

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-11	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

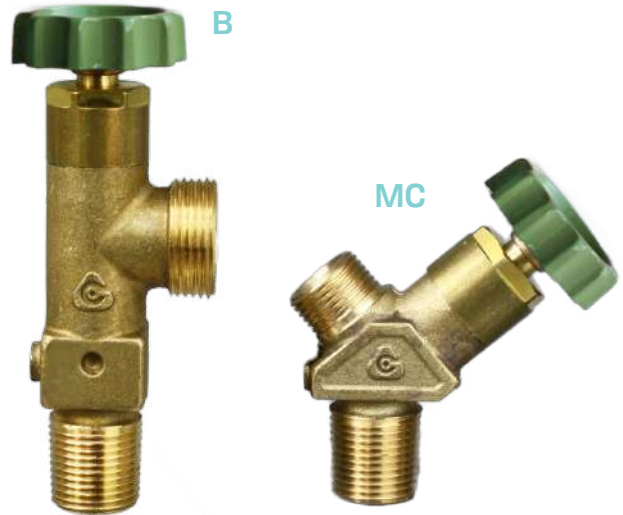
Part Number	Type	CGA Outlet	Outlet Thread Size	Inlet Thread Size
CB01510 0	P.O.L.	510	.885"-14 NGO LH Int.	3/4" NGT
CB01300 0	Commercial	300	.825"-14 NGO RH Ext.	3/4" NGT



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
• CGA V9	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
CBH 5 520 3	Acetylene	520	.895-18 NGO RH Ext.	3/8-18 NGT
CBI 5 200 3	Acetylene	200	.625-20 NGO RH Ext.	3/8-18 NGT

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CBB/CBC SERIES Wrench Operated Acetylene Valves

Technical Features

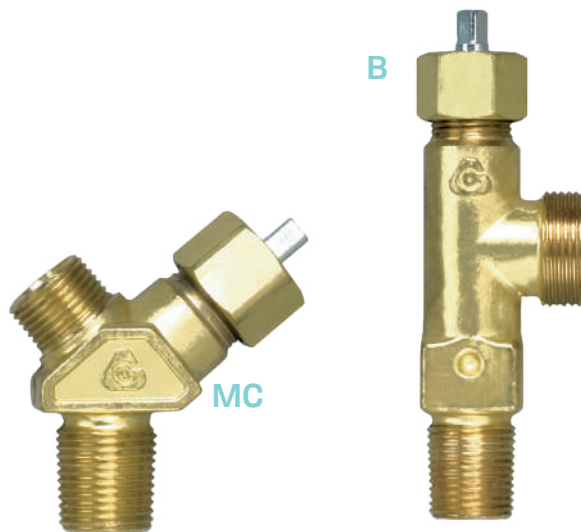
- Valve body made of rugged forged brass produced by Cavagna Group
- Fusible metal pressure relief device
- Large wrench flats for easy installation
- Teflon packing and anti extrusion rings prevent packing leakage
- Plated steel stem resists damage from wrenches and corrosion

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
CBB 5 520 3	Acetylene	520	.895-18 NGO RH Ext.	3/8-18 NGT
CBC 5 200 3	Acetylene	200	.625-20 NGO RH Ext.	3/8-18 NGT

Torque Values

Description	Torque
Operating Torque @ 0 psig Inlet Pressure	6 - 10 in lbs
Closing Torque @ 500 psig Inlet Pressure	6 - 10 in lbs
Packing Nut Installation Torque	80 - 100 in lbs
Stem Installation Torque	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-11	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
CBA 8 300 0	Commercial	300	.825"-14 NGO RH Ext.	1/2" NGT
CBA 1 300 0	Commercial	300	.825"-14 NGO RH Ext.	3/4"-14 NGT
CBA 6 300 0	Commercial	300	.825"-14 NGO RH Ext.	1"-11 1/2 NGT
CBA 1 410 0	Canadian Style	410	.850"-14 NGO LH Int.	3/4"-14 NGT
CBA 8 510 0	P.O.L.	510	.850"-14 NGO LH Int.	1/2" NGT
CBA 1 510 0	P.O.L.	510	.885"-14 NGO LH Int.	3/4"-14 NGT
CBA 6 510 0	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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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 1/2 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. 1.103-14 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
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 1/2 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 1/2 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).

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P 2009 SERIES Residual High Pressure Cylinder Valves for Industrial Gases

Technical Features

- Residual pressure valve, o-ring seal type for various gases including CO₂
- 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

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

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	0.788 scfm
Tightness	
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 CO₂.
- 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
CBV 1 320 1 xxxx R	CO ₂ 0 to 3,000 psi	320	.825-14 NGO RH Ext.	3/4" NGT
CBV 1 540 1 xxxx R	Oxygen 0 to 3,000 psi	540	.903-14 NGO RH Ext.	3/4" NGT
CBV 1 580 1 xxxx R	Inert 0 to 3,000 psi	580	.965-14 NGO RH Int.	3/4" NGT
CBV 1 590 1 xxxx R	Air (Non-Breathing) 0 to 3,000 psi	590	.965-14 NGO LH Int.	3/4" NGT
CBV 1 555 1 xxxx R	Liquid Butane/Propane 0 to 3,000 psi	555	.903-14 NGO LH Ext.	3/4" NGT
CBV 1 680 1 xxxx R	Inert 3,001 to 5,000 psi	680	1.045-14 NGO RH Int.	3/4" NGT
CBV 1 350 1 xxxx R	Hydrogen 0 to 3,000 psi	350	.825-14 NGO LH Ext.	3/4" NGT
CBV 1 346 1 xxxx R	Air 0 to 3,000 psi	346	.825-14 NGO RH Ext.	3/4" NGT
CBV 1 347 1 xxxx R	Air 3,001 to 5,000 psi	347	.825-14 NGO RH Ext.	3/4" NGT
CBV 7 320 1 xxxx R	CO ₂ 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
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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 user 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
CGA280	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
CGA296	PBX12960	CGA296 x CGA296, Retractable Pin	Cavagna CGA296 RPV Outlets
CGA320	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
CGA320 R	PBX63200	CGA320R x CGA320R, Fixed Pin	All CGA320R Outlets
	PBX73200	CGA320R x 1/4"NPT, Fixed Pin, Hand wheel	All CGA320R Outlets
CGA 346	PBX23460	CGA346 x CGA346, Fixed Pin	Cavagna CGA346 RPV Outlets
	PBX03460	CGA346 x CGA346, Retractable Pin	Any Cavagna CGA346 Outlets
CGA350	PBX03500	CGA350 x CGA350, Fixed Pin	Cavagna CGA350 RPV Outlets
	PBX23500	CGA350 x CGA350, Retractable Pin	Any Cavagna CGA280 Outlets
CGA540	PBX15400	CGA540 x CGA540, Fixed Pin	Cavagna CGA540 RPV Outlets
	PBX05400	CGA540 x CGA540, Retractable	Any Cavagna CGA540 Outlets
CGA540R	PBX105400	CGA540R x 1/4"NPT, Fixed Pin, Hand wheel	All CGA540R RPV Outlets
CGA580	PBX05800	CGA580 x CGA580, Fixed Pin	Any CGA580 RPV Outlets
	PBX25800	CGA580 x CGA580, Retractable Pin	Any CGA580 RPV Outlets
CGA580R			
CGA590	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



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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





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



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IVIPR SERIES

Valve with Integrated Pressure Regulator Adapters & Shrouds



Code **PBX25800**

Retractable Pin Hand wheel



Code **PBX15400**

Fixed "Monel" Pin



Code **PBX25100**

Fixed Pin Hand wheel



Code **3079500125**

High Pressure Cylinders with 3 1/8" Neck Ring



Code **3079500141**

Acetylene Cylinders with 3 1/2" Spud

Filling Adapters

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

Protective Shrouds

Valve Part Number	Description	Shroud Part Number	Description
MRA1SOS001	Ivipr series CGA 540 Oxygen	3079500125	Ivipr Shroud CGA 540 Dark Grey
MRA2SMX001	Ivipr series CGA 580 Inert Gases	3079500125	Ivipr Shroud CGA 580 Dark Grey
MRA3SAD017	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



VOA9APA001

Standard carton quantities:
72 each

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
CCS300013000	Nitrous Oxide	1/4-27 NPT	.625-18 UNF 2A
			.750-16 UNF 2A
VOA9APA001	Nitrous Oxide	CGA 660	1.125-12 UNF 2A



CCS300013000

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
• Antifriction	Polyamide
• Stem	Brass according to EN 12164 alloy

Technical data

Part Number	VOA9APA001	CCS300013000
Pressure Maximum Service		
Pressure	3,000 PSI	1,800 PSI
Test	3,597 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"

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