



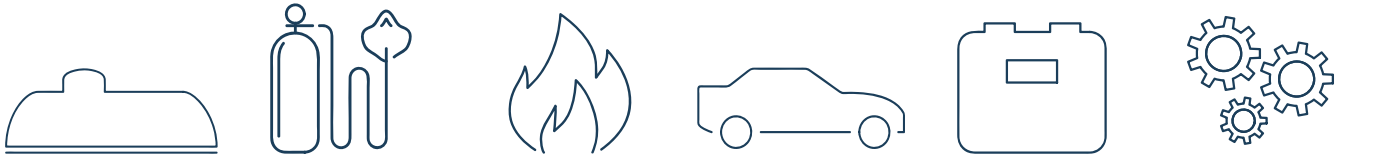
**CAVAGNA group**

Wherever gas is used, we are there

# Compressed Gas Equipment

2023 - 2024 EDITION 

# Solutions



LPG SOLUTIONS

COMPRESSED GASES SOLUTIONS

NATURAL GAS SOLUTIONS

ALTERNATIVE FUEL SYSTEMS

GAS METERING SOLUTIONS

INDUSTRIAL PROCESS MANAGEMENT



# Wherever gas is used, we are there

Since 1949 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.

It was founded in 1949 with headquarters in Northern Italy, close to Brescia, which is historically renowned for its metal processing industry.

Years of experience and devotion to highly automated and controlled production facilities enabled the group to move 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 Group consists of nine vertically integrated production companies in Italy and seven others spread across the five continents. The Cavagna Group now sells in more than 150 countries worldwide through a distribution network consisting of fifteen fully owned additional distribution companies. It boasts good business relations with major oil/gas companies, industrial gas companies, automotive OEMs, compressed and liquefied gas container manufacturers and gas appliance OEMs.

Our North American Distribution Center was opened in 1997, located in Somerset New Jersey provides our customers with immediate on time shipments from our extensive inventories. This 25,000 square foot facility includes a grey room light assembly area where the Group refurbishes and certifies its VIPROXY products for the medical market. The group's commitment to local inventory has allowed our sales to both our Canadian and U.S. clients to grow by providing 24 hour order processing.

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

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

Growth and service go hand in hand with Cavagna's commitment to total quality. It is this commitment that drove the group's achievement of ISO certification in the early 1990s. 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 corporate 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 and our engineering group are obtained because of Cavagna's corporate philosophy which bases its 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.

# QUALITY MANAGEMENT AND QUALITY ASSURANCE CONFORMING TO STANDARD ISO 9001

Omeca and Pergola are UNI EN ISO 9001 certified.

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

Through our efforts and research we guarantee that Cavagna Group will provide the highest standard of service to ensure success.

Today you can be assured that with Cavagna Group 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:

 BELGIUM	 USA	 USA	 CZECH REPUBLIC
 FRANCE	 GERMANY	 GERMANY	 POLAND
 POLAND	 ROMANIA	 USA	

Please be so kind to verify with us approvals for accessories (tubes, tubes Material components, 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 enquiries.

For orders please refer to:



50 Napoleon Court Somerset, NJ 08873  
732-469-2100 · Fax 732-469-3344  
info@cavagnana.com - cavagnana.com





## GUIDE Valve Numbering Sequence

Part Number	<b>C</b>	<b>B</b>	<b>A</b>	<b>1</b>	<b>540_</b>	<b>1</b>	<b>3360</b>	<b>B</b>
-------------	----------	----------	----------	----------	-------------	----------	-------------	----------

1	Type
<b>C</b>	Industrial
<b>P</b>	Pin Index

2	Type
<b>B</b>	Brass
<b>C</b>	Chrome Plated Brass
<b>D</b>	Chrome Plated Brass except inlet
<b>S</b>	Stainless Steel AISI 303
<b>T</b>	Stainless Steel AISI 316

3	Type
<b>A</b>	Standard
<b>B</b>	B Acetylene Valve
<b>C</b>	MC Acetylene Valve
<b>D</b>	Diaspec Diaphragm Valve
<b>E</b>	Pin Index Wrench Operated
<b>F</b>	Pin Index Toggle Operated
<b>G</b>	Standard Valve With Black Lexan handwheel
<b>H</b>	B Acetylene Valve with Handwheel
<b>I</b>	MC Acetylene Valve With Handwheel
<b>O</b>	90° Acetylene Valve
<b>V</b>	Residual Pressure Valve

4	Inlet Thread Size
<b>1</b>	3/4" NGT
<b>3</b>	.750-16UF2A
<b>5</b>	3/8" NGT
<b>6</b>	1" NGT
<b>7</b>	3/4" NGT 7 O.S.
<b>8</b>	1/2" NGT
<b>9</b>	1.125"-12UF2A
<b>G</b>	25E

8	Optional
<b>Blank</b>	Valve Not Bagged
<b>B</b>	Valve Bagged for Medical Oxygen Service
<b>M</b>	MR 3-T Conditional (Suitable for Use in MRI Applications)

7	Pressure Setting
<b>xxxx</b>	PRD Requirement, example: 3,000 - 3,360 - 3,775 - 4,000 Etc. PSI

6	Safety Type
<b>0</b>	Without Safety
<b>1</b>	Safety Disc
<b>3</b>	212° Fuse Metal
<b>5</b>	165° Fuse Metal With Safety Disc
<b>6</b>	212° Fuse Metal With Safety Disc

5	CGA Standard
<b>xxx</b>	= CGA Designation, example: 320 - 540 - 580 - 870
<b>xxxR</b>	= CGA-R, example: 320R - 540R - 580R



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# HIGH PRESSURE CYLINDER VALVES





# CBO SERIES

## Vertical Outlet Acetylene Valve with Handwheel For Collar Style Cylinders

### Technical 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 eliminates interference with cylinder collar
- Inlet screen prevents filler mass or felts from entering the valve
- Easy to read valve markings are roll stamped on the valve neck - not on the wrench flats
- Soft seat design provides positive shut off



Standard carton quantities: **25** each

### Material components

- Valve Body Forged Brass EN121645
- Handwheel Aluminum
- 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 V 9 Standard for Gas Cylinder Valves
- CGA S-1.1 Standard for Pressure Relief Devices
- CGA V-1 Outlet and Inlet Connections
- ISO 10297 International Standard
- ISO 14246 International Standard

### Technical data

Pressure	
Maximum Service Pressure	500 PSI
Test Pressure	885 PSI
Temperature - Storage	
	-60° F ÷ 149° F
Temperature - Operating	
	-50° F ÷ 149° F
Life Cycle	
	2,000 minimum
Torque Values for CBA Acetylene valves	
Max Operating torque @ 0 PSIG inlet pressure	8.8 inch/lbs
Max Operating torque @ 240 PSIG inlet pressure	8.8 inch/lbs
Max Operating torque @ 2,900 PSIG inlet pressure	17.7 inch/lbs
Max Overtorque	
	221 inch/lbs
Flow Coefficient (CV)	
	0.30
Orifice Ø:	
	0.137 inch

### Ordering information

Part Number	Type	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<b>CBO 1510 0</b>	P.O.L.	510	.885"-14 NGO LH Int.	3/4" NGT
<b>CBO 1300 0</b>	Commercial	300	.825"-14 NGO RH Ext.	3/4" NGT

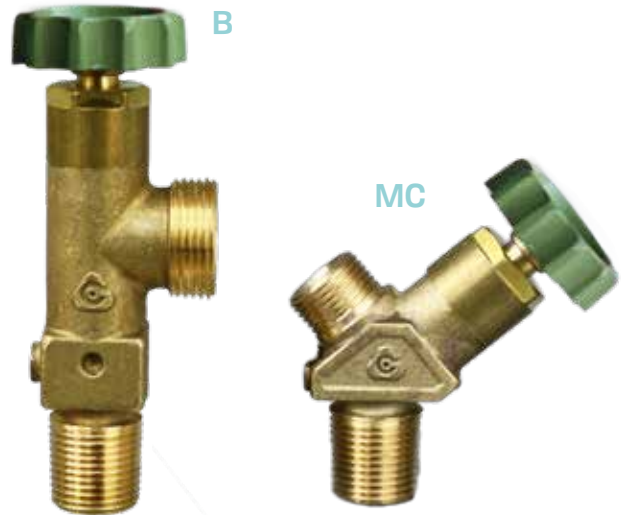




# CBH/CBI SERIES New Handwheel O-ring Seal B and MC Acetylene Cylinder Valves

## Technical 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 aluminum 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"



Standard carton quantities: B Acetylene Series: **40**  
MC Acetylene Series: **50**

## Material components

- Valve Body Forged Brass EN12165
- Handwheel 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 Valve Outlet and Inlet Connections
- CGAV9 Standard for Gas Cylinder valves

## Technical data

Pressure Proof Test	1,465 PSI min 885 PSI
Temperature - Storage	-60° F ÷ 149° F
Temperature - Operating	-50° F ÷ 149° F
Life Cycle	2,000 minimum

Torque Values for CBH/CBI Acetylene valves

Operating torque @ 500 PSIG	3 lbs/inch (CGA 520)
Max Overtorque	221 inch/lbs
Orifice Ø:	(520) .133 inch

## Ordering information

Part Number	Gas service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<b>CBH 5 520 3</b>	Acetylene	520	.895-18 NGO RH Ext.	3/8-18 NGT
<b>CBI 5 200 3</b>	Acetylene	200	.625-20 NGO RH Ext.	3/8-18 NGT

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## CBB/CBC SERIES Wrench Operated Acetylene Valves

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### Technical Features

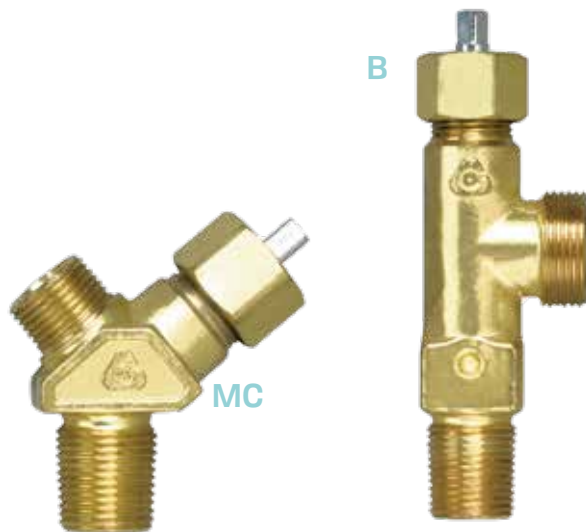
- Valve body made of rugged forged brass produced by Cavagna Group
- Fusible metal pressure relief device
- Large wrench flats for easy installation
- Teflon packing and anti extrusion rings prevent packing leakage
- Plated steel stem resists damage from wrenches and corrosion

### Material components

• 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 Valve Outlet and Inlet Connections



Standard carton quantities: B Acetylene Series: **40**  
MC Acetylene Series: **50**

### Technical data

Pressure Proof Test	1,465 PSI min 885 PSI
Temperature - Storage	-60° F ÷ 149° F
Temperature - Operating	-50° F ÷ 149° F
Life Cycle	2,000 minimum
Torque Values for CBB/CBC Acetylene valves: See Ordering information below	

### Ordering information

Part Number	Gas service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<b>CBB 5 520 3</b>	Acetylene	520	.895-18 NGO RH Ext.	3/8-18 NGT
<b>CBC 5 200 3</b>	Acetylene	200	.625-20 NGO RH Ext.	3/8-18 NGT

### Torque Values

Description	Torque
<b>Operating Torque @ 0 psig Inlet Pressure</b>	6 - 10 in lbs
<b>Closing Torque @ 500 psig Inlet Pressure</b>	6 - 10 in lbs
<b>Packing Nut Installation Torque</b>	80 - 100 in lbs
<b>Stem Installation Torque</b>	45 ± 5 in lbs



## CBA SERIES Commercial and POL Style Acetylene Cylinder Valves O-Ring seal type

### Technical Features

- O-Ring technology provides superior leak integrity
- O-ring seal type up to 300 bar working pressure
- Easy operation and long service life
- 100% leak test to 1.2 times working pressure
- All markings are located on the valve neck to protect them from damage
- Large orifice size 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)



Standard carton quantities: **25** each

### Material components

- |                     |                                |
|---------------------|--------------------------------|
| • Valve Body        | Forged Brass EN12165 alloy     |
| • Back up ring      | PTFE                           |
| • Handwheel         | Aluminum                       |
| • 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   | Valve Outlet and Inlet Connections   |
| • ISO 10297 | International Standard               |
| • ISO 14246 | International Standard               |

### Technical data

Pressure	
Maximum Service Pressure	500 PSI
Test Pressure	885 PSI
Temperature - Storage	-60° F + 149° F
Temperature - Operating	-50° F + 149° F
Life Cycle	2,000 minimum
Torque Values for CBA Acetylene valves	
Max Operating torque @ 0 PSIG inlet pressure	8.8 inch/lbs
Max Operating torque @ 240 PSIG inlet pressure	8.8 inch/lbs
Max Operating torque @ 2,900 PSIG inlet pressure	17.7 inch/lbs
Max Overtorque	221 inch/lbs
Flow Coefficient (CV)	0.35
Orifice Ø:	0.137 inch

### Ordering information

Part Number	Type	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<b>CBA 8 300 0</b>	Commercial	300	.825"-14 NGO RH Ext.	1/2" NGT
<b>CBA 1 300 0</b>	Commercial	300	.825"-14 NGO RH Ext.	3/4"-14 NGT
<b>CBA 6 300 0</b>	Commercial	300	.825"-14 NGO RH Ext.	1"-11 1/2 NGT
<b>CBA 1 410 0</b>	Canadian Style	410	.850"-14 NGO LH Int.	3/4"-14 NGT
<b>CBA 8 510 0</b>	P.O.L.	510	.850"-14 NGO LH Int.	1/2" NGT
<b>CBA 1 510 0</b>	P.O.L.	510	.885"-14 NGO LH Int.	3/4"-14 NGT
<b>CBA 6 510 0</b>	P.O.L.	510	.885"-14 NGO LH Int.	1"-11 1/2 NGT

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# CBA SERIES

## Brass High Pressure Cylinder Valve for Industrial Gases

### O-Ring seal type

#### Technical Features

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- 100% leak test to 1.2 times cylinder service pressure
- All markings are located on the valve neck to protect them from damage
- Large Orifice Ø: 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
- Available configurations include:
  - Inlet threads (NGT, UNF, DIN477, BS, EN, EN ISO)
  - All CGA outlets available
  - Available with inlet threaded for DT
  - Unitized "plug style" pressure relief device



Standard carton quantities: **25** each

#### Material components

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

#### Technical data

Pressure	
Maximum Service Pressure	4,000 PSI
Temperature - Storage	-60° F + 149° F
Temperature - Operating	-50° F + 149° F
Life Cycle	2,000 minimum
Torque Values for CBA Acetylene valves	
Max Operating torque @ 0 PSIG inlet pressure	
Max Operating torque @ 240 PSIG inlet pressure	8.8 inch/lbs
Max Operating torque @ 2900 PSIG inlet pressure	8.8 inch/lbs
	17.7 inch/lbs
Max Overtorque	221 inch/lbs
Flow Coefficient CV	0.47
Orifice Ø:	.160 inch

#### 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 Cylinder Valve Outlet and Inlet Connections
- ISO 10297 International Standard
- ISO 14246 International Standard



# CBA SERIES

## Brass High Pressure Cylinder Valve for Industrial Gases

### O-Ring seal type

Ordering Information

Part Number	Gas Service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
CBA 8 350 6 xxxx CBA 1 350 6 xxxx CBA 6 350 6 xxxx CBA 3 350 6 xxxx CBA 9 350 6 xxxx CBA 1 695 6 xxxx CBA 1 703 6 xxxx	Hydrogen 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO RH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 580 1 xxxx CBA 1 580 1 xxxx CBA 6 580 1 xxxx CBA 3 580 1 xxxx CBG 9 580 1 xxxx CBA 1 680 1 xxxx CBA 1 677 1 xxxx	Krypton 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 350 6 xxxx CBA 1 350 6 xxxx CBA 6 350 6 xxxx CBA 3 350 6 xxxx CBA 9 350 6 xxxx CBA 1 695 6 xxxx CBA 1 703 6 xxxx	Methane (R50) 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO RH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 350 6 xxxx CBA 1 350 6 xxxx CBA 6 350 6 xxxx CBA 3 350 6 xxxx CBA 9 350 6 xxxx CBA 1 695 6 xxxx CBA 1 703 6 xxxx	Hydrogen 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO RH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 580 1 xxxx CBA 1 580 1 xxxx CBA 6 580 1 xxxx CBA 3 580 1 xxxx CBA 9 580 1 xxxx CBA 1 680 1 xxxx CBA 1 677 1 xxxx	Neon 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 580 1 xxxx CBA 1 580 1 xxxx CBA 6 580 1 xxxx CBA 3 580 1 xxxx CBA 9 580 1 xxxx CBA 1 680 1 xxxx CBA 1 677 1 xxxx	Nitrogen 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 346 1 xxxx CBA 1 346 1 xxxx CBA 6 346 1 xxxx CBA 3 346 1 xxxx CBA 9 346 1 xxxx CBA 1 347 1 xxxx CBA 1 702 1 xxxx	Air (R729) 0 psi to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	346  347 702	.825" - 14 NGO RH Ext.  .825-14 NGO RH Ext. 1.125"-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 580 1 xxxx CBA 1 580 1 xxxx CBA 6 580 1 xxxx CBA 3 580 1 xxxx CBA 9 580 1 xxxx CBA 1 680 1 xxxx CBA 1 677 1 xxxx	Argon 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 555 1 xxxx CBA 1 555 1 xxxx CBA 6 555 1 xxxx CBA 3 555 1 xxxx CBA 9 555 1 xxxx	Butane/Propane Liquid Withdrawal	555	.903-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF
CBA 8 320 1 xxxx CBA 1 320 1 xxxx CBA 6 320 1 xxxx CBA 3 320 1 xxxx CBG 9 320 1 xxxx	Carbon Dioxide (R744)	320	.825-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF

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## CBA SERIES Brass High Pressure Cylinder Valves for Industrial Gases

### Ordering Information

Part Number	Gas Service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
CBA 8 350 6 xxxx CBA 1 350 6 xxxx CBA 6 350 6 xxxx CBA 3 350 6 xxxx CBA 9 350 6 xxxx CBA 1 695 6 xxxx CBA 1 703 6 xxxx	Carbon Monoxide 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO LH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 660 CBA 1 660 CBA 6 660 CBA 3 660 CBA 9 660	1,2 Dichloroethylene (R1130)	660	1.030-14 NGO RH Ext. (Face Washer Seal)	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF
CBA 8 580 1 xxxx CBA 1 580 1 xxxx CBA 6 580 1 xxxx CBA 3 580 1 xxxx CBG 9 580 1 xxxx CBA 1 680 1 xxxx CBA 1 677 1 xxxx	Helium 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 326 1 xxxx CBA 1 326 1 xxxx CBA 6 326 1 xxxx CBA 3 326 1 xxxx CBA 9 326 1 xxxx	Nitrous Oxide (R744a)	326	.825-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF
CBA 8 540 1 xxxx CBA 1 540 1 xxxx CBA 6 540 1 xxxx CBA 3 540 1 xxxx CBA 9 540 1 xxxx CBA 1 577 1 xxxx CBA 1 701 1 xxxx	Oxygen 0 to 3,000 psi  3,000 to 4,000 psi 4,000 to 5,500 psi	540  577 701	.903-14 NGO RH Ext.  .960-14 NGO RH Ext. 1.105-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CBA 8 660 1 xxxx CBA 1 660 1 xxxx CBA 6 660 1 xxxx CBA 3 660 1 xxxx CBA 9 660 1 xxxx	Sulfur Dioxide	660	1.030-14 NGO RH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF
CBA 8 580 1 xxxx CBA 1 580 1 xxxx CBA 6 580 1 xxxx CBA 3 580 1 xxxx CBA 9 580 1 xxxx CBA 1 680 1 xxxx CBA 1 677 1 xxxx	Xenon 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT

xxxx Denotes Pressure Relief Device burst disc rupture pressure.

Available with:

7 thread oversize inlets: To order change the first number "1" in the part number to "7"

example: CBA 1 320 1 xxxx becomes CBA 7 320 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 165° F and 212° F nominal melting temperatures:

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

example: CBA 1 350 1 xxxx becomes CBA 1 350 5 xxxx for 165° F or CBA 1 350 6 xxxx for 212° F





## Pressure Relief Device Selection Guide

### Pressure Relief Device

A Valve Assembly used for liquid gases, such as carbon dioxide and nitrous oxide, will not have fusible metal in the Pressure Relief Device as this is not allowed by the Compressed Gas Association (Publication S- 1.1). Refer to CGA S - 1.1 to select correct Pressure Relief Device type for the cylinder gas contents of the cylinder.

Note: A properly calibrated Torque Wrench MUST be used to tighten the Pressure Relief Device. Never EXCEED TORQUE OF 33 ft. lbs. Over tightening will damage the Pressure Relief Device Disc.



TABLE 2.0 PRESSURE RELIEF DEVICE SELECTION CHART FOR CBA/CBO/CDA CYLINDER VALVES SERIES

Cylinder Service Pressure			Disc Rupture Range Psig @ 165° F		Pressure Relief Device Cap Stamping	Pressure Relief Device Replacement Part Number		
D.O.T. Spec. 3A, 3AA, 3AL Cylinders In Psig	D.O.T. Spec. Exemption Cylinders In Psig	ISO/UN Cylinders	Minimum	Maximum		CG-1 Style Frangible Disc Only	CG-4 Style Frangible Disc & 165° F Fuse Metal	CG-5 Style Frangible Disc & 212° F Fuse Metal
1665			2500	2775	2775	CS1 2775	CS4 2775	CS5 2775
1800			2700	3000	3000	CS1 3000	CS4 3000	CS5 3000
2015			3025	3360	3360	CS1 3360	CS4 3360	CS5 3360
2265			3400	3775	3775	CS1 3775	CS4 3775	CS5 3775
2400			3600	4000	4000	CS1 4000	CS4 4000	CS5 4000
		200	3915	4350	4350	CS1 4350	CS4 4350	CS5 4350
2670			4005	4450	4450	CS1 4450	CS4 4450	CS5 4450
2900			4350	4833	4833	CS1 4833	CS4 4833	CS5 4833
2950			4425	4917	4917	CS1 4917	CS4 4917	CS5 4917
3000			4500	5000	5000	CS1 5000	CS4 5000	CS5 5000
	3600		4860	5400	5400	CS1 5600	CS4 5600	CS5 5600
3500/3600			5250	5833	5833	CS1 5833	CS4 5833	CS5 5833
4000			6000	6665	6665	CS1 6665	CS4 6665	CS5 6665
	4500		6075	6750	6750	CS1 6750	CS4 6750	CS5 6750
5000			7500	8333	8333	CS1 8333	CS4 8333	CS5 8333
	6000		8100	9000	9000	CS1 9000	CS4 9000	CS5 9000
6000			9000	10000	10000	CS1 10000	CS4 10000	CS5 10000
		230	4500	5000	5000	CS1 5000	CS4 5000	CS5 5000
		300	5875	6525	6525	CS1 6750	CS4 6750	CS5 6750
	5000		6750	7500	7500	CS1 7500	CS4 7500	CS5 7500

To order chrome plated device caps CG-1 style please order CS2 + (xxxx) (Setting pressure of the rupture disc).



## P 2009 SERIES Residual High Pressure Cylinder Valves for Industrial Gases

INDUSTRIAL GASES  
REGULATORS

REFRIGERANT  
GASES VALVES

MEDICAL  
VALVES

HIGH PURITY & SPECIALTY  
GASES VALVES

CYLINDER  
VALVES

### Technical Features

- Residual pressure valve, o-ring seal type for various gases including CO<sub>2</sub>
- Filling connector available separately, see section on page 18 for filling adapters.
- Inlet threaded for DT

### Material components

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



Standard carton quantities: **25** each

### Options

- Customized Handwheel logo cap
- Dip tube
- Bursting disc safety available in various settings
- Chrome plating
- Plastic Handwheel
- Filter
- Parallel thread

### 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	Valve Outlet and Inlet Connections
• ISO 10297	International Standard
• ISO 14246	International Standard
• ISO 15996	International Standard

### Technical data

Pressure	
Maximum Service Pressure	3,336 PSI
Test Pressure	4,000 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	2,000 minimum
Guaranteed External Tightness	0.788 scfm
Guaranteed Internal Tightness	0.788 scfm
Residual pressure device	35 to 58 PSI (according to customer's specifications)



## P 2009-R SERIES Residual High Pressure Cylinder Valves for Industrial Gases

### Technical Features

- Residual pressure valve, o-ring seal type for various gases including CO<sub>2</sub>.
- CGA R series valves are marked with an R designation.
- CGA R filling connector available separately, see section on page 18 for filling adapters.
- CGA R valves are universal and can be filled by using any manufactured R style adapter.
- Inlet threaded for DT

### Material components

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

### Options

- Customized Handwheel logo cap
- Dip tube
- Bursting disc safety available in various settings
- Chrome plating
- Plastic Handwheel
- Filter
- Parallel thread

### 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	Valve Outlet and Inlet Connections
• ISO 10297	International Standard
• ISO 14246	International Standard
• ISO 15996	International Standard

### Ordering Information

Part Number	Gas service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<b>CBV 1 320 1 xxxx R</b>	CO <sub>2</sub> 0 to 3,000 psi	320	.825-14 NGO RH Ext.	3/4" NGT
<b>CBV 1 540 1 xxxx R</b>	Oxygen 0 to 3,000 psi	540	.903-14 NGO RH Ext.	3/4" NGT
<b>CBV 1 580 1 xxxx R</b>	Inert 0 to 3,000 psi	580	.965-14 NGO RH Int.	3/4" NGT
<b>CBV 1 590 1 xxxx R</b>	Air (Non-Breathing) 0 to 3,000 psi	590	.965-14 NGO LH Int.	3/4" NGT
<b>CBV 1 555 1 xxxx R</b>	Liquid Butane/Propane 0 to 3,000 psi	555	.903-14 NGO LH Ext.	3/4" NGT
<b>CBV 1 680 1 xxxx R</b>	Inert 3,001 to 5,000 psi	680	1.045-14 NGO RH Int.	3/4" NGT
<b>CBV 1 350 1 xxxx R</b>	Hydrogen 0 to 3,000 psi	350	.825-14 NGO LH Ext.	3/4" NGT
<b>CBV 1 346 1 xxxx R</b>	Air 0 to 3,000 psi	346	.825-14 NGO RH Ext.	3/4" NGT
<b>CBV 1 347 1 xxxx R</b>	Air 3,001 to 5,000 psi	347	.825-14 NGO RH Ext.	3/4" NGT
<b>CBV 7 320 1 xxxx R</b>	CO <sub>2</sub> 0 to 3,000 psi	320	.825-14 NGO RH Ext.	3/4" NGT Oversize



Standard carton quantities: **25** each

### Technical data

Pressure	
Maximum Service	
Pressure	3,336 PSI
Test	4,000 PSI
Temperature Range	-40°F + +149°F
Life Cycle	2,000 minimum
Guaranteed External	
Tightness	0.788 scfm
Guaranteed Internal	
Tightness	0.788 scfm
Residual pressure	
device	35 to 58 PSI
	(according to customer's specifications)
Flow Coefficient (CV)	0.36

INDUSTRIAL GASES  
REGULATORS

REFRIGERANT  
GASES VALVES

MEDICAL  
VALVES

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GASES VALVES

CYLINDER  
VALVES



## FILLING ADAPTERS for Residual Pressure valves

### Technical Features

- The filling adapters are available in brass, in accordance with all Standard CGA and CGA R cylinder valve outlets
- Standard CGA adapters cannot be used to fill R series valves.
- CGA R adapters are universal and can be used to fill any manufactures Standard CGA R style valve
- CGA R adapters cannot be used to fill Standard CGA series valves
- The design with a special retractable pin is also available, to allow the adapters to be used with the standard valves series.

### Options

- Chrome plating



Fixed Pin



Hand wheel



Retractable Pin

### Filling adapters

CGA	Adapter Part Number	Description	Can Be Used With
<b>CGA280</b>	PBX02800	CGA280 x CGA280, Fixed Pin, Hand wheel	Cavagna CGA280 RPV Outlets
	PBX12800	CGA280 x 1/4"NPT, Fixed Pin, Hand wheel	Cavagna CGA280 RPV Outlets
<b>CGA296</b>	PBX12960	CGA296 x CGA296, Retractable Pin	Cavagna CGA296 RPV Outlets
<b>CGA320</b>	PBX03200	CGA320 x CGA320, Fixed Pin	Cavagna CGA320 RPV Outlets
	PBX53200	CGA320 x 1/4"NPT, Fixed Pin, Hand wheel	Cavagna CGA320 RPV Outlets
	PBX23200	CGA320 x CGA320, Retractable Pin	Any Cavagna CGA320 Outlets
<b>CGA320 R</b>	PBX63200	CGA320R x CGA320R, Fixed Pin	All CGA320R Outlets
	PBX73200	CGA320R x 1/4"NPT, Fixed Pin, Hand wheel	All CGA320R Outlets
<b>CGA 346</b>	PBX23460	CGA346 x CGA346, Fixed Pin	Cavagna CGA346 RPV Outlets
	PBX03460	CGA346 x CGA346, Retractable Pin	Any Cavagna CGA346 Outlets
<b>CGA350</b>	PBX03500	CGA350 x CGA350, Fixed Pin	Cavagna CGA350 RPV Outlets
	PBX23500	CGA350 x CGA350, Retractable Pin	Any Cavagna CGA280 Outlets
<b>CGA540</b>	PBX15400	CGA540 x CGA540, Fixed Pin	Cavagna CGA540 RPV Outlets
	PBX05400	CGA540 x CGA540, Retractable	Any Cavagna CGA540 Outlets
<b>CGA540R</b>	PBX105400	CGA540R x 1/4"NPT, Fixed Pin, Hand wheel	All CGA540R RPV Outlets
<b>CGA580</b>	PBX05800	CGA580 x CGA580, Fixed Pin	Any CGA580 RPV Outlets
	PBX25800	CGA580 x CGA580, Retractable Pin	Any CGA580 RPV Outlets
<b>CGA580R</b>			
<b>CGA590</b>	PBX05900	CGA590 x CGA590, Retractable Pin	Any Cavagna CGA590 Outlets



# IVIPR SERIES

## Valve with Integrated Pressure Regulator for Oxygen

### Technical Features

- Residual pressure valve with integrated Pressure Regulator
- Ergonomically designed with a compact, user friendly casing
- All of the user's primary functions are visible and accessible from one side without turning the cylinder
- Suitable for Oxygen
- Meets all the requirements of ISO 22435, EN-ISO 15996

### Material components

- |                                    |                                  |
|------------------------------------|----------------------------------|
| • Handwheel                        | Aluminum                         |
| • Valve Body                       | Brass alloy according to EN12165 |
| • O-ring                           | EPDM                             |
| • Main shut off seat pad           | PA66                             |
| • Spring                           | Stainless steel AISI 302         |
| • Sealing cap                      | Acetal resin                     |
| • Spring regulator                 | Cu Be, AISI                      |
| • Filter                           | Sintered Bronze                  |
| • Diaphragms pressure reducer seat | HYTREL 5526                      |
| • Toroidal ring                    | EPDM                             |

### Options

- Threaded connection and quick connection available according to EN 561

### Technical data

Pressure	
Service Pressure up to	4,350 PSI
Test Pressure	7,250 PSI
Outlet pressure	adjustable 0 to 145 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	2,000 minimum
Guaranteed External Tightness	0.788 scfm
Guaranteed Internal Tightness	0.788 scfm
Residual pressure range	35 to 58 PSI
	(according to customer's specifications)
Flow Coefficient (CV)	0.1

### Shroud Available

Part Number	Color
3079500125	Dark Grey





## IVIPR SERIES

### Valve with Integrated Pressure Regulator for Ar/CO2 Mix and Inert Gases Mix

#### Technical Features

- Residual pressure valve with integrated Pressure Regulator
- Ergonomically designed with a compact, user friendly casing
- All of the user's primary functions are visible and accessible from one side without turning the cylinder
- Suitable for Ar/CO2 mix and Inert Gases Mix
- Meets all the requirements of ISO 22435, EN-ISO 15996



#### Material components

- |                                    |                                  |
|------------------------------------|----------------------------------|
| • Handwheel                        | Aluminum                         |
| • Valve Body                       | Brass alloy according to EN12165 |
| • O-ring                           | EPDM                             |
| • Main shut off seat pad           | PA66                             |
| • Spring                           | Stainless steel AISI 302         |
| • Sealing cap                      | Acetal resin                     |
| • Spring regulator                 | Cu Be, AISI                      |
| • Filter                           | Sintered Bronze                  |
| • Diaphragms pressure reducer seat | HYTREL 5526                      |
| • Toroidal ring                    | EPDM                             |



#### Options

- Threaded connection and quick connection available according to EN 561

#### Technical data

Pressure	
Service Pressure up to	4,350 PSI
Test Pressure	7,250 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	2,000 minimum
Guaranteed External Tightness	0.788 scfm
Guaranteed Internal Tightness	0.788 scfm
Residual pressure range	35 to 58 PSI
	(according to customer's specifications)
Flow Coefficient (CV)	0.1



#### Shroud Available

Part Number	Color
3079500125	Dark Grey





# IVIPR SERIES

## Valve with Integrated Pressure Regulator for Acetylene

### Technical Features

- Valve with integrated Pressure Regulator
- Ergonomically designed with a compact, user friendly casing
- All of the user's primary functions are visible and accessible from one side without turning the cylinder
- Suitable for Acetylene
- Meets all the requirements of ISO 22435 (except acetylene decomposition test)

### Material components

- |                                    |                                  |
|------------------------------------|----------------------------------|
| • Handwheel                        | Aluminum                         |
| • Valve Body                       | Brass alloy according to EN12165 |
| • O-ring                           | EPDM                             |
| • Main shut off seat pad           | PEEK                             |
| • Spring                           | Stainless steel AISI 302         |
| • Sealing cap                      | Acetal resin                     |
| • Spring regulator                 | AISI                             |
| • Filter                           | Sintered Bronze                  |
| • Diaphragms pressure reducer seat | HYTREL 5526                      |
| • Toroidal Ring                    | EPDM                             |

### Options

- Threaded connection and quick connection available according to EN 561

### Technical data

Pressure	
Service Pressure up to	363 PSI
Test Pressure	435 PSI
Outlet Pressure	
Temperature Range	-40°F + +149°F
Life Cycle	2,000 minimum
Guaranteed External Tightness	0.788 scfm
Guaranteed Internal Tightness	0.788 scfm
Flow Coefficient (CV)	0.1

### Shroud Available

Part Number	Color
3079500141	Dark Grey



INDUSTRIAL GASES  
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GASES VALVES

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VALVES

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GASES VALVES

CYLINDER  
VALVES



## IVIPR SERIES Valve with Integrated Pressure Regulator Adapters & Shrouds

INDUSTRIAL GASES  
REGULATORS

REFRIGERANT  
GASES VALVES

MEDICAL  
VALVES

HIGH PURITY & SPECIALTY  
GASES VALVES

CYLINDER  
VALVES



<b>Code</b>	<b>PBX25800</b>
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Retractable Pin Hand wheel



<b>Code</b>	<b>PBX15400</b>
-------------	-----------------

Fixed "Monel" Pin



<b>Code</b>	<b>PBX25100</b>
-------------	-----------------

Fixed Pin Hand wheel



<b>Code</b>	<b>3079500125</b>
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High Pressure Cylinders with 3 1/8" Neck Ring



<b>Code</b>	<b>3079500141</b>
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Acetylene Cylinders with 3 1/2" Spud

### Filling Adapters

Valve Part Number	Description	Adapter Part Number	Description
<b>MRA3SAD017</b>	Acetylene I-VIPR	PBX25100	CGA510 x 1/4"NPT Fixed Pin, Hand wheel
<b>MRA1SOS001</b>	Oxygen I-VIPR	PBX15400	CGA540 x 1/4"NPT, Fixed Monel Pin, Hand wheel
<b>MRA2SMX001</b>	Inert Gases I-VIPR	PBX25800	VGA580 x CGA580, Fixed Pin

### Protective Shrouds

Valve Part Number	Description	Shroud Part Number	Description
<b>MRA1SOS001</b>	Ivipr series CGA 540 Oxygen	3079500125	Ivipr Shroud CGA 540 Dark Grey
<b>MRA2SMX001</b>	Ivipr series CGA 580 Inert Gases	3079500125	Ivipr Shroud CGA 580 Dark Grey
<b>MRA3SAD017</b>	Ivipr series CGA 510 Acetylene	3079500141	Ivipr Shroud CGA 510 Dark Grey



## NOS SERIES

### Chrome Plated Brass High Pressure Cylinder Valves for Nitrous Oxide - O-Ring seal type

#### Technical Features

- O-Ring technology provides superior leak integrity
- Easy operation under high pressure
- 100% leak test to 1.2 times cylinder service pressure
- Available bursting discs for all DOT cylinders
- Different inlet threads available upon request

#### Material components CCS300013000

• Valve Body	Brass according to EN12164 alloy
• Bursting disc	Nickel alloy
• Bursting disc body	Brass
• Back up Ring	PTFE
• Bonnet	Brass
• Handwheel	Plastic
• Seat	Polyamide
• O-rings	EPDM
• Stem	Brass according to EN 12164 alloy



**CCS300013000**

Standard carton quantities: 72 each



**VOA9APA001**

Standard carton quantities:  
72 each

#### Material components VOA9APA001

• 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	Polyamide
• Bonnet	Brass
• Handwheel	Aluminum
• Seat	Polyamide
• O-rings	EPDM
• Antifricition	Polyamide
• Stem	Brass according to EN 12164 alloy

#### Technical data

Part Number	VOA9APA001	CCS300013000
Pressure Maximum Service		
Pressure Test	3,000 PSI 3,597 PSI	1,800 PSI 2,161 PSI
Temperature - Storage	-60° F ÷ 149° F	-60° F ÷ 149° F
Temperature - Operating	-50° F ÷ 149° F	-50° F ÷ 149° F
Life Cycle	2,000 minimum	
Max Overtorque	221 inch/lbs	79 inch/lbs
Orifice Ø:	.315"	.260"

#### 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 Valve Outlet and Inlet Connections

#### Ordering Information

Part Number	Gas Service	Outlet Thread Size	Inlet Thread Size
<b>CCS300013000</b>	Nitrous Oxide	1/4-27 NPT	.625-18 UNF 2A
			.750-16 UNF 2A
<b>VOA9APA001</b>	Nitrous Oxide	CGA 660	1.125-12 UNF 2A



**HIGH PURITY  
& SPECIALTY  
GASES VALVES**



## VGD SERIES Low Pressure Packed Seal Valves

### Overview and Applications

- Corrosive gases: Ammonia (NH<sub>3</sub>), Ethylene oxide (C<sub>2</sub>H<sub>4</sub>O), Sulfur dioxide (SO<sub>2</sub>)
- Low pressure (478 psig / 33 bars)

### Technical Features

- Body materials compatible with corrosive gases: carbon steel or 304L stainless steel
- Stainless steel spindle
- Double lock nut in the bonnet system

### Options

- Anti-filling system
- Dip tube inlet thread
- Stainless steel outlet cap with chain
- Nickel plating
- Dip tube various lengths
- Nickel plated nut

### Material components

- Body Material: 304L Stainless steel or Carbon steel
- Seat: Kel-F (ring pad)
- Packing: Nickel plated carbon steel nut with stainless steel sleeve
- Piston: 303 stainless steel
- Gasket: PTFE

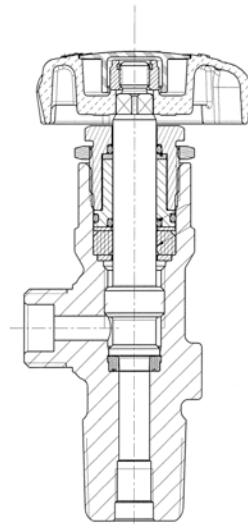
### Technical Specifications

- Working pressure: 33 bars (478 psig)
- Temperature range: -20 °C to +65 °C
- Orifice: Ø 8.2 mm
- Cv: 1.3

### Ordering information

Series	Body Material	Orifice Ø	Type of Gas
VGD4	Carbon Steel - Stainless Steel	8.2 mm	NH <sub>3</sub> - C <sub>2</sub> H <sub>4</sub> O - SO <sub>2</sub>

Progressive number to identify customer personalization  
Example: VGD4IAM006



INDUSTRIAL GASES  
REGULATORS

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GASES VALVES

MEDICAL  
VALVES

HIGH PURITY & SPECIALTY  
GASES VALVES

CYLINDER  
VALVES



## VGS SERIES High Pressure Packed Seal Valves

### Overview and Applications

- Pure and corrosive gases
- Stainless steel body with soft seat

### Technical Features

- Body materials compatible with corrosive gases: 304L stainless steel
- Stainless steel spindles with metal to metal tightness

### Options

- Dip tube inlet thread
- Stainless steel outlet cap with chain
- Dip tube various lengths

### Material components

- Body material: 304L stainless steel
- Seat: Kel-F (tablet pad) or PTFE+15% graphite
- Packing: 303 stainless steel
- Piston: 303 stainless steel
- Gasket: PTFE

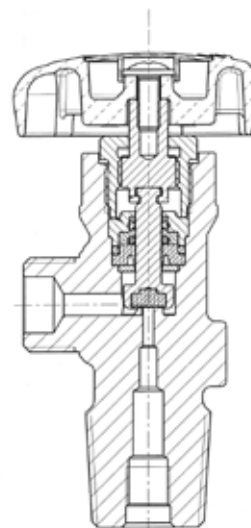
### Technical Specifications

- Working pressure: 200 or 230 bars (2,900 or 3,335 psig)
- Temperature range: -40 °C to +65 °C
- Orifice: Ø 2.5 mm
- Cv: 0.19

### Ordering information

Series	Body Material	Orifice Ø	Type of Gas	Seat
VGS1	Carbon Steel - Stainless Steel	2.5 mm	SO <sub>2</sub> - HCl - H <sub>2</sub> S - Mix corrosive gas	Kel-F
VGS2		2.5 mm	NO - NO <sub>2</sub> - Mix corrosive gas	Kel-F
VGS4		2.5 mm	N <sub>2</sub> - H <sub>2</sub> - Ar - He - Air - CO - Mix OP <21% - Mix corrosive gas	PTFE+15% graphite

Progressive number to identify customer personalization  
Example: VGS2IMX501







# VDA3-VDA4 Brass High Pressure Diaphragm Valves

## Overview and Applications

- Pure gases
- Brass body diaphragm seal

## Technical Features

- Low operating torque due to Teflon coating upper stem
- Diaphragm seal for higher sealing integrity
- Non-rotating spindle
- High flow capacity for fast filling and vacuum

## Options

- Dip tube inlet thread
- Various bursting disc settings available
- Cleaned for high purity applications
- Prepared for flow restrictor attachment (DISS)
- Gas tight outlet cap and chain

## Material components

- Body material: Brass
- Diaphragm: Stainless steel, Hastelloy
- Spindle: Brass
- Seat disc: Kel-F (VDA3) or PA 66 (VDA4)
- Bursting disc: Nickel, AISI 316L

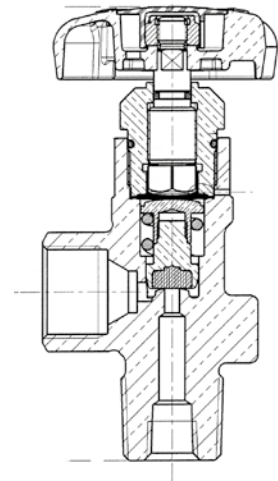
## Technical Specifications

- Working pressure: 230 bars (3,335 psig)
- Temperature range: -40 °C to +65 °C
- Orifice: Ø 4 mm
- Cv: 0.38
- Helium leak rate: 10E-7 atm cc/s

## Ordering information

Series	Body Material	Orifice Ø	Type of Gas	Seat
VDA3	Brass	4 mm	Pure gases	Kel-F
VDA4				PA 66

Progressive number to identify customer personalization  
Example: VDA4NOS011



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# VDA5

## Stainless Steel High Pressure Diaphragm Valves

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### Overview and Applications

- Inerts, toxic and corrosive gases
- 316L Stainless steel body diaphragm seal

### Technical Features

- Low operating torque due to Teflon coating upper stem
- Diaphragm seal for higher sealing integrity
- Non-rotating spindle
- High flow capacity for fast filling and vacuum

### Options

- Dip tube inlet thread
- Various bursting disc settings available
- Cleaned for high purity applications
- Prepared for flow restrictor attachment (DISS)
- Gas tight outlet cap and chain

### Material components

- Body material: AISI 316L (VDA5)
- Diaphragm: Stainless steel, Hastelloy
- Spindle: stainless steel
- Seat disc: Kel-F
- Bursting disc: Nickel, AISI 316L

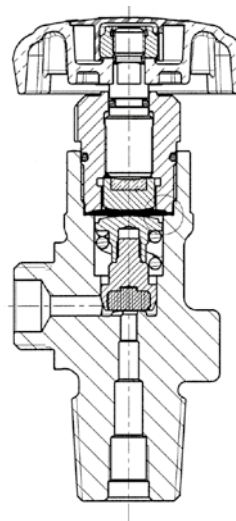
### Technical Specifications

- Working pressure: 200 bars (2,900 psig)
- Temperature range: -40 °C to +65 °C
- Orifice: Ø 4 mm
- Cv: 0.38
- Helium leak rate: 10E-7 atm cc/s

### Ordering information

Series	Body Material	Orifice Ø	Type of Gas	Seat
VDA5	316L	4 mm	Inerts, corrosive, and toxic gases	Kel-F

Progressive number to identify customer personalization  
Example: VDA5NMX026





# DIASPEC SERIES

## High Pressure Diaphragm Seal Valve for High Purity Gases

### Ordering Information

Part Number	CGA Outlet	Outlet Thread Size	Inlet Thread Size
VDA3NAC001	CGA 320	.825-14 NGO-RH	3/4" - 14 NGT
VDA3NAC002	CGA 320	.825-14 NGO-RH	1.125-12 UNF 2A
VDA3NEZ001	CGA 590	.965-14NGO-LH	3/4" - 14 NGT
VDA3NEZ010	CGA 590	.965-14NGO-LH	3/4" - 14 NGT
VDA3NEZ012	CGA 590	.965-14NGO-LH	3/4" - 14 NGT
VDA3NIG001	CGA 580	.965-14NGO-RH	3/4" - 14 NGT
VDA3NIG002	CGA 580	.965-14NGO-RH	3/4" - 14 NGT
VDA3NIG003	CGA 590	.965-14NGO-LH	1.125-12 UNF 2A
VDA3NIG005	CGA 580	.965-14NGO-RH	3/4" - 14 NGT
VDA3NIG006	CGA 580	.965-14NGO-RH	3/4" - 14 NGT
VDA3NIG011	CGA 580	.965-14NGO-RH	1.125-12 UNF 2A
VDA3NMX015	CGA 296	.803-14 UNS 2B RH	3/4" - 14 NGT
VDA3NMX016	CGA 350	.825-14 NGO-LH	3/4" - 14 NGT
VDA3NMX017	CGA 350	.825-14 NGO-LH	3/4" - 14 NGT
VDA3NMX018	CGA 350	.825-14 NGO-LH	3/4" - 14 NGT
VDA3NMX020	CGA 296	.803-14 UNS 2B RH	1.125-12 UNF 2A
VDA3NMX021	CGA 350	.825-14 NGO-LH	1.125-12 UNF 2A
VDA3NMX022	CGA 296	.803-14 UNS 2B RH	3/4" - 14 NGT
VDA3NMX023	CGA 330	.825-14 NGO-LH	3/4" - 14 NGT
VDA4NMX004	DIN 477 N*1	W21.8x1/14" -LH	3/4" - 14 NGT
VDA4NOS011	CGA 540	.903-14 NGO-RH	3/4" - 14 NGT
VDA4NOS012	CGA 540	.903-14 NGO-RH	3/4" - 14 NGT
VDA4NOS013	CGA 540	.903-14 NGO-RH	3/4" - 14 NGT
VDA4NVG001	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NAC001	*CGA 320 ABNT 209-1"	.825-14 NGO-RH	3/4" - 14 NGT
VDA5NAC002	*CGA 320 ABNT 209-1"	.825-14 NGO-RH	1.125-12 UNF 2A
VDA5NAC003	*CGA 320 ABNT 209-1"	.825-14 NGO-RH	3/4" - 14 NGT
VDA5NID003	ABNT 218-2	W21.8x1/14" -LH	3/4" - 14 NGT
VDA5NOS002	CGA 540	.903-14 NGO-RH	3/4" - 14 NGT
VDA5NVG001	CGA 330	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG002	CGA 330	.825-14NGO-LH	1.125-12 UNF 2A
VDA5NVG003	CGA 660	1.030-14 NGO-RH	1.125-12 UNF 2A
VDA5NVG004	CGA 330	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG005	CGA 350	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG006	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG007	CGA 660	1.030-14 NGO-RH	1.125-12 UNF 2A
VDA5NVG008	CGA 330	.825-14NGO-LH	1.125-12 UNF 2A
VDA5NVG009	CGA 330	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG010	CGA 330	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG011	CGA 350	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG012	CGA 632	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG013	CGA 634	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG014	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG015	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG016	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG017	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG017	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT
VDA5NVG018	CGA 716	1.125-14NGO-RH	3/4" - 14 NGT
VDA5NVG019	CGA 716	1.125-14NGO-RH	3/4" - 14 NGT
VDA5NVG020	CGA 728	1.125-14NGO-RH	3/4" - 14 NGT
VDA5NVG021	CGA 330	.825-14NGO-LH	1.125-12 UNF 2A
VDA5NVG022	CGA 660	1.030-14 NGO-RH	1.125-12 UNF 2A
VDA5NVG023	CGA 330	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG025	CGA 330	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG026	CGA 330	.825-14NGO-LH	1.125-12 UNF 2A
VDA5NVG027	CGA 350	.825-14NGO-LH	3/4" - 14 NGT
VDA5NVG028	CGA 350	.825-14NGO-LH	1.125-12 UNF 2A
VDA5NVG029	CGA 660	1.030-14 NGO-RH	1.125-12 UNF 2A
VDA5NVG031	CGA 660	1.030-14 NGO-RH	1.125-12 UNF 2A
VDA5NVG040	CGA 580	.965-14 NGO-RH	3/4" - 14 NGT
VDA5NVG043	CGA 705	1.125-14-UNS-2A-RH	3/4" - 14 NGT
VDA5NVG044	CGA 660	1.030-14 NGO-RH	1.125-12 UNF 2A
VDA5VVG030	CGA 660	1.030-14 NGO-RH	3/4" - 14 NGT

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# MEDICAL VALVES



## CDA SERIES

### Chrome Plated Brass High Pressure Cylinder Valves for Medical Gases - O-Ring seal type

#### Technical 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 Orifice Ø: 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
- Available configurations include:
- Inlet threads (NGT, UNF, DIN477, BS, EN, EN ISO)
- All CGA outlets available
- Unitized "plug style" bursting disc

#### Material components

- 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 Aluminum
- Seat Polyamide
- O-rings EPDM
- Antifriction Delrin
- Stem Brass according to EN 12164 alloy

#### Technical data

Pressure	
Maximum Service Pressure	3,336 PSI
Test	4,000 PSI
Temperature - Storage	-60° F + 149° F
Temperature - Operating	-50° F + 149° F
Life Cycle	2,000 minimum
Max Overtorque	221 inch/lbs
Flow Coefficient CV	0.47
Orifice Ø:	4 mm .160"

#### 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 Valve Outlet and Inlet Connections
- ISO 10297 International Standard
- ISO 14246 International Standard



Standard carton quantities: **25** each

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## CDA SERIES

### Chrome Plated Brass High Pressure Cylinder Valves

#### Ordering Information

Part Number	Gas Service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
CDA 8 350 6 xxxx CDA 1 350 6 xxxx CDA 6 350 6 xxxx CDA 3 350 6 xxxx CDA 9 350 6 xxxx CDA 1 695 6 xxxx CDA 1 703 6 xxxx	Hydrogen 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO RH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 580 1 xxxx CDA 1 580 1 xxxx CDA 6 580 1 xxxx CDA 3 580 1 xxxx CDG 9 580 1 xxxx CDA 1 680 1 xxxx CDA 1 677 1 xxxx	Krypton 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 350 6 xxxx CDA 1 350 6 xxxx CDA 6 350 6 xxxx CDA 3 350 6 xxxx CDA 9 350 6 xxxx CDA 1 695 6 xxxx CDA 1 703 6 xxxx	Methane (R50) 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO RH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 350 6 xxxx CDA 1 350 6 xxxx CDA 6 350 6 xxxx CDA 3 350 6 xxxx CDA 9 350 6 xxxx CDA 1 695 6 xxxx CDA 1 703 6 xxxx	Hydrogen 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO RH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 580 1 xxxx CDA 1 580 1 xxxx CDA 6 580 1 xxxx CDA 3 580 1 xxxx CDA 9 580 1 xxxx CDA 1 680 1 xxxx CDA 1 677 1 xxxx	Neon 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 580 1 xxxx CDA 1 580 1 xxxx CDA 6 580 1 xxxx CDA 3 580 1 xxxx CDA 9 580 1 xxxx CDA 1 680 1 xxxx CDA 1 677 1 xxxx	Nitrogen 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 346 1 xxxx CDA 1 346 1 xxxx CDA 6 346 1 xxxx CDA 3 346 1 xxxx CDA 9 346 1 xxxx CDA 1 347 1 xxxx CDA 1 702 1 xxxx	Air (R729) 0 psi to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	346  347 702	.825"- 14 NGO RH Ext.  .825-14 NGO RH Ext. 1.125"-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 580 1 xxxx CDA 1 580 1 xxxx CDA 6 580 1 xxxx CDA 3 580 1 xxxx CDA 9 580 1 xxxx CDA 1 680 1 xxxx CDA 1 677 1 xxxx	Argon 0 to 3,000 psi  3,000 to 5,500 psi .501 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 555 1 xxxx CDA 1 555 1 xxxx CDA 6 555 1 xxxx CDA 3 555 1 xxxx CDA 9 555 1 xxxx	Butane/Propane Liquid Withdrawal	555	.903-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF
CDA 8 320 1 xxxx CDA 1 320 1 xxxx CDA 6 320 1 xxxx CDA 3 320 1 xxxx CDG 9 320 1 xxxx	Carbon Dioxide (R744)	320	.825-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11 1/2 NGT .750"-16 UNF 1.125"-12 UNF

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## CDA SERIES O-ring Industrial Gas Cylinder Valve

### Ordering Information

Part Number	Gas Service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
CDA 8 350 6 xxxx CDA 1 350 6 xxxx CDA 6 350 6 xxxx CDA 3 350 6 xxxx CDA 9 350 6 xxxx CDA 1 695 6 xxxx CDA 1 703 6 xxxx	Carbon Monoxide 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	350  695 703	.825-14 NGO LH Ext.  1.045-14 NGO LH Int. 1.125-14 NGO LH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 660 CDA 1 660 CDA 6 660 CDA 3 660 CDA 9 660	1,2 Dichloroethylene (R1130)	660	1.030-14 NGO RH Ext. (Face Washer Seal)	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF
CDA 8 580 1 xxxx CDA 1 580 1 xxxx CDA 6 580 1 xxxx CDA 3 580 1 xxxx CDG 9 580 1 xxxx CDA 1 680 1 xxxx CDA 1 677 1 xxxx	Helium 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 326 1 xxxx CDA 1 326 1 xxxx CDA 6 326 1 xxxx CDA 3 326 1 xxxx CDA 9 326 1 xxxx	Nitrous Oxide (R744a)	326	.825-14 NGO RH Ext.	1/2"-14 NGT" 3/4"-14 NGT" 1-11/2 NGT .750"-16 UNF" 1.125"-12 UNF"
CDA 8 540 1 xxxx CDA 1 540 1 xxxx CDA 6 540 1 xxxx CDA 3 540 1 xxxx CDA 9 540 1 xxxx CDA 1 577 1 xxxx CDA 1 701 1 xxxx	Oxygen 0 to 3,000 psi  3,000 to 4,000 psi 4,000 to 5,500 psi	540  577 701	.903-14 NGO RH Ext.  .960-14 NGO RH Ext. 1.103-14 NGO RH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT
CDA 8 660 1 xxxx CDA 1 660 1 xxxx CDA 6 660 1 xxxx CDA 3 660 1 xxxx CDA 9 660 1 xxxx	Sulfur Dioxide	660	1.030-14 NGO RH Int.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF
CDA 8 580 1 xxxx CDA 1 580 1 xxxx CDA 6 580 1 xxxx CDA 3 580 1 xxxx CDA 9 580 1 xxxx CDA 1 680 1 xxxx CDA 1 677 1 xxxx	Xenon 0 to 3,000 psi  3,000 to 5,500 psi 5,500 to 7,500 psi	580  680 677	.965-14 NGO RH Int.  1.045-14 NGO RH Int. 1.030-14 NGO LH Ext.	1/2"-14 NGT 3/4"-14 NGT 1-11/2 NGT .750"-16 UNF 1.125"-12 UNF 3/4"-14 NGT 3/4"-14 NGT

xxxx Denotes Pressure Relief Device burst disc rupture pressure.

Available with:

"7 thread oversize inlets: To order change the first number "1" in the part number to "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 165 °F and 212 °F nominal melting temperatures:

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

example: CBA 1 350 1 xxxx becomes CBA 1 350 5 xxxx for 165 °F or CBA 1 350 6 xxxx for 212 °F



# P2009 SERIES

## Residual Pressure Valve for Medical gases

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VALVES

### Technical Features

- Residual pressure valve, o-ring seal type for various gases including Oxygen.
- Filling connector available separately see section on page 18 for filling adapters.
- Inlet threaded for DT

### Material components

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

### Options

- Customized Handwheel logo cap
- Dip tube
- Bursting disc safety available in various settings
- Chrome plating
- Plastic Handwheel
- Filter
- Parallel thread

### Technical data

Pressure	
Maximum Service Pressure	3,336 PSI
Test	4,000 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	2,000 minimum
Guaranteed External Tightness	0.788 scfm
Guaranteed Internal Tightness	0.788 scfm
Residual pressure device	35 to 58 PSI
	(according to customer's specifications)

### 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 Valve Outlet and Inlet Connections
- ISO 10297 International Standard
- ISO 14246 International Standard
- ISO 15996 International Standard



Standard carton quantities: **25** each



## P2009-R SERIES Residual Pressure Valve for Medical gases

### Technical Features

- Residual pressure valve, o-ring seal type for various gases including Oxygen.
- CGA R series valves are marked with an R designation.
- CGA R filling connector available separately see section on page 18 for filling adapters.
- CGA R valves are universal and can be filled by using any manufactured R style adapter.
- Inlet threaded for DT

### Material components

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

### Options

- Customized Handwheel logo cap
- Dip tube
- Bursting disc safety available in various settings
- Chrome plating
- Plastic Handwheel
- Filter
- Parallel thread

### Conforms to all requirements of:

- |             |                                      |
|-------------|--------------------------------------|
| · CGA V 9   | Standard for Gas Cylinder Valves     |
| · CGA S-11  | Standard for Pressure Relief Devices |
| · CGA V-1   | Valve Outlet and Inlet Connections   |
| · ISO 10297 | International Standard               |
| · ISO 14246 | International Standard               |



Standard carton quantities: **25** each

### Technical data

Pressure	
Maximum Service Pressure	3,336 PSI
Test	4,000 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	2,000 minimum
Guaranteed External Tightness	0.788 scfm
Guaranteed Internal Tightness	0.788 scfm
Residual pressure device	35 to 58 PSI (according to customer's specifications)
Flow Coefficient (CV)	0.36



# PDE SERIES

## Post Medical Cylinder Valves Pin Index System

### O-Ring seal type

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### Technical 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 and easy installation
- Oxygen cleaned to meet CGA G4.1 specifications
- Clean room assembly

### Material Components

• Valve Body	Chrome plated Brass
• Bursting disc	Nickel alloy 201
• Handwheel	Aluminum
• Seat	Polyamide
• O-Rings	EPDM
• Anti Friction Ring	PEEK
• Stem	Chrome plated Brass
• Inlet O-ring	PTFE
• Back up ring	Nylon
• Toggle	Chrome Plated Brass

### Technical data

Pressure	
Maximum Service Pressure	3,336 PSI
Test	4,000 PSI
Temperature range - Storage	-60° F ÷ 149° F
Temperature range - Operating	-50° F ÷ 149° F
Life Cycle	2,000 minimum

### Torque Values for PDE series valve

Wrench operated <b>A</b>	
Operating torque @ 0 PSIG inlet pressure	3 lbs/inch
Closing torque @ 3000 PSIG inlet pressure	8 - 12 lbs/inc
Toggle <b>B</b>	
Operating torque @ 0 PSIG inlet pressure	2 lbs/inch
Closing torque @ 2000 PSIG inlet pressure	8 - 10 lbs/inch



Standard carton quantities: **50** each

### Conforms to all requirements of:

- CGA V 9
- CGA S-1.1
- CGA V-1
- ISO 10297
- ISO 14246

Standard for Gas Cylinder Valves  
Standard for Pressure Relief Devices  
Valve Outlet and Inlet Connections  
International Standard  
International Standard



## PDE SERIES Post Medical Cylinder Valves Pin Index System O-Ring seal type

### Ordering Information

Part Number	Gas Service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
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 3 960 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 PDU 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)



# PDE M SERIES

## Post Medical Cylinder Valves Pin Index System

### O-Ring seal type - MRI Conditional

INDUSTRIAL GASES  
REGULATORS

REFRIGERANT  
GASES VALVES

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VALVES

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CYLINDER  
VALVES

### Technical Features

- O-Ring technology provides superior leak integrity
- Meets MRI-conditional Level 3 Tesla requirements
- 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 and easy installation
- Oxygen cleaned to meet CGA G4.1 specifications
- Clean room assembly

### Material Components

• Valve Body	Chrome plated Brass
• Bursting disc	Nickel alloy 201
• Handwheel	Aluminum
• Seat	Polyamide
• O-Rings	EPDM
• Anti Friction Ring	PEEK
• Stem	Chrome plated Brass
• Inlet O-ring	PTFE
• Back up ring	Nylon
• Toggle	Chrome Plated Brass

### Technical data

Pressure	
Maximum Service Pressure	3,336 PSI
Test	4,000 PSI
Temperature range - Storage	-60° F ÷ 149° F
Temperature range - Operating	-50° F ÷ 149° F
Life Cycle	2,000 minimum

### Torque Values for PDE series valve

Wrench operated <b>A</b>	
Operating torque @ 0 PSIG inlet pressure	3 inch/lbs
Closing torque @ 3000 PSIG inlet pressure	8 - 12 inch/lbs
Toggle <b>B</b>	
Operating torque @ 0 PSIG inlet pressure	2 inch/lbs
Closing torque @ 2000 PSIG inlet pressure	8 - 10 inch/lbs

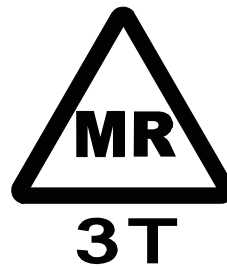


**A**



**B**

Standard carton quantities: **50** each



### Conforms to all requirements of:

- CGA V 9
- CGA S-1.1
- CGA V-1
- ISO 10297
- ISO 14246

Standard for Gas Cylinder Valves  
Standard for Pressure Relief Devices  
Valve Outlet and Inlet Connections  
International Standard  
International Standard





PDE M SERIES  
**Post Medical Cylinder Valves Pin Index System**  
**O-Ring seal type - MRI Conditional**

Ordering Information

Part Number	Gas Service	CGA Outlet	Outlet Thread Size	Inlet Thread Size
PDE 3 950 5 3360 M	Air	950	Pins #1 and #5	.750-16 UNF-2A
PDE 3 930 5 3360 M	Helium	930	Pins #4 and #6	.750-16 UNF-2A
PDE 3 870 5 3360 M	Oxygen	870	Pins #2 and #5	.750-16 UNF-2A
PDE 3 910 5 3360 M	Nitrous Oxide	910	Pins #3 and #5	.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:

Aluminum Toggle- example: PDE 3 870 5 3360 changes to PDF 3 870 5 3360





# VIPROXY 1 TOUCH SERIES

## Valve with Integrated Pressure Regulator for medical Oxygen



**Part Number** MVA2UOS010

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VALVES

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CYLINDER  
VALVES

### Technical Features

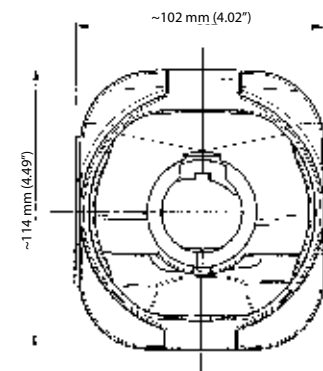
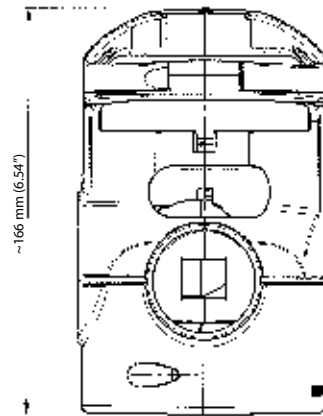
- 1 Touch incorporates a low torque non rotating spindle shut off valve with an integrated ten position flow selector device
- Valve with integrated pressure regulator for Medical Oxygen, MRI conditional certified up to 3 Tesla
- Non-return valve with sinterized bronze filter integrated in the filling port
- Piston regulator
- Sinterized bronze smart filter in the cylinder connection
- Tested and approved in accordance with the International Standards EN ISO 10524-3, CGA E-18
- Residual pressure device incorporated
- Active gauge with fluorescent screen

### Material Components

- Body in forged brass
- Valve Main Sealing in Nylon
- Regulator Sealing in Nylon
- Elastomer in EPDM
- The valve does not contain any ferrous material or steel

### Technical data

Pressure	
Maximum Service Pressure	3,360 PSI
Outlet Pressure	50 PSI
Residual Pressure Range	43 - 72 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	4,000 minimum
Flow Rate	2,400 NI/m
Hose-barb Ø	1/4"
Flow Rates	0.5, 1, 1.5, 2, 3, 4, 6, 8, 10, 15, 25 l/m



### Ordering Information

Part Number	Inlet	Fill Connection	Bursting Disc	Cylinder Type
MVA2UOS010	.750 UNF	CGA 540	3360 PSI	ME
3079500050	Protective Shroud for MVA2UOS010			



# AIRVIPR SERIES

## Valve with Integrated Pressure Regulator for Air



### Technical Features

- AirVIPR incorporates a low torque non rotating spindle shut off valve with an integrated ten position flow selector device
- Valve with integrated pressure regulator for Air, MRI compatible certified up to 3 Tesla
- Non-return valve with sinterized bronze filter integrated in the filling port
- Piston regulator
- Sinterized bronze smart filter in the cylinder connection
- Tested and approved in accordance with the International Standards EN ISO 10524-3, CGA E-18
- Residual pressure device incorporated
- Active gauge with fluorescent screen

### Material Components

- Body in forged brass
- Valve Main Sealing in Nylon
- Regulator Sealing in Nylon
- Elastomer in EPDM
- The valve does not contain any ferrous material or steel

### Technical data

Pressure	
Maximum Service Pressure	3,360 PSI
Outlet Pressure	50 PSI
Residual Positive Pressure	43 - 72 PSI
Temperature Range	-40°F ÷ +149°F
Life Cycle	4,000 minimum
Flow Rate	2,400 NI/m
Hose-barb Ø	1/4"
Flow Rates	1, 2, 3, 4, 6, 8, 10, 12, 15, 20, 25 l/m

### Ordering Information

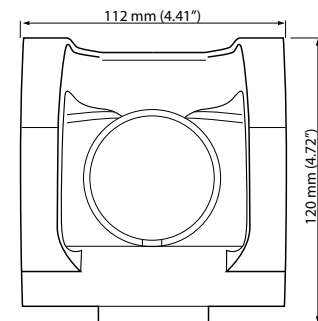
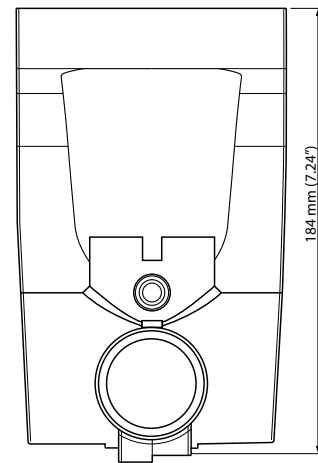
Part Number	Inlet	Fill Connection	Bursting Disc	Cylinder Type
MVA2UAI001	.750 UNF	CGA 346	3360 PSI	ME
3079500166	Protective Shroud for MVA2UAI001			

### Filling Adapters

CGA	Adapter Part Number	Description
CGA 346	PBX23460	CGA346 x CGA346, Fixed "Monel" Pin



Part Number	MVA2UAI001
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INDUSTRIAL GASES  
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GASES VALVES

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VALVES



# VIPROXY 1 TOUCH NEOS SERIES

## Valve with Integrated Pressure Regulator for medical Oxygen



### Technical Features

- NEOS incorporates a low torque non rotating spindle shut off valve with an integrated ten position flow selector
- Valve with integrated pressure regulator for Medical Oxygen, MRI conditional certified up to 3 Tesla
- Non-return valve with sintered bronze filter integrated in the filling port
- Piston regulator
- Sintered bronze smart filter in the cylinder connection
- Tested and approved in accordance with the International Standards EN ISO 10524-3, CGA E-18
- Residual pressure device incorporated
- Digital gauge with backlight display

### Material Components

- Chrome plated brass body
- Valve Main Sealing in Nylon
- Regulator Sealing in Nylon
- Elastomer in EPDM
- The valve does not contain any ferrous material or steel

### Technical data

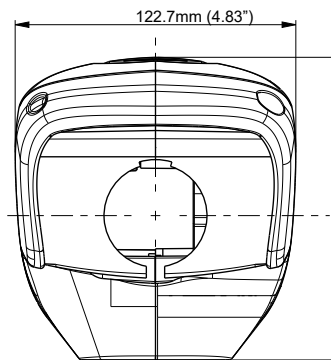
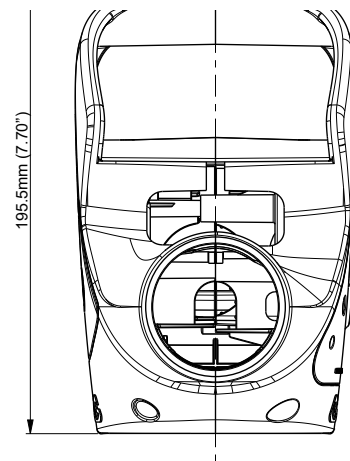
Pressure	
Maximum Service Pressure	3,360 PSI
Outlet Pressure	50 PSI
Residual Pressure Range	43 - 72 PSI
Operative Temperature Range	-32°F ÷ +122°F
Shut Off Valve Life Cycle	4,000 minimum
Flow Rate	2,400 NI/min
Hose-barb Ø	1/4"
Flow Rates	0.5, 1, 1.5, 2, 3, 4, 6, 8, 10, 15, 25 l/min

### Ordering Information

Part Number	Inlet	Fill Connection	Bursting Disc	Cylinder Type
MVA2EOS037	.750-16 UNF2A	CGA 540	3,360 PSI	ME
3079500153	Protective Shroud for MVA2UOS037			
3071100380	Display Cover			
3079500123	Control Group			



Part Number MVA2EOS037





# VIPROXY 1 TOUCH SERIES

## Valve with Integrated Pressure Regulator for medical Oxygen Adapters and Shrouds

### Fill Adapters



**Code** PBX55400

Short Fixed Pin



**Code** PBX85400

Short Fixed Pin, Handtight

### Shrouds



**Code** 3079500050



**Code** 3079500153

### Filling Adapters

CGA	Adapter Part Number	Description
CGA 540	PBX55400	CGA 540 x CGA 540 Short Fixed "Monel" Pin, wrench style
	PBX85400	CGA 540 x 1/4" NPT Short Fixed "Monel" Pin, hand wheel style

### Protective Shrouds

Valve Part Number	Description	Shroud Part Number	Description
MVA2UOS010	Viproxy 1touch Analog CGA 540	3079500050	Viproxy CGA 540 Green Dual Port
MVA2EOS037	Viproxy 1touch NEOS Digital CGA 540(*)	3079500153	Viproxy NEOS 540 Green

(\*) Additional components and assembly tooling may be required.

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GASES VALVES

CYLINDER  
VALVES



## Factory Repair Center

in Somerset, NJ

Cavagna offers complete service and repair for VIPROXY and IVIPR valves with integrated regulators.

- Factory trained and certified technicians
- Complete diagnostic capabilities
- All repairs made using OEM component parts
- Warranty and non-warranty repairs offered to include:
  - o Replacing protective guard
  - o Gauge replacement (analog or digital)
  - o Battery replacement
  - o Hose barb replacement
  - o Outlet cap replacement
  - o Inlet O-ring replacement
  - o Inner hand wheel replacement
  - o Hand wheel kit
  - o Control group replacement (digital VIPOXY only)
  - o Circuit board replacement (digital VIPROXY only)
  - o All factory repairs performed in an ISO class clean room
  - o Installation of new valves in customer owned cylinders
- 212 square foot cleanroom
- Two 24-hour HEPA filters
- Meets ISO 14644-1 requirements for ISO class 8 cleanroom

**Contact our New Jersey office to arrange the return of items in need of repair. Parts and Labor pricing available upon request.**

**50 Napoleon Court Somerset, NJ 08873  
732-469-2100 · Fax 732-469-3344**

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**info@cavagna.com - www.cavagnana.com**





# REFRIGERANT GASES VALVES



## SINGLE PHASE DIAPHRAGM VALVES for inert Refrigerant Gas

### Key Features

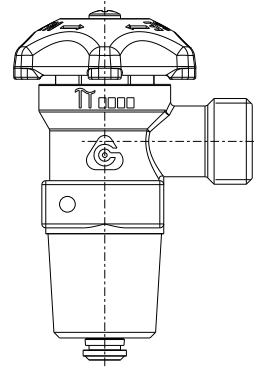
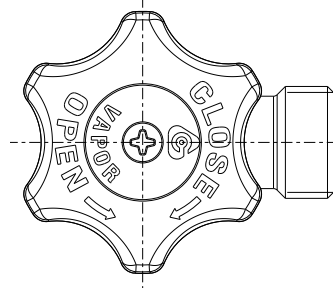
- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Permanent gas tight seal
- Spring Loaded PRV
- Tube quick connection
- Inlet thread dry sealant

### Options

- Liquid withdrawal tubes quick connection
- Anti-Filling - Rubber or Metal seal:
  - Removable
  - Unremovable
  - Breakable
- Colored plastic handwheel: red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap
- Cartridge Spring Loaded PRV

### Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/16"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 Diaphragm : stainless steel Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297



### Example product details\*

Valves	Inlet	Outlet 1	Colored Plastic Handwheel	Quick Tube Connection
7601900454	3/4"-14 NGT	CGA 660	Blue Vapor	Yes
7601900455			Red Liquid	

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



## DOUBLE PHASE DIAPHRAGM VALVES for inert Refrigerant Gas

### Key Features

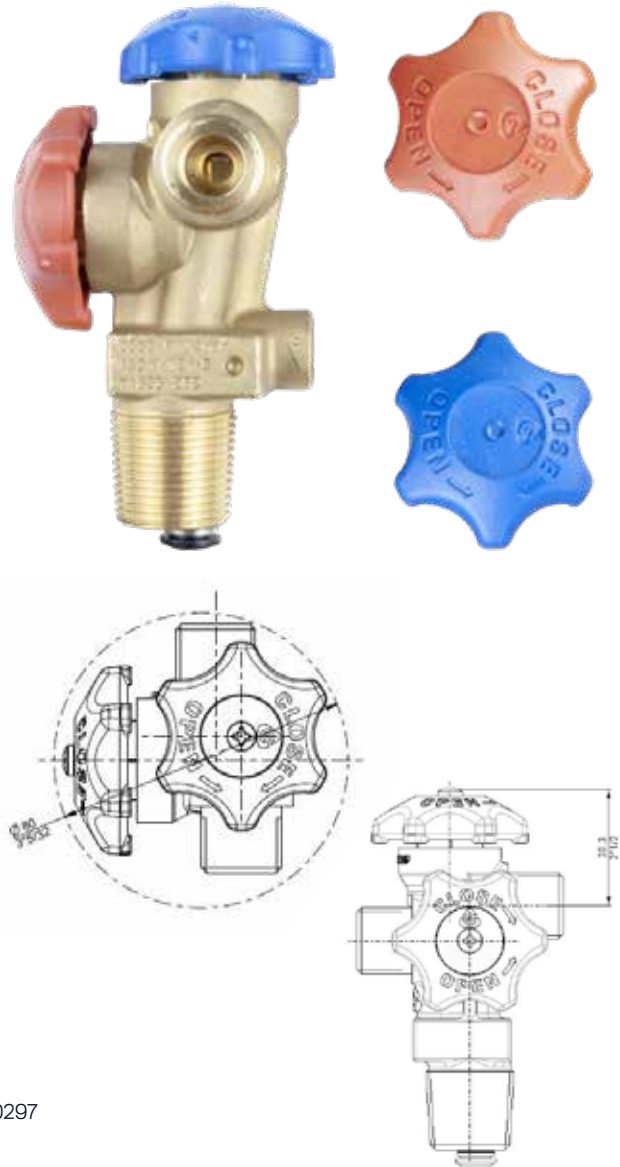
- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Permanent gas tight seal
- $\pi$  marking according TPED directive and EN ISO 10297
- $\text{UL}$  Listed According UL 1769
- Spring Loaded PRV/Bursting disk
- Single or Double outlet
- Tube quick connection

### Options

- Customer's logo on label
- Cap nuts
- Liquid withdrawal tubes quick connection
- Anti-Filling (AF):
  - Removable
  - Unremovable
  - Breakable
- Colored plastic handwheel: red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap
- Cartridge Spring Loaded PRV
- Inlet thread dry sealant
- Inlet thread PTFE tape

### Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/16"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 Diaphragm : stainless steel Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297



### Example product details\*

Valves	Inlet	Outlet 1	Outlet 2	Safety Devices	Colored Plastic Handwheel	Quick Tube Connection	Homologation
7601900169	3/4-14 NGT	CGA 660	CGA 660	PRV 600 PSI	Blue Vapor - Red Liquid	Yes	$\pi$
7601900240			/				$\text{UL}$
7601900242			CGA 660				
7601900453	3/4"-14 NGT 7 Oversize		CGA 660				

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



# Y VALVES for Refrigerant Gas

## Key Features

- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Double O-Ring valve operating mechanism
- Permanent gas tight seal
- Listed according UL 1769
- Spring Loaded PRV
- Single or Double outlet
- Tube quick connection
- Inlet thread dry sealant

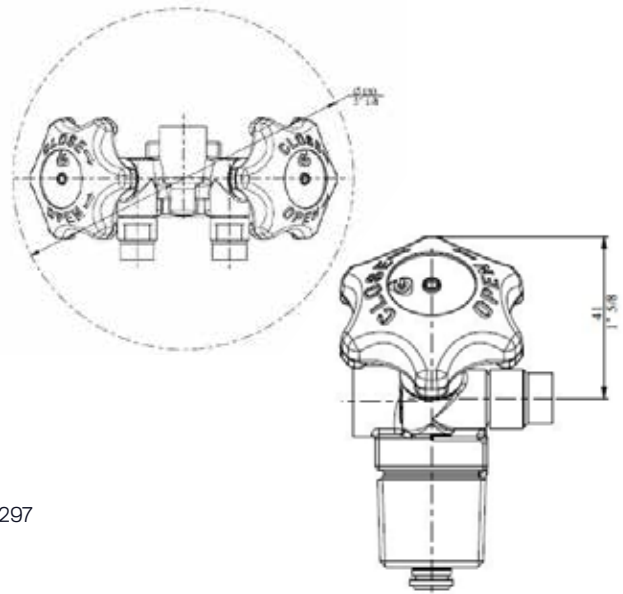
## Options

- Liquid withdrawal tubes quick connection
- Anti-Filling – Rubber or metal seal :
  - Removable
  - Unremovable
  - Breakable
- Colored plastic handwheel: red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap



## Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/32"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 O-ring : CR Rubber Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297



## Example product details\*

Valves	Inlet	Outlet 1	Outlet 2	Safety Devices	Colored Plastic Handwheel	Quick Tube Connection
<b>7601900224</b>	3/4"-14 NGT	CGA 165	CGA 165	PRV 600 PSI	Blue Liquid - Red Vapor	<b>Yes</b>
<b>7601900257</b>					Red Liquid - Blue Vapor	
<b>7601900445</b>		CGA 166**	CGA 166**	PRV 375 PSI	Blue Liquid - Red Vapor	
<b>7601900446</b>					Red Liquid - Blue Vapor	
<b>7601900467</b>	3/4"-14 NGT (long thread)	CGA 165	CGA 165	PRV 600 PSI	Red Liquid - Blue Vapor	

\*\*CGA 166 for flammable refrigerant gas

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.





## VALVES WITH BACKFLOW PREVENTION for Refrigerant Gas

### Key Features

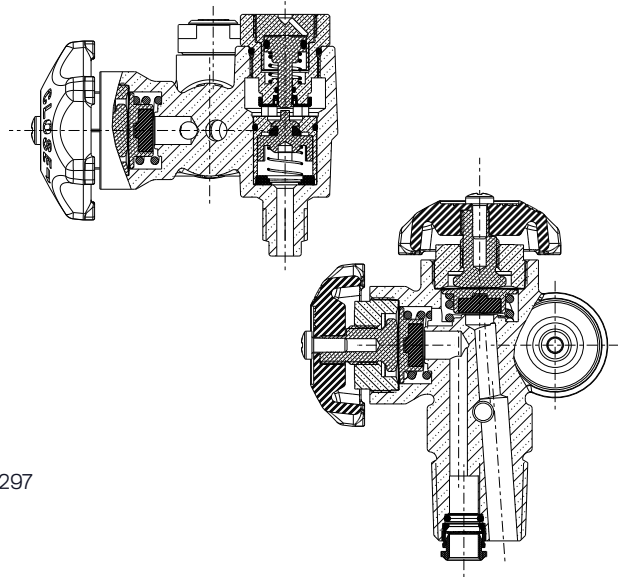
- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Permanent gas tight seal
- Listed according UL 1769
- Cartridge Spring Loaded PRV
- Single outlet
- Tube quick connection
- Pneumatic activated Anti-Filling rubber seal

### Options

- Cap nuts
- Liquid withdrawal tubes quick connection
- Colored plastic handwheel : red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap
- Inlet thread dry sealant
- Inlet thread PTFE tape
- 7601900469 has CGA 165 outlet and for applications using HFO 12347F

### Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/16"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 Diaphragm : stainless steel Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297
<b>Flow Capacity (CV)</b>	0.54 for filling 0.30 for liquid withdrawal



### Example product details\*

Valves	Inlet	Outlet	Safety Devices	Colored Plastic Handwheel	Quick Tube Connection	Homologation
<b>7601900469</b>	3/4 - 14 NGT	CGA 165	PRV 600 PSI	Blue Vapor - Red Liquid	Yes	and $\pi$
<b>7601900479</b>		CGA 166**				
<b>7601900480</b>		CGA 167				

\*\*CGA 166 for flammable refrigerant gas

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



## CONNECTORS for Outlet Valves

CavagnaGroup® offers adapters for CGA 660 outlet connection.



Outlet Connection Valve	Connection Code		Connection Material
	Inlet Thread	Outlet Thread	
<b>1.030-14 NGO RH EXT (CGA 660)</b>	1609500027		White Plastic + Rubber
	1.035-14 NGO-RH-INT	.4375-20 UNF-2A-RH-EXT	
	CGA 165		
	1601100618		White Plastic
	1.035-14 NGO-RH-INT	.4375-20 UNF-2A-RH-EXT	
	CGA 165		
	1609500036		Blue Plastic + Rubber
	1.035-14 NGO-RH-INT	1/2" 16 ACME-2G-RH-EXT	
	CGA 167		
	1601100619		Blue Plastic
	1.035-14 NGO-RH-INT	1/2" 16 ACME-2G-RH-EXT	
	CGA 167		





## LIQUID WITHDRAWAL TUBES Quick Connection

CavagnaGroup® offers a wide range of tubes and tools to complement its line of valves for refrigerant gas cylinders.

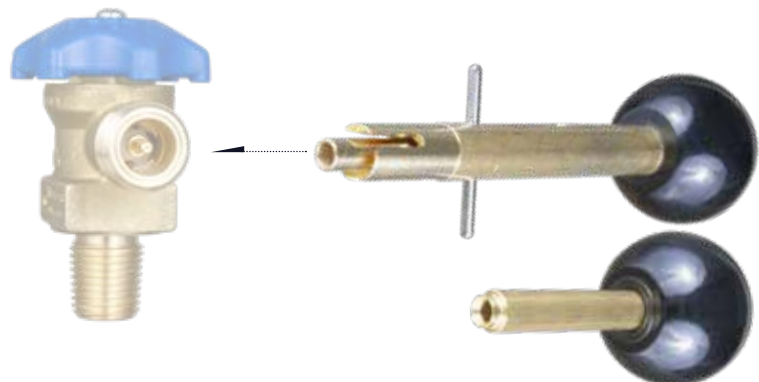
### Specifications

- Tube with or without filter
- Ø available: Ø6, Ø8 and Ø10
- Length available: on request
- Material available: PA



### Available tools to install and to remove

- Anti-Filling Breakable Version
- Anti-Filling Removable Version
- Anti-Filling Unremovable Version





# TUBES

## Quick Connection - External diameter 10mm

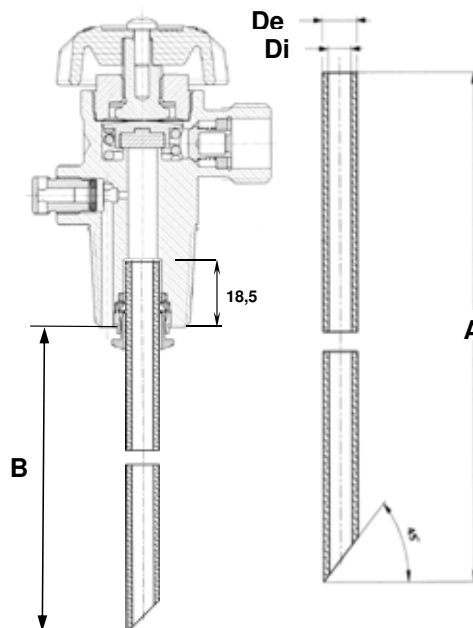
INDUSTRIAL GASES  
REGULATORS

REFRIGERANT  
GASES VALVES

MEDICAL  
VALVES

HIGH PURITY & SPECIALTY  
GASES VALVES

CYLINDER  
VALVES

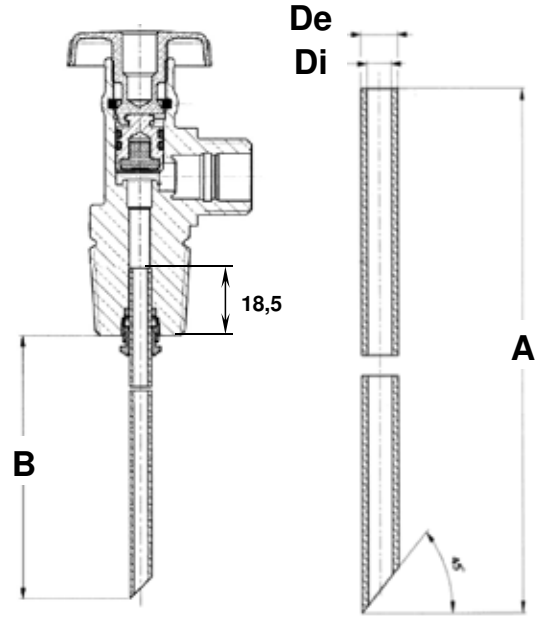


Code	Material	External Diameter "De"		Internal Diameter ("Di")		Length "A"		Assembled Length "B"	
		mm	in	mm	in	mm	in	mm	in
1201101719	PA6	10	0.39	8	0.31	280	11	261.5±2	10.3
1201101702						363.5	14.3	345±2	13.6
1201101581						433.5	17.1	415±2	16.3
1201101703						463.5	18.2	445±2	17.5
1201101745						1116	44	1097.5±2	43.2
1201101770	PA11	988.5	38.9	970±2	38.2				
1201101788	PA6	1212.3	47.7	1193.8±3	47				
1201101789		410	16.1	391.5±3	15.4				
1201101816	PA66	1187	46.7	1168.5±3	46				



## TUBES

### Quick Connection - External diameter 8mm



Code	Material	External Diameter "De"		Internal Diameter ("Di")		Length "A"		Assembled Length "B"	
		mm	in	mm	in	mm	in	mm	in
1201101571	PA6	8	0.31	6	0.24	274.3	10.8	255±2	10
1201101669	RILSAN 11					348.5	13.7	330±2	13
1201101690						373.5	14.7	355±2	14
1201101680						439	17.3	420.5±2	16.6
1201101700						463.5	18.2	445±2	17.5
1201101658						478.5	18.8	460±2	18.1
1201101682						598.5	23.6	580±2	22.8
1201101659						708.5	27.9	690±2	27.2
1201101652						853.5	33.6	835±2	32.9
1201101657						868.5	34.2	850±2	33.5
1201101679						918.5	36.2	900±2	35.4
1201101660						948.5	37.3	930±2	36.6
1201101701	PA6					978.5	38.5	960±2	37.8
1201101689						993.5	39.1	975±2	38.4
1201101655						998.5	39.3	980±2	38.6
1201101724						1078.5	42.5	1060±2	41.7
1201101653						1188.5	46.8	1170±2	46.1
1201101646						1218.5	48	1200±2	47.2
1201101654						1228.5	48.4	1210±2	47.6
1201101587						1258.5	49.5	1240±2	48.8
1201101671						1318.5	51.9	1300±2	51.2
1201101656						1378.5	54.3	1360±2	53.5
1201101780						388.5	15.3	370±3	14.6
1201101781						488.5	19.2	470±3	18.5



# TUBES

## Quick Connection - External diameter 10mm

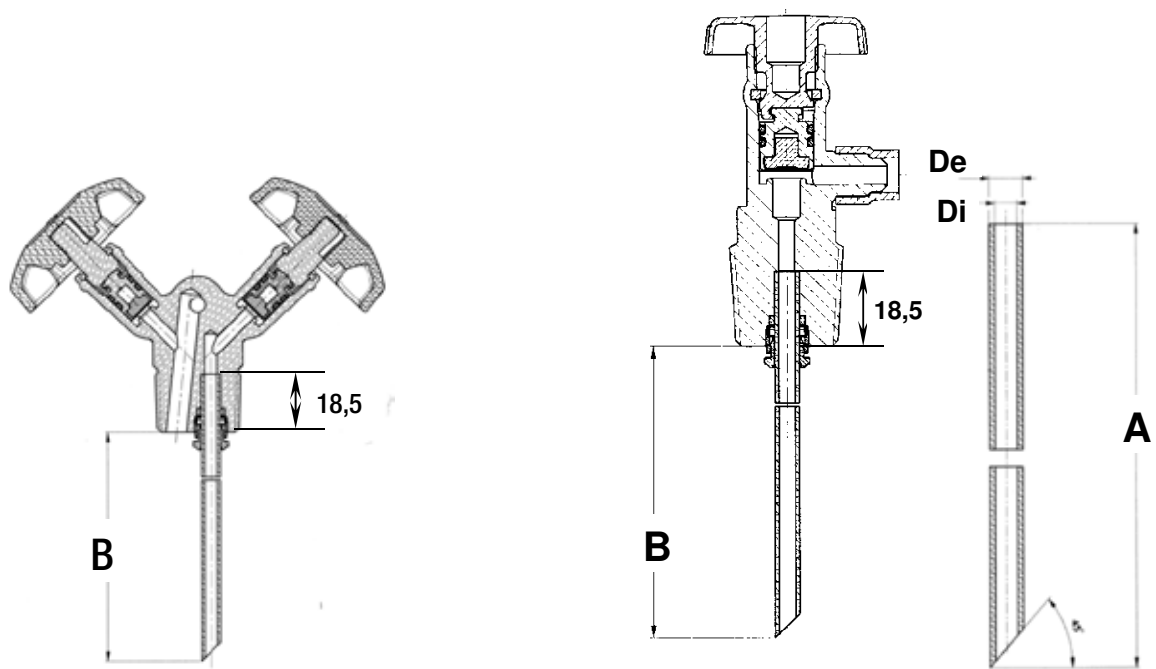
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GASES VALVES

CYLINDER  
VALVES

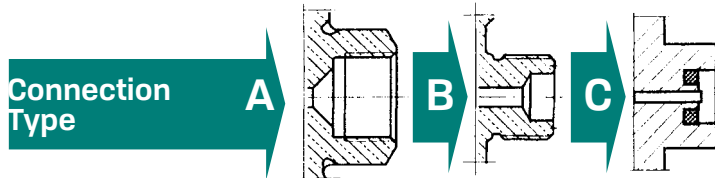


Code	Material	External Diameter "De"		Internal Diameter ("Di")		Length "A"		Assembled Length "B"					
		mm	in	mm	in	mm	in	mm	in				
1201101570	PVDF (Kynar)	6	0.24	4	0.16	222	8.7	203±2	8				
1201101573	PA6					262	10.3	243±2	9.6				
1201101564						309	12.2	290±2	11.4				
1201101598	PVDF (Kynar)					335	13.2	316±2	12.44				
1201101562	PA6					339	13.3	320±2	12.6				
1201101560						350	13.8	331±2	13.03				
1201101672	PVDF (Kynar)					352	13.9	333±2	13.110				
1201101568	PA6					358	14.1	339±2	13.35				
1201101563						362	14.3	343±2	13.5				
1201101572	PVDF (Kynar)					369	14.5	350±2	13.8	374	14.7	355±2	14
1201101596	384									15.1	365±2	14.4	
1201101597	PA6					396	15.6	377±2	14.84				
1201101565						439	17.3	420±2	16.54				
1201101566	PVDF (Kynar)					464	18.3	445±2	17.5				
1201101661	PA6					484	19.1	465±2	18.3				
1201101561						499	19.6	480±3	18.9				
1201101640	PA6					634	25	615±2	24.2				
1201101645						641	25.2	622±2	24.5				
1201101704	PVDF (Kynar)					919	36.2	900±3	35.43				
1201101593	PA6					994	39.1	975±2	38.4				
1201101665						1084	42.7	1065±3	41.93				
1201101606	PA6					1229	48.4	1210±3	47.64				
1201101567						376.5	14.8	370±3	14.6				
1201101569	PVDF (Kynar)					476.5	18.8	470±3	18.5				
1201101664	PA12					42	1.7	35.5±3	1.4				
1201101604													
1201101668													



## CONNECTION TYPE

### Table of outlet connections for the most significant gases



GAS	Chemical Symbol	Dimensions	Standard	Type
<b>Compressed Air</b>		.825" - 14 NGO TH EXT	CGA 346	B
<b>Nitrogen</b>	N <sub>2</sub>	.965" - 14 NGO RH INT	CGA 580	A
<b>Argon</b>	Ar	.965" - 14 NGO RH INT	CGA 580	A
<b>Helium</b>	He	.965" - 14 NGO RH INT	CGA 580	A
<b>Hydrogen</b>	H <sub>2</sub>	.825" - 14 NGO LH EXT	CGA 350	B
<b>Methane</b>	CH <sub>4</sub>	.825" - 14 NGO LH EXT	CGA 350	B
<b>Carbon Monoxide</b>	CO	.825" - 14 NGO LH EXT	CGA 350	B
<b>Oxygen</b>	O <sub>2</sub>	.903" - 14 NGO RH EXT	CGA 540	B
<b>Carbon Dioxide</b>	CO <sub>2</sub>	.825" - 14 NGO LH EXT	CGA 320	B
<b>Nitrous Oxide</b>	N <sub>2</sub> O	.825" - 14 NGO LH EXT	CGA 326	B
<b>Acetylene</b>	C <sub>2</sub> H <sub>2</sub>	.825" - 14 NGO LH INT	CGA 510	A
<b>Ammonia</b>	NH <sub>3</sub>	3/8" - 18 NGT RH INT	CGA 240	A
<b>Sulphur Dioxide</b>	SO <sub>2</sub>	1.030" - 14 NGO RH EXT	CGA 660	B
<b>Propane</b>	C <sub>3</sub> H <sub>8</sub>	.885" - 14 NGO LH INT	CGA 510	A
<b>Butane</b>	C <sub>4</sub> H <sub>10</sub>	.885" - 14 NGO LH INT	CGA 510	A
<b>Chlorine</b>	Cl <sub>2</sub>	1.030" - 14 NGO RH EXT	CGA 660	B
<b>Ethylene Oxide</b>	C <sub>2</sub> H <sub>4</sub> O	.885" - 14 NGO LH INT	CGA 510	A
<b>Phosgene</b>	COCl <sub>2</sub>	1/8" - 27 NGT RH INT	CGA 160	A
<b>Refrigerant</b>		1.030" - 14 NGO RH EXT	CGA 660	B

A welder in a dark industrial environment is shown working on a metal structure. The scene is overlaid with a semi-transparent blue filter. Bright sparks are visible from the welding process. The text 'INDUSTRIAL GASES REGULATORS' is centered in white, bold, uppercase letters.

# INDUSTRIAL GASES REGULATORS



## S6000 SERIES Medium Duty Regulators

### Technical Features

- Body forged brass.
- Gauges 2" dual scale UL252 and ISO 5171 approved.
- Ev technology encapsulated valve, assembled in clean room, incorporating sintered filter, guarantees maximum performance and long life in service.
- CGA color-coded non detachable knob. Maximum achievable outlet pressure locked in production to guarantee the highest performance and safe working.
- Bonnet powder painted corrosion resistant.
- Certifications CGA E-4 and UL252.
- Application field industrial cutting and welding.

All regulators are cleaned for oxygen service 100% tested at maximum inlet pressure.

### Material components

- EV sintered filter: CuNi
- EV Seat: PTFE TFM 1700
- EV Spring: Monel® 500

### Technical data

Regulator weight	2.6 lbs
Carton quantity	8 pcs



### Ordering information

Part Number*	Inlet	Outlet	Type	Max inlet PSIG	Delivery pressure range PSIG	Hand wheel color
<b>60H1900011</b>	CGA300	9/16" - 18LH	ACETYLENE	500	0-15	red
<b>60H3900010</b>	CGA320	5/8" - 18 (RH)	CO2	3000	0-150	grey
<b>60H6900002</b>	CGA346	9/16" - 18RH	Med.Air	3000	0-150	yellow
<b>60H4900001</b>	CGA350	9/16" - 18LH	H2, Methane	3000	0-50	red
<b>60H1900007</b>	CGA510	9/16" - 18LH	ACETYLENE	500	0-15	red
<b>60H0900007</b>	CGA540	9/16" - 18LH	O2	3000	0-50	green
<b>60H0900002</b>	CGA540	9/16" - 18RH	O2	3000	0-150	green
<b>60H3900011</b>	CGA580	9/16" - 18RH	Ar, He, N2	3000	0-150	black
<b>60H6900001</b>	CGA590	1/4" - MNPT	Indus. Air	3000	0-150	black

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.





# S8000 SERIES Medium-Heavy Duty Regulators

## Technical Features

- Body forged brass.
- Gauges 2.5" dual scale UL252 and ISO 5171 approved.
- Ev technology Encapsulated valve, assembled in clean room, incorporating sintered filter, guarantees maximum performance and long life in service.
- Flow Control CGA color-coded non detachable knob. Maximum achievable outlet pressure locked in production to guarantee the highest performance and safe working.
- Bonnet powder painted corrosion resistant.
- Certifications CGA E-4 and UL252.
- Application field industrial cutting and welding.



All regulators are cleaned for oxygen service 100% tested at maximum inlet pressure.

## Material components

- EV sintered filter: CuNi
- EV Seat: PTFE TFM 1700
- EV Spring: Monel@ 500

## Technical data

Regulator weight	3,26 lbs (1,48 kg)
Carton quantity	8 pcs

## Ordering information

Part Number*	Inlet	Outlet	Type	Max inlet PSIG	Delivery pressure range PSIG	Hand wheel color
<b>80H0900005</b>	CGA540	9/16" - 18(RH)	O2	3000 psi (206 bar)	0-150	green
<b>80H0900006</b>	CGA540	9/16" - 18(RH)	O2	3000 psi (206 bar)	0-50	green
<b>80H1900008</b>	CGA510	9/16" - 18(LH)	ACETYLENE	500 psi (24 bar)	0-15	red
<b>80H3900002</b>	CGA320	5/8" - 18(RH)	CO2	3000 psi (206 bar)	0-150	grey
<b>80H3900003</b>	CGA580	9/16" - 18(RH) + adapt. 5/8" RH	Ar, He, N2	3000 psi (206 bar)	0-150	black
<b>80H3900004</b>	CGA580	9/16" - 18(RH) + adapt. 5/8" RH	Ar, He, N2	3000 psi (206 bar)	0-200	black
<b>80H6900003</b>	CGA346	9/16" - 18(RH)	Med. Air	3000 psi (206 bar)	0-150	yellow
<b>80H6900002</b>	CGA590	1/4" NPT male	Indus. Air	3000 psi (206 bar)	0-150	black

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



NOTES

A series of horizontal lines for taking notes, spanning most of the page width.

INDUSTRIAL GASES  
REGULATORS

REFRIGERANT  
GASES VALVES

MEDICAL  
VALVES

HIGH PURITY & SPECIALTY  
GASES VALVES

CYLINDER  
VALVES





# WARRANTY AND LIABILITY CONDITIONS (Valid for USA and Canada)

## 1 - Compliance of the brand new products

The original seller of the brand new product (hereinafter referred to as Product) hereby warrants that the Product corresponds in quantity, quality, and type as specified in the sales contract (or, if missing, in the order's confirmation) for the Product and that the Product is without defects that could render it unfit for the use to which it is intended. The original seller of the Product is identified on the invoice for the Product and is referred to herein as the "Warrantor."

## 2 - Extent of the guarantee

The warranty is limited only to defects in the design of, materials in or construction of the Product that can be attributed to the Warrantor. The warranty does not apply in the case where the buyer is unable to prove correct storage and maintenance of the brand new products, or in the case the buyer has modified the Product without the prior written agreement of the Warrantor.

Furthermore, the Warrantor is not liable for defects in the brand new product due to the normal wear and deterioration of those parts of the Product, which by their nature, are subject to rapid and continuous wear and tear (e.g.: lining, etc.).

In general, in no case shall the Warrantor be liable for defects in compliance that arise after the transfer of risk or possession of the Product to the buyer has taken place.

The warranty is valid only when the brand new product is installed, used and maintained in conformity with the warnings and instructions provided by the Warrantor in the instruction manual or other Product literature and in conformity with the applicable laws, standards or regulations existing in the location where the brand new products are used or, in the absence of any applicable laws, standards or regulations, in conformity with the best practices in the applicable industry or trade.

## 3 - Claim

The buyer is required to check the compliance of the brand new Products and confirm the absence of flaws. The buyer should report any flaws or defects in brand new Products, in the following ways and time.

Failure to properly and timely report a defect will void the warranty:

- Claims for shortage or damages that could have been apparent from an examination of the exterior of the Product's packaging contents must be reported as soon as the brand new Products arrives at their place of destination or, in any event, no more than 5 days after that time.
- Claims relevant to quantity, colour, quality flaws or defects or non-compliance that the buyer should have been able to identify as soon as it took possession of the Product, must be made shortly after the time when the brand new Product arrives at its place of destination or, in any event, no more than 15 days after that time;
- Hidden flaws, defects or non-compliance (that is, those not identifiable according to the inspection imposed by law and by the preceding subparagraphs) must be reported within 30 days after the discovery or in any event, no more than 2 years from the delivery date.

Claims must be sent by registered letter, addressed to the head office of the Warrantor and must describe in detail the alleged defect, flaw or non-compliance.

In order to preserve this warranty, the buyer must not attempt any disassembly repairs or modifications on the brand new product without the Warrantor's

prior written agreement. The buyer forfeits and waives its rights under this warranty if the buyer does not consent to every reasonable request of the Warrantor, or if after the Warrantor has requested the return of the defective brand new products at buyer's own expenses, the buyer fails to return the Product within 5 working days from the request. In the event that the warranty claim is ultimately determined, in the sole discretion of Warrantor, to be unfounded, the buyer will reimburse the Warrantor all expenses incurred by Warrantor in evaluating the warranty 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 Warrantor, within a reasonable period depending on the type of claim, may, at Warrantor's sole reasonable 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 the contract; in such a case the Warrantor can require the return of the defective product, which become property of the Warrantor. In case of additional costs related to the replacement of a product proved to be defective or not in compliance, Warrantor and buyer shall jointly and previously agree how to apportion the costs.

b) Communicate in writing the cancellation of the contract, and offering a refund of the amount paid for the replaced product

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 or paid by the Warrantor, unless previously expressly agreed in writing by the Warrantor.

## 5 - Limit of seller's liability

The Warranty provided herein supersedes all legal warranty for defects and compliance, and excludes any other possible liability of the Warrantor, however originating, from the brand new products supplied by Warrantor. In particular, the buyer cannot put forward another claim for compensation in respect of any further damages, request any reduction of the contract price or cancellation of the contract. Once the period of the Warranty has expired no claim can be made against the Warrantor.

In no event shall Warrantor 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 or modification of this Warranty will be permitted unless expressly and specifically defined and accepted by the parties in writing.

## 6 - Technical regulations

As far as the brand new product characteristics and specifications are concerned, the Warrantor complies with the legislation and the technical regulations prevailing in Italy and the European Directives, unless otherwise specified in the contractual documentation (i.e. contract, order's confirmation, or invoice); The buyer assumes the risk of any difference between the European Directives plus the Italian regulations and those of the country of destination, use or installation of the Products, and indemnifies the Warrantor for any such differences.

The Warrantor guarantees the performance of

brand new products manufactured by Warrantor only and exclusively in relation to uses, destinations, applications, tolerances, capacities, etc... that have been expressly indicated by Warrantor and that are incorporated in the contractual documentation (i.e. contract, order's confirmation, invoice). The buyer is not authorised to dispose of the brand new Products supplied to him by the Warrantor in a way which does not conform to the indications described in the previous sub-paragraph and in the instructions given by Warrantor.

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

a) to inform the purchasers of the Product from buyer of the correct specifications and uses of the Product;

b) to grant any further periods or extended terms of any warranty provided by buyer only to buyer's purchasers that exceed the warranty granted to buyer by Warrantor according to paragraph 2;

c) the buyer shall not grant or extend any warranty on behalf of Warrantor to any third party.

## 7 - Personal injuries and property damages

Warrantor 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, Warrantor 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 brand new product, the buyer and Warrantor 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 Warrantor within the limits, the terms and the conditions set forth in Warrantor's liability insurance policy, with the exclusion of the costs connected to the locating and retrieving the Products in the market, which will be paid by the Buyer.



## Our Global Product Brands



RECA®



Kosan+  
LINE®



Kosangas®



OMECA®



cemco kosangas®



bigas®  
A Cavagna Group Partner Company



MESURA®



MESURA®  
METERING



greengear®  
looking ahead



VIPROXY®

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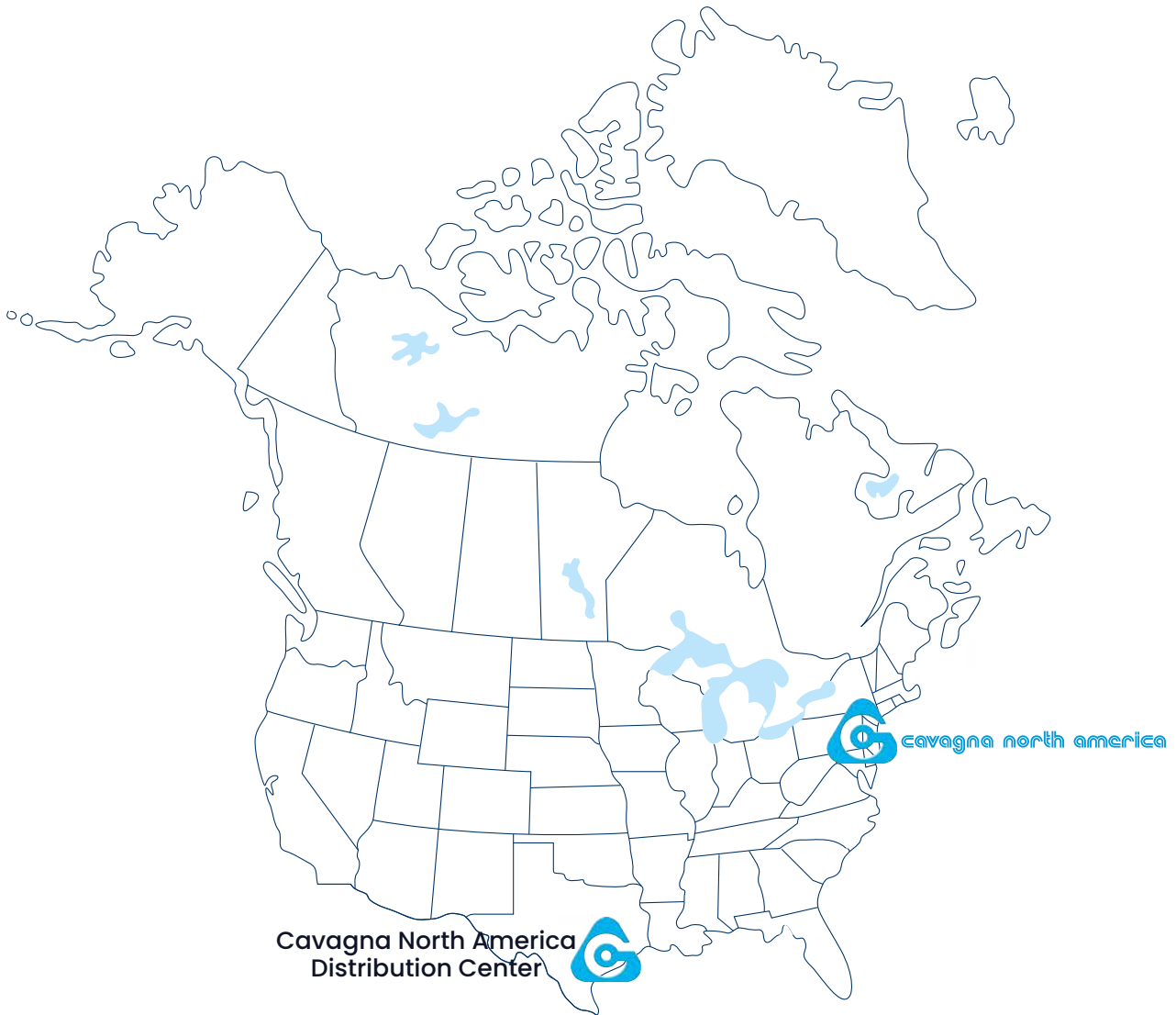
Wherever gas is used, we are there

# Manufacturing Facilities





WHEREVER GAS IS USED, WE ARE THERE



**Cavagna North America Inc.**

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**Cavagna North America Distribution Center**

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