.825-14 NGO RH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 702 1 xxxx</td>
<td></td>
<td>702</td>
<td>1.125&quot;-14 NGO RH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 8 580 1 xxxx</td>
<td><strong>Argon</strong> 0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 680 1 xxxx</td>
<td></td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td></td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 8 555 1 xxxx</td>
<td><strong>Butane/Propane</strong> Liquid Withdrawal</td>
<td>555</td>
<td>.903-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 555 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 8 320 1 xxxx</td>
<td><strong>Carbon Dioxide</strong> (R744)</td>
<td>320</td>
<td>.825-14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDG 9 320 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 8 350 6 xxxx</td>
<td><strong>Carbon Monoxide</strong> 0 to 3,000 psi</td>
<td>350</td>
<td>.825-14 NGO LH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 350 6 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 695 6 xxxx</td>
<td></td>
<td>695</td>
<td>1.045-14 NGO LH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 703 6 xxxx</td>
<td></td>
<td>703</td>
<td>1.125-14 NGO LH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 8 660 1 xxxx</td>
<td><strong>1,2 Dichloroethylene</strong> (R1130)</td>
<td>660</td>
<td>1.030-14 NGO RH Ext. (Face Washer Seal)</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 660</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 660</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 660</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDA 9 660</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 8 580 1 xxxx</td>
<td><strong>Helium</strong> 0 to 3,000 psi</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 6 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 3 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF</td>
</tr>
<tr>
<td>CDG 9 580 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td>1.125&quot;-12 UNF</td>
</tr>
<tr>
<td>CDA 1 680 1 xxxx</td>
<td></td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td></td>
<td>677</td>
<td>1.030-14 NGO LH Ext.</td>
<td>3/4&quot;-14 NGT</td>
</tr>
</tbody>
</table>
## ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDA 8 326 1 xxxx</td>
<td>Nitrous Oxide (R744a)</td>
<td>326</td>
<td>.825-14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT”</td>
</tr>
<tr>
<td>CDA 1 326 1 xxxx</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT”</td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 326 1 xxxx</td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF”</td>
<td>1.125&quot;-12 UNF”</td>
</tr>
<tr>
<td>CDA 3 326 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 9 326 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 540 1 xxxx</td>
<td>Oxygen</td>
<td>540</td>
<td>.903-14 NGO RH Ext.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 540 1 xxxx</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT”</td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 540 1 xxxx</td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF”</td>
<td>1.125&quot;-12 UNF”</td>
</tr>
<tr>
<td>CDA 3 540 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 9 540 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 1 577 1 xxxx</td>
<td>Sulfur Dioxide</td>
<td>577</td>
<td>.960-14 NGO RH Ext.</td>
<td>3/4&quot;-14 NGT”</td>
</tr>
<tr>
<td>CDA 1 701 1 xxxx</td>
<td></td>
<td>701</td>
<td>3/4&quot;-14 NGT”</td>
<td></td>
</tr>
<tr>
<td>CDA 8 660 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 1 660 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 6 660 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 3 660 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 9 660 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 8 680 1 xxxx</td>
<td>Xenon</td>
<td>580</td>
<td>.965-14 NGO RH Int.</td>
<td>1/2&quot;-14 NGT</td>
</tr>
<tr>
<td>CDA 1 680 1 xxxx</td>
<td></td>
<td></td>
<td>3/4&quot;-14 NGT”</td>
<td>1-11 1/2 NGT</td>
</tr>
<tr>
<td>CDA 6 680 1 xxxx</td>
<td></td>
<td></td>
<td>.750&quot;-16 UNF”</td>
<td>1.125&quot;-12 UNF”</td>
</tr>
<tr>
<td>CDA 3 680 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 9 680 1 xxxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td></td>
<td>680</td>
<td>1.045-14 NGO RH Int.</td>
<td>3/4&quot;-14 NGT”</td>
</tr>
<tr>
<td>CDA 1 677 1 xxxx</td>
<td></td>
<td>677</td>
<td>3/4&quot;-14 NGT”</td>
<td></td>
</tr>
</tbody>
</table>

**xxxx** Denotes Pressure Relief Device burst disc rupture pressure.

**Available with:**

"4 and 7 thread oversize inlets: To order change the first number ”1” in the part number to “4” or “7”

**example:** CBA 1 320 1 xxxx becomes CBA 4 320 1 xxxx

Chrome Plating: To order, change the letter "B" in the part number to letter “D”

**example:** CBA 1 540 1 xxxx becomes CDA 1 540 1 xxxx

Fusible backed pressure relief devices in 165F and 212F nominal melting temperatures:

To order, change the eigth position in the part number to “5” for 165F and “6” for 212F

**example:** CBA 1350 1 xxxx becomes CBA 1 350 5 xxxx for 165 or CBA 1 350 6 xxxx for 212F
Key features

- The “K 2000” series are O-ring seal type valves suitable for smaller cylinders
- Suitable for various gases including CO₂ and Oxygen
- Easy handwheel operation under high pressure
- Valves designed according to EN 849
- All valves are “π” marked according to 99/36 EC
- All inlet and outlet standards available

Technical Specifications

Maximum working pressure: 230 bar
Test pressure: 276 bar / depending on bursting disc pressure
Temperature operating: -45°C ÷ +65°C
Orifice size: 2,5 ÷ 4 mm

Materials

Valve Body: Hot Forged Brass alloy according to EN12165
Seat Disc: Polyamide
O-Rings: Various materials
Handwheel: Plastic or Aluminium
Bursting disc: Nickel
Spindle: Brass

Options

- Coloured Handwheel
- Chrome plating treatment
- Bursting disc
- Filter
- Parallel thread
- Plastic Handwheel with metallic insert
- Plastic Handwheel logo cap
Key features

- The “K 2000” series are O-ring seal type valves suitable for smaller cylinders
- Suitable for various gases including CO2 and Oxygen
- Easy handwheel operation under pressure
- Valves designed according to EN 849
- All valves are “π” marked according to 99/36 EC
- All inlet and outlet standards available

Technical Specifications

Maximum working pressure: 230 bar
Test pressure: 276 bar
Temperature range: -45°C ÷ +65°C
Orifice size: 2,5 ÷ 4 mm

Materials

Valve Body Forged Brass alloy according to EN12165
Seat Disc Polyamide
O-Rings Various materials
Handwheel Plastic or Aluminium
Spindle Brass

Options

- Coloured Handwheel
- Chrome plating
- Bursting disc
- Filter
- Parallel thread
- Plastic Handwheel
- Plastic Handwheel logo cap
Key features

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- High quality nickel chrome plating protects against harmful chemicals
- 100% leak test to full cylinder service pressure
- Body made from extruded brass rod - Fits all CGA specified yokes
- Passes stringent oxygen adiabatic compression test
- Unique stem design meets CGA performance criteria, designed shear point allows stem to break above the spindle nut if over torqued or shocked due to careless handling
- Aluminum cylinder valve supplied with Teflon O-Ring for fast easy installation
- Oxygen cleaned to meet CGA G4.1 specifications
- Clean room assembly
- All valves are “CE” marked according to 99/36 EC and 93/42 EC

Technical Specifications

<table>
<thead>
<tr>
<th>Pressure:</th>
<th>PSIG</th>
<th>BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof</td>
<td>7500</td>
<td>518</td>
</tr>
<tr>
<td>Test (without b. disc)</td>
<td>4000</td>
<td>276</td>
</tr>
<tr>
<td>Test with b. disc at 80% of set pressure</td>
<td>43,5 + 72,5</td>
<td>3 + 5</td>
</tr>
</tbody>
</table>

| Temperature range - Storage | Min-Max | -60°F +130° F | -51°C + 68,3°C |
| Temperature range Operating | Min-Max | -50°F + 130°F | -46°C + 68,3°C |

Cycle life min

5000

Torque Values for PDE series valve

Wrench operated [A]

<table>
<thead>
<tr>
<th>Torque @ 0 PSIG inlet pressure</th>
<th>3 lbs / inch</th>
<th>0,3 N/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing torque @ 3000 PSIG inlet pressure</td>
<td>8/12 lbs / inch</td>
<td>0,9 - 1,3 N/m</td>
</tr>
</tbody>
</table>

Toggle [B]

<table>
<thead>
<tr>
<th>Operating torque @ 0 PSIG inlet pressure</th>
<th>2 lbs / inch</th>
<th>0,2 N/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing torque @ 2000 PSIG inlet pressure</td>
<td>8/10 lbs / inch</td>
<td>0,9 - 1,1 N/m</td>
</tr>
</tbody>
</table>

Materials

Valve Body: Chrome plated free Machining Brass rod
Bursting disc (If required): Nickel alloy 201
Hand wheel or toggle (if required): Chrome plated brass
Seat: Polyamide
O-Rings: EPDM
Back up ring: Teflon®
Anti Friction Ring: PEEK
Stem: Chrome plated Brass
Inlet O-ring: Teflon®

Conforms to all requirements of:

- CGA V 9: Standard for Gas Cylinder Valves
- CGA S-1.1: Standard for Pressure Relief Devices
- CGA V-1: Compressed Gas Cylinder Valve Outlet and Inlet Connections
- EN849: European Standard for gas cyl. valves
- EN850: Gas cyl. valves outlet connection
- EN15996: Test on RP Device
## O R D E R I N G  I N F O R M A T I O N

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDE R 8 950 S 3360</td>
<td>Air</td>
<td>950</td>
<td>Pins #1 and #5</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 950 S 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 940 1 3360</td>
<td>Carbon Dioxide</td>
<td>940</td>
<td>Pins #1 and #6</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 940 1 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 920 1 3360</td>
<td>Cyclopropane</td>
<td>920</td>
<td>Pins #3 and #6</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 920 1 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 900 5 3360</td>
<td>Ethylene</td>
<td>900</td>
<td>Pins #1 and #3</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 900 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 930 5 3360</td>
<td>Helium</td>
<td>930</td>
<td>Pins #4 and #6</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 930 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 973 5 3360</td>
<td>Medical Gas Mixtures</td>
<td>973</td>
<td>Pins #11 and #24</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 973 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 960 5 3360</td>
<td>Nitrogen</td>
<td>960</td>
<td>Pins #1 and #4</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 960 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 910 1 3360</td>
<td>Nitrous Oxide</td>
<td>910</td>
<td>Pins #3 and #5</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 910 1 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 965 5 3360</td>
<td>Nitrous Oxide &amp; Oxygen Mixtures</td>
<td>965</td>
<td>Pin #7</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 965 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 870 5 3360</td>
<td>Oxygen</td>
<td>870</td>
<td>Pins #2 and #5</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 870 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 880 5 3360</td>
<td>Oxygen &amp; Carbon Dioxide Mixtures</td>
<td>880</td>
<td>Pins #2 and #6</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 880 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDE R 8 890 5 3360</td>
<td>Oxygen &amp; Helium Mixtures</td>
<td>890</td>
<td>Pins #2 and #4</td>
<td>1/2-14 NGT .750-16 UNF-2A</td>
</tr>
<tr>
<td>PDE R 3 890 5 3360</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All valves are supplied with safety relief devices as specified by the Compressed Gas Association Standard S1.1. Safety relief devices are flush style CG-4 devices backed by 165 F fuse metal, except valves specified for Carbon Dioxide (CGA 940), Cyclopropane (CGA 920) and Nitrous Oxide (CGA 940), where a CG-1 hex style pressure relief device without fuse metal is required.

All valves are supplied with rupture discs rated for cylinders with a service pressure of 2,015 psig. Rupture discs rated for other cylinder service pressures are available upon request.

**Optional Features:**
- Handwheel - example: PDE R 8 890 S 3360 changes to PDM 8 890 S 3360
- Chrome Plated Toggle- example: PDE R 8 890 S 3360 changes to PDF 8 890 S 3360
- 1/8” - 27 NPT gauge port - example: PDE R 8 890 S 3360 changes to PDP 8 890 S 3360 (only available with toggle)
Key features

• O-Ring technology provides superior leak integrity
• Easy operation under high pressure
• High quality nickel chrome plating protects against harmful chemicals
• 100% leak test to full cylinder service pressure
• Body made from extruded brass rod - Fits all CGA specified yokes
• Passes stringent oxygen adiabatic compression test
• Unique stem design meets CGA performance criteria, designed shear point allows stem to break above the spindle nut if over torqued or shocked due to careless handling
• Aluminum cylinder valve supplied with Teflon O-Ring for fast easy installation
• Oxygen cleaned to meet CGA G4.1 specifications
• Clean room assembly
• All valves are "π" marked according to 99/36 EC

Technical Specifications

Pressure:
Proof 10000 PSIG
Test 3000 PSIG

Temperature range - Storage
Min -65°F Max 155°F

Temperature range Operating
Min -50°F Max 120°F

Cycle life min 5000

Torque Values for PDE series valve

Wrench operated [A]
Operating torque @ 0 PSIG inlet pressure 0,3 N/m 3 lbs / inch
Closing torque @ 3000 PSIG inlet pressure 0,9 - 1,3 N/m 8/12 lbs / inch

Toggle [B]
Operating torque @ 0 PSIG inlet pressure 0,2 N/m 2 lbs / inch
Closing torque @ 2000 PSIG inlet pressure 0,9 - 1,1 N/m 8/10 lbs / inch

Materials

Valve Body Chrome plated free Machining Brass rod
Bursting disc Nickel alloy 201
Hand wheel Aluminium
Seat Polyamide
O-Rings EPDM
Anti Friction Ring PEEK
Stem Chrome plated Brass
Inlet O-ring Teflon®
Back up ring Teflon®
Toggle Chrome plated Brass

Conforms to all requirements of:
CGA V 9 Standard for Gas Cylinder Valves
CGA S-1.1 Standard for Pressure Relief Devices
CGA V-1 Compressed Gas Cylinder Valve Outlet and Inlet Connections
EN849 European Norm
### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Gas Service</th>
<th>CGA Outlet</th>
<th>Outlet Thread Size</th>
<th>Inlet Thread Size</th>
</tr>
</thead>
</table>
| PDE 8 950 5 3360  
PDE 3 950 5 3360 | Air                  | 950        | Pins #1 and #5     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 940 1 3360  
PDE 3 940 1 3360 | Carbon Dioxide       | 940        | Pins #1 and #6     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 920 1 3360  
PDE 3 920 1 3360 | Cyclopropane         | 920        | Pins #3 and #6     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 900 5 3360  
PDE 3 900 5 3360 | Ethylene             | 900        | Pins #1 and #3     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 930 5 3360  
PDE 3 930 5 3360 | Helium               | 930        | Pins #4 and #6     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 973 5 3360  
PDE 3 973 5 3360 | Medical Gas Mixtures | 973        | Pins #11 and #24   | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 960 5 3360  
PDE 3 973 5 3360 | Nitrogen             | 960        | Pins #1 and #4     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 910 1 3360  
PDE 3 910 1 3360 | Nitrous Oxide        | 910        | Pins #3 and #5     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 965 5 3360  
PDE 3 965 5 3360 | Nitrous Oxide & Oxygen Mixtures | 965 | Pin #7 | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 870 5 3360  
PDE 3 870 5 3360 | Oxygen               | 870        | Pins #2 and #5     | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 880 5 3360  
PDE 3 880 5 3360 | Oxygen & Carbon Dioxide Mixtures | 880 | Pins #2 and #6 | 1/2-14 NGT .750-16 UNF-2A |
| PDE 8 890 5 3360  
PDE 3 890 5 3360 | Oxygen & Helium Mixtures | 890 | Pins #2 and #4 | 1/2-14 NGT .750-16 UNF-2A |

All valves are supplied with safety relief devices as specified by the Compressed Gas Association Standard S1.1. Safety relief devices are flush style CG-4 devices backed by 165 F fuse metal, except valves specified for Carbon Dioxide (CGA 940), Cyclopropane (CGA 920) and Nitrous Oxide (CGA 940), where a CG-1 hex style pressure relief device without fuse metal is required.

All valves are supplied with rupture discs rated for cylinders with a service pressure of 2,015 psig. Rupture discs rated for other cylinder service pressures are available upon request.

**Optional Features:**
- Handwheel - example: PDE 8 890 5 3360 changes to PDM 8 890 5 3360
- Chrome Plated Toggle - example: PDE 8 890 5 3360 changes to PDF 8 890 5 3360
- 1/8”-27 NPT gauge port - example: PDE 8 890 5 3360 changes to PDP 8 890 5 3360 (only available with toggle)
Key features

• Clean room Assembly
• Valve designed according to EN 849
• All valves are “π” marked according to 99/36 EC
• Easy Handwheel operation under high pressure
• Markings on the neck valve protects against damage
• O-Ring seal type valve
• Chrome plated body
• Hot forged brass body manufactured by Cavagna Group
• All inlets and outlets standards available
• CE marking according to 93/42 EC Available

Technical Specifications

Maximum working pressure: 230 bar
Test pressure: 276 bar
Temperature range: -45°C ÷ +65°C
Orifice size: 4,5 mm
Cycle life: min 2000 cycles

Materials

Handwheel  Aluminium
Valve Body  Brass alloy according to EN12165
Seat Disc  Polyamide
O-Rings  EPDM
Spindle  Brass
Antifriction ring  PEEK

Options

- Personalized Handwheel logo cap
- Bursting disc safety device
- Parallel thread
- Dip tube thread
- Special Packaging
- Plastic Handwheel

The features described in this illustration do not bind the manufacturer.
Key features

- Clean room Assembly
- Valve designed according to EN 849
- All valves are “π” marked according to 99/36 EC
- Easy Handwheel operation under high pressure
- Markings on the neck valve protects against damage
- O-Ring seal type valve
- Chrome plated body
- Hot forged brass body manufactured by Cavagna Group
- All inlets and outlets standards available
- Plastic Handwheel with metallic insert

Technical Specifications

Maximum working pressure: 230 bar
Test pressure: 276 bar
Temperature range: -45°C ÷ +65°C
Orifice size: 4,5 mm
Cycle life: min 2000 cycles

Materials

Handwheel: Polycarbonated resin
Valve Body: Brass alloy
Seat Disc: Polyamide
O-Rings: EPDM
Spindle: Brass
Antifriction ring: PEEK

Options

- Personalized Handwheel logo cap
- Bursting disc safety device
- Parallel thread
- Dip tube thread
- Special Packaging
Technical Features:

- Valve with integrated pressure reducer for Medical OXYgen
- MRI compatible
- Positive pressure device incorporated
- Non return valve with synterized bronze filter integrated in the filling port
- Compensated regulator
- Synterized bronze filter in the cylinder connection
- Tested and approved in accordance with the European norms EN-ISO 10524-3
- CE and π marked according to the European Directives for Medical and trasportable pressure devices
- Maximum working pressure: 230 bar (3350 psi)
- Outlet pressure 4 bar (58 psi) at a flow capacity of 2.400 Nl/m
- Temperature from -40°C to + 65°C (- 40°F + 149°F)
- Residual positive pressure: 3-5 bar (43 – 72 psi)
- Active gauge with fluorescent scales
- The system of flow selection avoids the positioning in an intermediate position and in case that should happen the oxygen supply will not be discontinued.
- Hose-barb diameter 6 mm

Materials

- Body in forged brass
- Valve Main Sealing in Nylon
- Regulator Sealing in Nylon
- Elastomer in EPDM
- The valve is not made of any ferrous material and steel

Options

5 different flow scales with the following characteristics:

<table>
<thead>
<tr>
<th>Application</th>
<th>0</th>
<th>¼</th>
<th>½</th>
<th>¾</th>
<th>1</th>
<th>1½</th>
<th>2</th>
<th>2½</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby care</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home care</td>
<td>0</td>
<td>½</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Home care</td>
<td>0</td>
<td>¼</td>
<td>½</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Intensive therapy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>Intensive therapy</td>
<td>0</td>
<td>¼</td>
<td>½</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>15</td>
<td>25</td>
</tr>
</tbody>
</table>

Quick hospital connection, with 4 bar (58 psi) outlet pressure, in accordance with the main International Standards (DIN, BS, DISS, AFNOR, UNI)
Excess Flow valve with synterized bronze filter in the valve’s inlet
Plastic protection handle complying with ISO 11117
Hospital bed handle available
Bursting disc
Antifilling device and non return valve in the filling port

Maintainance

Please strictly rely on the “User maintenance instruction”
It is recommended the valve’s replacement when the cylinder is being retested.
**VIPROXY** series
Valve with Integrated Pressure Reducer for medical OXYgen and Nitrous OXYDE
- 300 bar -

**Technical Features:**
- Valve with integrated pressure reducer for Medical OXYgen
- MRI compatible
- Positive pressure device incorporated
- Non return valve with synterized bronze filter integrated in the filling port
- Compensated regulator
- Synterized bronze filter in the cylinder connection
- Tested and approved in accordance with the European norms EN-ISO 10524-3
- CE and π marked according to the European Directives for Medical and trasportable pressure devices
- Maximum working pressure: 300 bar (4350 psi)
- Outlet pressure 4 bar (58 psi) at a flow capacity of 2,400 Nl/m
- Temperature from -40°C to + 65°C (- 40°F + 149°F)
- Residual positive pressure: 3-5 bar (43 – 72 psi)
- Active gauge with fluorescent scales
- The system of flow selection avoids the positioning in an intermediate position and in case that should happen the oxygen supply will not be discontinued.
- Hose-barb diameter 6 mm

**Materials**
- Body in forged brass
- Valve Main Sealing in Nylon
- Regulator Sealing in Nylon
- Elastomer in EPDM
- The valve is not made of any ferrous material and steel

**Options**
5 different flow scales with the following characteristics:

<table>
<thead>
<tr>
<th>Application</th>
<th>0</th>
<th>¼</th>
<th>½</th>
<th>¾</th>
<th>1</th>
<th>1½</th>
<th>2</th>
<th>2½</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby care</td>
<td></td>
<td>0</td>
<td>½</td>
<td>¾</td>
<td>1</td>
<td>1½</td>
<td>2</td>
<td>2½</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Home care</td>
<td></td>
<td>0</td>
<td>½</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Home care</td>
<td></td>
<td>0</td>
<td>¼</td>
<td>½</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Intensive therapy</td>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Intensive therapy</td>
<td></td>
<td>0</td>
<td>¼</td>
<td>½</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

Quick hospital connection, with 4 bar (58 psi) outlet pressure, in accordance with the main International Standards (DIN, BS, DISS, AFNOR, UNI)
Excess Flow valve with synterized bronze filter in the valve’s inlet
Plastic protection handle complying with ISO 11117
Hospital bed handle available
Bursting disc
Antifilling device and non return valve in the filling port

**Maintenance**
Please strictly rely on the “User maintenance instruction”
It is recommended the valve’s replacement when the cylinder is being retested.
Key features

• O-Ring Technology ensure a better level of tightness under vacuum and service.
• Every valve is submitted to Leak Test.
• Easy operation under high pressure.
• All valves are Marked around the neck.
• Valves could be chromium plated.
• All inlet and outlet standards available.
• Conform to EU Directives 99/36 EC - 93/42 EC.

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum working pressure</td>
<td>230 bar</td>
</tr>
<tr>
<td>Test pressure</td>
<td>276 bar</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-20 to +65°C</td>
</tr>
<tr>
<td>Max. Operating Torque</td>
<td>7 N/m</td>
</tr>
<tr>
<td>Max. Overtorque</td>
<td>14 N/m</td>
</tr>
<tr>
<td>Residual pressure</td>
<td>1-5 bar</td>
</tr>
<tr>
<td>Seat orifice</td>
<td>2.5 mm</td>
</tr>
<tr>
<td>Deep tube connection</td>
<td>M10 x 1 (M10 x 0.75)</td>
</tr>
</tbody>
</table>

Materials

- Valve Body: Hot Forget Brass alloy according to EN12165
- Handwheel: Plastic or Aluminium
- Seat: Polyammid
- O-ring: EPDM
- Antifriction: DELRIN

Options

- Coloured Handwheel
- Chrome plating treatment
- Bursting disc
- Filter
- Parallel thread
- Plastic Handwheel
- Personalized logo
Key features

- Residual pressure valve o-ring seal type for 230 bar working pressure. The valve is conforming to EN 849 and PR-EN ISO 15996
- Suitable for various gases including CO₂ and Oxygen
- Very low ΔP
  With this valve the ΔP value between the closing and opening pressure of the residual device is very low (order of size: two-three tenth of bar) and is not affected by the working pressure of 200 bar.
- Hot forged brass body manufactured by Cavagna Group
- Filling adaptor available separately
- This valve allows to use different adaptors with different nipples length
- Inlets and outlets in accordance with all standards
- All valves “π” marked in accordance with 99/36 EC
- Valves can be marked with CE according to 93/42 EC

Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum working pressure</td>
<td>230 bar</td>
</tr>
<tr>
<td>Test pressure</td>
<td>276 bar</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-45°C ÷ +70°C</td>
</tr>
<tr>
<td>Seat orifice size</td>
<td>4 ÷ 6 mm</td>
</tr>
<tr>
<td>Guaranteed External Tightness</td>
<td>≤ 6 cm³/h (0,11 Nml/min)</td>
</tr>
<tr>
<td>Guaranteed Internal Tightness</td>
<td>≤ 6 cm³/h (0,11 Nml/min)</td>
</tr>
<tr>
<td>Residual pressure</td>
<td>2,5 ÷ 4 bar (according to customer specifications)</td>
</tr>
</tbody>
</table>

Materials

- Handwheel: Aluminium
- Seat pad: Polyamide
- O-ring: EPDM
- Valve Body: Brass alloy according to EN12165
- Spring: Stainless steel or copper beryllium
- Spindle: Brass

Options

- Personalized logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Key operated handwheel
- Filter
- Parallel thread
- Thread for dip tube installation
**Key features**

- Residual pressure valve o-ring seal type for 230 bar working pressure. The valve is conforming to EN 849 and PR-EN ISO 15996.
- Suitable for various gases including CO₂ and Oxygen.
- **Very low ∆P**
  With this valve the ∆P value between the closing and opening pressure of the residual device is very low (order of size: two-three tenth of bar) and is not affected by the working pressure of 200 bar.
- Hot forged brass body manufactured by Cavagna Group.
- Filling adaptor available separately.
- This valve allows to use different adaptors with different nipples length.
- Inlets and outlets in accordance with all standards.
- All valves “π” marked in accordance with 99/36 EC.
- Valves can be marked with CE according to 93/42 EC.

**Technical Specifications**

- Maximum working pressure: 230 bar
- Temperature range: -20 +65°C
- Max. Operating Torque: 7 N/m
- Max. Overtorque: 25 N/m
- Residual pressure: 1-5 bar
- Seat orifice: 4 mm
- Deep tube connection: M10 x 1 (M10 x 0,75)

**Materials**

- Valve Body: Brass
- Handwheel: Aluminium
- Seat: Polyamid
- O-ring: EPDM
- Antifriction: DELRIN

**Options**

- Personalized logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Key operated handwheel
- Filter
- Thread for dip tube installation

---

The features described in this illustration do not bind the manufacturer.
**Key features**

- Residual pressure valve, o-ring seal type for various gases including CO₂ and Oxygen. The valve is conforming to EN 849 for a working pressure of 230 bar.

- No requirement for adaptors or special nipples for refilling.

- All valves are “π” marked according to 99/36 EC

- Filling connector available separately

---

**Technical Specifications**

- **Working pressure max:** 230 bar
- **Test pressure:** 276 bar
- **Temperature range:** -45°C ÷ +70°C
- **Guaranteed External Tightness leakage:** ≤ 6 cm³/h (0,11 Nml/min)
- **Guaranteed Internal Tightness leakage:** ≤ 6 cm³/h (0,11 Nml/min)
- **Residual pressure device:** 2,5 ÷ 4 bar (according to customer specifications)

---

**Materials**

- **Handwheel:** Aluminium
- **Valve Body:** Brass alloy according to EN12165
- **O-ring:** EPDM
- **Seat pad:** Polyamide
- **Bursting disc:** Nickel
- **Spring:** Stainless steel or copper beryllium
- **Seal:** Plastic
- **Bursting disc body:** Brass
- **Spindle:** Brass
- **Spring retainer:** Brass

---

**Options**

- Personalized handwheel logo cap
- Dip tube
- Bursting disc safety various settings
- Chrome plating
- Plastic Handwheel
- Filter
- Parallel thread
- Thread for dip tube installation