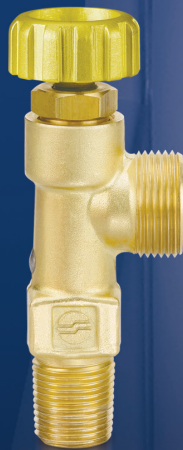


SHERWOOD VALVE COMPRESSED GAS PRODUCTS





For nearly a century, Sherwood has been the world's leading provider of system-critical compressed gas solutions serving industrial and specialty gas manufacturers, distributors and storage & delivery system providers (OEMs).

Sherwood Valve, a division of Mueller Industries, is the world's leading provider of technical gas valves and flow control components for industrial gas, specialty gas, and appliance gas systems. Formed in 1928, we are the only North American high pressure cylinder valve manufacturer. We are headquartered in Pittsburgh, PA with manufacturing centers in Cleveland, Ohio and Monterrey, Mexico. Sherwood has earned a reputation for durability and quality in our products which provides our customers with a sense of security when used in system-critical applications.

Sherwood is your partner for the best quality valves, delivered on time, and at the best value!.

Markets & Industries

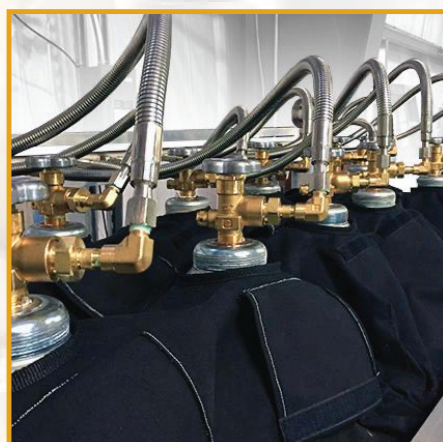
The Brands that comprise Sherwood Valve are involved in a wide array of different markets and industries. Though there is a prominent competency in Industrial Gas, Specialty Gas, and Appliance Gas systems, our brands' collective capabilities and markets served are quite extensive and impressive. Today our Brands are involved in industries that range from manufacturing, construction, appliance, medical, automotive, military and defense, recreational, and many more.

Customers & Channels

Sherwood understands the needs and unique challenges of many different customer types and channels of distribution. From major national gas & welding distributors to local regional welding distributors, to large-scale industrial manufacturers, we work hard to put our customers first by providing exceptional service through our experienced customer care team. With well-respected brands and broad product offerings in each product segment, we are always creating ways to add more value to all types of channels of distribution and customers. Sherwood is partnered with a solid network of worldwide industry leaders, national distributors, and manufacturing representatives that work to provide a customized solution for each and every customer.

Commitment & Leadership

All Sherwood products are designed to meet the highest standards, with an emphasis on using only quality materials for each application. Responsibility is much more expansive for us. We employ a decision-making process that significantly influences sustainability within our operations while ensuring long-term performance of all of our products. Our employees engage as experts with industry leaders to develop specifications in support of training and safety standards that ultimately are incorporated into the workplace. These actions show our commitment to the businesses we serve while also allowing us to maintain expertise and an ongoing stream of support and innovation for our channel partners.



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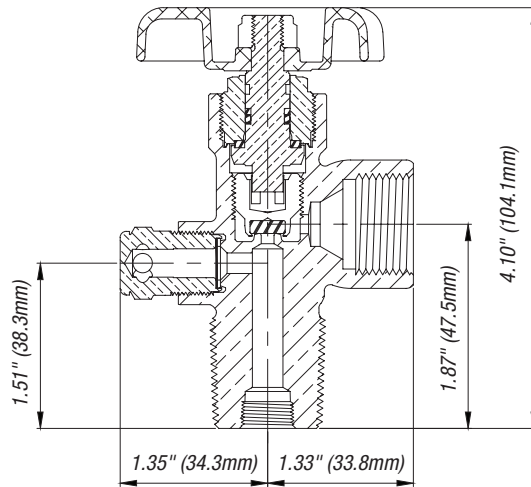
Industrial Gas Valves

GSV & GSHV Series

Global Industrial Gas Valves



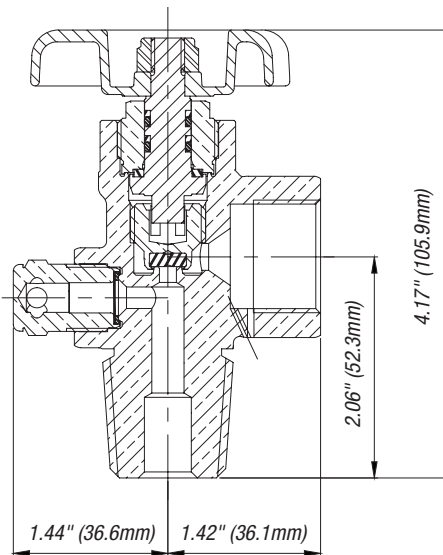
GSV58061-XX



GSV Series
Up to 3500 PSI Working Pressure



GSHV70361-XX



GSHV Series
Up to 6400 PSI Working Pressure

Designed for use in every country around the world. For use in cylinders containing oxygen, argon, carbon dioxide, nitrogen, helium and hydrogen, as well as welding gas mixtures.

Key Features & Benefits

- Automated assembly and testing processes ensure exceptional quality
- 100% helium leak tested
- Heavy-duty forged brass body for durability and high pressure
- Precisely machined internal components meet the most stringent international valve performance standards
- Pressure Relief Device (PRD) is a unitized plug design that provides excellent flow characteristics, ensures proper assembly and tamper resistance
- Improved metal-to-metal seal below bonnet threads prevents pressure in the threads at top of valve body
- Direct-drive stem design with optimized O-ring (GSV) or double O-ring (GSHV) seal reduces friction and operates at exceptionally low torque levels
- Inlet and outlet thread configurations are available for a broad spectrum of customer, country and code specifications
- Inlet tapped (1/4" NPT) for dip tube as required

For Product Markings Reference, see **A** in the Appendix

GSV & GSHV Series

Global Industrial Gas Valves

For further ordering information, refer to the Selection of Pressure Relief Devices, the Pressure Relief Device Numbering Matrix, and the Valve Part Numbering Matrix.

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<i>Carbon Dioxide</i>				
GSV32041-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	½" NGT
GSV32061-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	¾" NGT
GSV32081-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	1" NGT
GSV32025E1-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	25E ISO
GSV32051-XX-75	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	.750–16 UNF
GSV32051-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	1.125–12 UNF
<i>Nitrous Oxide</i>				
GSV32641-XX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	½" NGT
GSV32661-XX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	¾" NGT
GSV32681-XX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	1" NGT
GSV32625E1-XX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	25E ISO
GSV32651-XX-75	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	.750–16 UNF
GSV32651-XX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	1.125–12 UNF
<i>Air</i>				
GSV34641-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	½" NGT
GSV34661-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	¾" NGT
GSV34681-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	1" NGT
GSV34625E1-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	25E ISO
GSV34651-XX-75	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	.750–16 UNF
GSV34651-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	1.125–12 UNF
GSVH34761-XX	3001 PSI–4700 PSI	347	.825–14 NGO RH Ext.	¾"–14 NGT
GSVH70261-XX	4701 PSI–6400 PSI	702	1.125–14 NGO RH Int.	¾"–14 NGT
<i>Carbon Monoxide and Hydrogen</i>				
GSV35045-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	½" NGT
GSV35065-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
GSV35085-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	1" NGT
GSV35025E5-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E ISO
GSV35055-XX-75	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	.750–16 UNF
GSV35055-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	1.125–12 UNF
GSVH69565-XX	3001 PSI–4700 PSI	695	1.045–14 NGO LH Int.	¾"–14 NGT
GSVH70365-XX	4701 PSI–6400 PSI	703	1.125–14 NGO LH Int.	¾"–14 NGT
<i>Oxygen</i>				
GSV54041-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	½" NGT
GSV54061-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	¾" NGT
GSV54081-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	1" NGT
GSV54051-XX-75	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	.750–16 UNF
GSV54051-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	1.125–12 UNF
GSVH57761-XX	3001 PSI–3500 PSI	577	.960–14 NGO RH Ext.	¾" NGT
GSVH70161-XX	3501 PSI–4700 PSI	701	1.103–14 NGO RH Ext.	¾" NGT
<i>Argon, Helium, Krypton, Neon, Nitrogen and Xenon</i>				
GSV58041-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	½" NGT
GSV58061-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	¾" NGT
GSV58081-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	1" NGT
GSV58025E1-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	25E ISO
GSV58051-XX-75	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	.750–16 UNF
GSV58051-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	1.125–12 UNF
GSVH68061-XX	3001 PSI–4700 PSI	680	1.045–14 NGO RH Int.	¾" NGT
GSVH67761-XX	4701 PSI–6400 PSI	677	1.030–14 NGO LH Ext.	¾" NGT
<i>Sulfur Hexafluoride</i>				
GSV59041-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	½" NGT
GSV59061-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	¾" NGT
GSV59081-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	1" NGT
GSV59025E1-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	25E ISO
GSV59051-XX-75	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	.750–16 UNF
GSV59051-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	1.125–12 UNF

Oversize Inlets: 4 & 7 and 24 thread oversize inlets: To order add -4, -7 or -24 to the end of the Part Number. For example GSV34661-XX becomes GSV34661-XX-7

Chrome plating: To order, add letter "A" after the letters GSV or GSHV in the Part Number. For example GSV34661-XX becomes GSVA34661-XX

Lexan polycarbonate handwheels: To order, add suffix LX to end of Part Number. For example GSV34661-XX becomes GSVA34661-XXLX

Fusible back pressure relief devices: For 165° F or 212° F nominal melting temperatures, change 1 in the Part Number to 4 (165° F) or 5 (212° F) (ie. GSV35061-XX becomes GSV35064-XX for 165° F, or GSV35065-XX for 212° F.



Industrial Gas Valves

GSV

Global Industrial Gas Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3500 PSI	241 Bar
Burst Pressure	10,000 PSI	689 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻³ atm cc/sec.	1x10 ⁻³ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .690 CO ₂ /Manifold: 1.23	
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Operating Torque	10–20 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	50–60 ft.-lbs.	68–81 N-m
Handwheel Nut Installation Torque	25–45 in.-lbs.	2.8–5.2 N-m
PRD Installation Torque	25–35 ft.-lbs.	34–47 N-m
PRD Flow Capacity	60 cfm @ 100 PSI	1700 L/min. @ 6.9 Bar

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Inlet O-Ring for Straight Threaded GV Valves			
Sherwood Part Number	Size	Material	Quantity
G907APK	.625 UNF	Buna-N	50
G210A-9PK	.750 UNF	Buna-N	50
G216BPK	1.125 UNF	Buna-N	100
G016TPK	.625 UNF	PTFE	50
G210TPK	.750 UNF	PTFE	100
P1100X15-20TPK	1.125 UNF	PTFE	50

Part Description	Materials of Construction
Body	Forged Brass C37700; Chrome Plating When Applicable
Bonnet	Brass C36000; Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Lower Plug	Brass C48500
Lower Plug Seat	Nylon Zytel 101
Lubricant	Christo-Lube
Pressure Relief Device Plug Rupture Disc Seal Gasket	Brass C36000; Chrome Plating When Applicable Nickel Alloy 201; Copper C22000 Copper C11000
Stem	Brass C36000
O-Ring	Ethylene Propylene (EPDM)
Back-up O-Ring	Ethylene Propylene (EPDM)
Thrust Washer	Delrin® 500 AF

NOTE: GSV Series valves are not for use with CNG applications. For CNG Service, see NGV and NGVHM Series. No mechanical addition of force is to be used with handwheel-style valves without the use of controlled torque.

Replacement Parts		
Sherwood Part Number	Description	Quantity
1251-6PK	Handwheel Nut	100
1919APK	Handwheel	200
P625-19X9-XXPK	Pressure Relief Device Unitized Assembly Includes Plug, Rupture Disc and Webbed Seal Washer	100

GSHV Series

Global Industrial Gas Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	6400 PSI	413 Bar
Burst Pressure	13,500 PSI	931 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻⁴ atm cc/sec.	1x10 ⁻⁴ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .690	
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Operating Torque	10–20 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	60–70 ft.-lbs.	81–95 N-m
Handwheel Nut Installation Torque	25–45 in.-lbs.	2.8–5.2 N-m
PRD Installation Torque	40–50 ft.-lbs.	54– 68 N-m
PRD Flow Capacity	60 cfm @ 100 PSI	1700 L/min. @ 6.9 Bar

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Body	Forged Brass C37700; Chrome Plating When Applicable
Bonnet	Brass C36000; Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Lower Plug	Brass C48500
Lower Plug Seat	Nylon Zytel 101
Lubricant	Christo-Lube/Turmoxygen for oxygen service
Pressure Relief Device Plug Rupture Disc Seal Gasket	Brass C36000; Chrome Plating When Applicable Nickel Alloy 201; Copper C22000 Copper C11000
Stem	Brass C36000
O-Ring	Ethylene Propylene (EPDM)
Back-up O-Ring	Ethylene Propylene (EPDM)
Thrust Washer	Delrin® 500 AF

NOTE: GSV & GSVH Series valves are not for use with CNG applications. For CNG Service, see NGV and NGVHM Series. No mechanical addition of force is to be used with handwheel-style valves without the use of controlled torque.

Replacement Parts		
Sherwood Part Number	Description	Quantity
1251-6PK	Handwheel Nut	100
1919APK	Handwheel	200
P625-19X9H-XXPK	Pressure Relief Device Unitized Assembly Includes Plug, Rupture Disc and Webbed Seal Washer	50

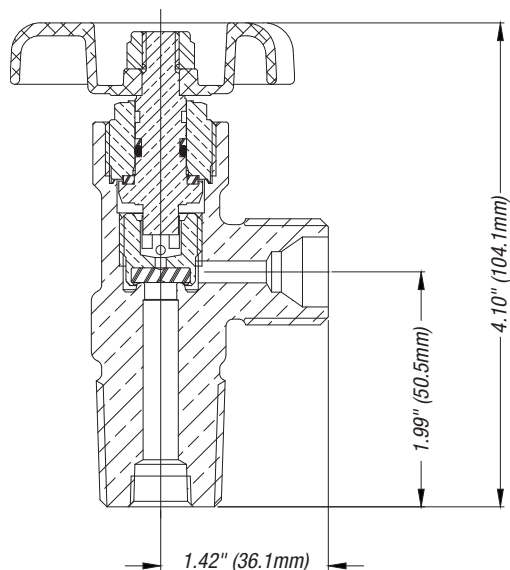
Industrial Gas Valves

GSV Series Cylinders

For Manifold, Oxygen and Fuel Gas



GSV58060



For further ordering information, refer to the GSV Specifications, the GSHV Specifacaiton, and the Valve Part Numbering Matrix.

Ordering Information				
Sherwood Part Number	CGA Outlet	Outlet Thread Size	Inlet Thread Size	Description
<i>GSV O-Ring-Style Manifold Valves</i>				
GSV32040	320	.825"–14 NGO	½" NGT	No PRD
GSV32060	320	.825"–14 NGO	¾" NGT	No PRD
GSV35040	350	.825"–14 NGO	½" NGT	No PRD
GSV35060	350	.825"–14 NGO	¾" NGT	No PRD
GSV54040	540	.903"–14 NGO	½" NGT	No PRD
GSV54060	540	.903"–14 NGO	¾" NGT	No PRD
GSV58040	580	.965"–14 NGO	½" NGT	No PRD
GSV58060	580	.965"–14 NGO	¾" NGT	No PRD
GSVH68040	680	1.045"–14 NGO	½" NGT	No PRD
GSVH68060	680	1.045"–14 NGO	¾" NGT	No PRD
<i>GSV O-Ring-Style Cylinder Valves, Tapered Thread for Fuel Gas and Oxygen</i>				
GSV02440CC	024	.875"–14 UNF	½" NGT	No PRD; Cap and Chain
GSV02540CC	025	.875"–14 UNF	½" NGT	No PRD; Cap and Chain

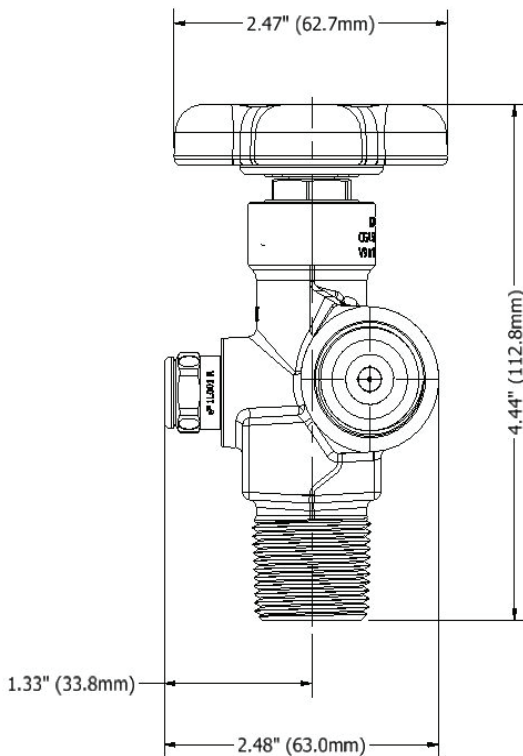
For Product Markings Reference, see **A** in the Appendix

GSRPV Series

Residual Pressure Valves



GSRPV58061-XX



Residual pressure valve designed to protect cylinder and remaining cylinder gas contents.

Key Features & Benefits

- Prevents backflow of impurities and foreign substances
- Automated assembly and testing processes ensure exceptional quality
- 100% helium leak tested
- Durable forged brass body, precisely machined internal components and design elements meet the most stringent domestic and international valve performance standards
- Innovative design and quality construction offer protection of cylinder contents without the expense of a time-consuming purge-and-clean cycle
- Retains approximately 55 to 85 PSI pressure, maintaining the integrity of the cylinder contents against contaminants, even if the valve is left open
- Protects and extends life of cylinder by preventing ingress of moisture
- Pressure Relief Device (PRD) unitized plug design provides excellent flow characteristics
- Dynamic front piston seal design is not in direct contact with the flow passage during filling
- Inlet and outlet thread configurations are available for a broad spectrum of customer, country and code specifications
- Exclusive “webbed washer” design protects burst disc during handling and bulk shipment
- Inlets tapped (1/4" NPT) for dip tube as required

For Product Markings Reference, see **A** in the Appendix

Industrial Gas Valves

GSRPV Series

Residual Pressure Valves

For further ordering information, refer to the Selection of Pressure Relief Devices, the Pressure Relief Device Numbering Matrix, and the Valve Part Numbering Matrix.

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<i>Air</i>				
GSRPV34641-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	½" NGT
GSRPV34661-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	¾" NGT
GSRPV34625E1-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	25E
GSRPV346R41-XX	0 PSI–3000 PSI	346R	.825–14 NGO RH Ext.	½" NGT
GSRPV346R61-XX	0 PSI–3000 PSI	346R	.825–14 NGO RH Ext.	¾" NGT
GSRPV346R25E1-XX	0 PSI–3000 PSI	346R	.825–14 NGO RH Ext.	25E
<i>Argon</i>				
GSRPV580R41-XX	0 PSI–3000 PSI	580R	.965–14 NGO RH Int.	½" NGT
GSRPV580R61-XX	0 PSI–3000 PSI	580R	.965–14 NGO RH Int.	¾" NGT
GSRPV580R25E1-XX	0 PSI–3000 PSI	580R	.965–14 NGO RH Int.	25E
<i>Carbon Dioxide</i>				
GSRPV32041-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	½" NGT
GSRPV32061-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	¾" NGT
GSRPV32051-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	1.125"–12 UNF
GSRPV32025E1-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	25E
GSRPV320R41-XX	0 PSI–3000 PSI	320R	.825–14 NGO RH Ext.	½" NGT
GSRPV320R61-XX	0 PSI–3000 PSI	320R	.825–14 NGO RH Ext.	¾" NGT
GSRPV320R51-XX	0 PSI–3000 PSI	320R	.825–14 NGO RH Ext.	1.125"–12 UNF
GSRPV320R25E1-XX	0 PSI–3000 PSI	320R	.825–14 NGO RH Ext.	25E
<i>Helium</i>				
GSRPV580R41-XX	0 PSI–3000 PSI	580R	.965–14 NGO RH Int.	½" NGT
GSRPV580R61-XX	0 PSI–3000 PSI	580R	.965–14 NGO RH Int.	¾" NGT
GSRPV580R25E1-XX	0 PSI–3000 PSI	580R	.965–14 NGO RH Int.	25E
<i>Hydrogen</i>				
GSRPV35045-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	½" NGT
GSRPV35065-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
GSRPV35025E5-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E
GSRPV350R45-XX	0 PSI–3000 PSI	350R	.825–14 NGO LH Ext.	½" NGT
GSRPV350R65-XX	0 PSI–3000 PSI	350R	.825–14 NGO LH Ext.	¾" NGT
GSRPV350R25E5-XX	0 PSI–3000 PSI	350R	.825–14 NGO LH Ext.	25E
<i>Nitrogen</i>				
GSRPV58041-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	½" NGT
GSRPV58061-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	¾" NGT
GSRPV58025E1-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	25E
<i>Oxygen</i>				
GSRPV54041-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	½" NGT
GSRPV54061-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	¾" NGT
GSRPV54025E1-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	25E
GSRPV540R41-XX	0 PSI–3000 PSI	540R	.903–14 NGO RH Ext.	½" NGT
GSRPV540R61-XX	0 PSI–3000 PSI	540R	.903–14 NGO RH Ext.	¾" NGT
GSRPV540R25E1-XX	0 PSI–3000 PSI	540R	.903–14 NGO RH Ext.	25E
<i>Sulfur Hexafluoride</i>				
GSRPV590R41-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	½" NGT
GSRPV590R61-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	¾" NGT

Override Inlets: 4 & 7 and 24 thread override inlets: To order add -4, -7 or -24 to the end of the Part Number. For example GSRPV58061-XX becomes GSRPV58061-XX-7

Chome plating: To order, add letter "A" after the letters GSRPV in the Part Number. For example GSRPV58061-XX becomes GSRPVA58061-XX

Fusible back pressure relief devices: For 165° F or 212° F nominal melting temperatures, change 1 in the Part Number to 4 (165° F) or 5 (212° F) (ie. GSRPV35061-XX becomes GSRPV35064-XX for 165° F, or GSRPV35065-XX for 212° F).

NOTE: GSRPV valves are not approved for CNG service. For CNG Service, see NGSRPV Series. Not all valve are available in all configurations. Contact factory for availability. Orders may be subject to minimum quantities.

For Product Markings Reference, see **A** in the Appendix



GSRPV Series

Residual Pressure Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3500 PSI	413 Bar
Burst Pressure	10,000 PSI	1035 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻³ atm cc/sec.	1x10 ⁻³ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .26	
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Operating Torque	10–20 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	50–60 ft.-lbs.	68–81 N-m
Handwheel Nut Installation Torque	25–45 in.-lbs.	2.8–5.2 N-m
PRD Installation Torque	25–35 ft.-lbs.	34–47 N-m
PRD Flow Capacity	60 cfm @ 100 PSI	1700 L/min. @ 6.9 Bar

Materials of Construction	
Part Description	Materials of Construction
Body	Brass C37700/Chrome Plating When Applicable
Bonnet	Brass C36000/Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Lower Plug	Brass C48500
Lower Plug Seat	Nylon Zytel 101
Pressure Relief Device	
Plug	Brass C36000; Chrome Plating When Applicable
Rupture Disc	Nickel Alloy 201; Copper C22000
Seal Gasket	Copper C11000
Stem	Brass C36000
O-Ring	Ethylene Propylene (EPDM)
Back-up O-Ring	Ethylene Propylene (EPDM)
Thrust Washer	Delrin® 500 AF
RPV Piston	Brass C37700
RPV Plug	Brass C36000/Chrome Plating When Applicable
RPV Spring	Beryllium Copper
Piston O-Ring	Ethylene Propylene (EPDM)
Piston O-Ring	Ethylene Propylene (EPDM)
RPV Plug O-Ring	Ethylene Propylene (EPDM)

NOTE: GSV Series valves are not for use with CNG applications. For CNG Service, see NGV and NGVHM Series. No mechanical addition of force is to be used with handwheel-style valves without the use of controlled torque.

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
ISO 15996	International Standard for Residual Pressure Valves Design Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Inlet O-Ring for Straight Threaded GSRPV Series Residual Pressure Valves			
Sherwood Part Number	Size	Material	Quantity
G216APK	1.125 UNF	Buna-N	100

Replacement Parts		
Sherwood Part Number	Description	Quantity
1251-6PK	Handwheel Nut	100
1919APK	Handwheel	200
P625-19X9-XXPK	Pressure Relief Device Unitized Assembly Includes Plug, Rupture Disc and Webbed Seal Washer	100

Industrial Gas Valves

Fill Adapters for GSRPV Series

Ordering Information

Sherwood Part Number	Inlet	Outlet	Nipple Material	Pin Material	O-Ring Material	Pin Length Per CGA V1
<i>Nipples with Retractable Pin (includes brass nut as shown)</i>						
TLG580SLW*	¼" NPT	CGA 580R	Stainless Steel	Stainless Steel	Polyurethane	.834
TLG320SLWC	¼" NPT	CGA 320	Stainless Steel	Stainless Steel	Buna Nitrile	1.30
TLG590SLW*	¼" NPT	CGA 590R	Stainless Steel	Stainless Steel	Polyurethane	.834

TLG580SLW Rebuild Kit

Sherwood Part Number	Description
TL580A-30-R	Each kit includes 25 Plunger & Pin Assemblies
TL580SP	Nose Bushing Torque Spanner sold separately

Retractable Pin Adapters provide maximum operating flexibility to fill or evacuate a cylinder with either a conventional valve or a GSRPV. Engage the Pin Locking Tool (see below) and rotate the tool clockwise to depress the pin for use with a conventional valve. Or rotate the tool counterclockwise to release the pin for use with a GSRPV valve. The adapters incorporate an O-ring seal for a hand-tight connection.

Ordering Information

Sherwood Part Number	Inlet	Outlet	Nipple Material	Pin Material	O-Ring Material	Pin Length
<i>Nipples with Fixed Pin (includes brass nut as shown)</i>						
TLG320W	¼" NPT	CGA 320	Brass	Ni Plated Steel	Buna Nitrile	1.30
TLG320RW	¼" NPT	CGA 320R	Brass	Ni Plated Steel	Buna Nitrile	.45
TLG346S	¼" NPT	CGA 346	Brass	Stainless Steel	None	1.44
TLG346RS	¼" NPT	CGA 346R	Brass	Stainless Steel	None	.89
TLG350S	¼" NPT	CGA 350	Brass	Ni Plated Steel	None	1.44
TLG350RS	¼" NPT	CGA 350R	Brass	Ni Plated Steel	None	.89
TLG540B	¼" NPT	CGA 540	Brass	Monel	Buna Nitrile	1.49
TLG540RB	¼" NPT	CGA 540R	Brass	Monel	Buna Nitrile	.94

Ordering Information

Sherwood Part Number	Inlet	Outlet	Nipple Material	Pin Material	O-Ring Material	Pin Length
<i>Matching CGA Outlet and Inlet Adapter</i>						
TL580RD*	CGA 580 Female	CGA 580R Male	Brass	Ni Plated Steel	Buna Nitrile	.834
TL590RD*	CGA 590 Female	CGA 590R Male	Brass	Ni Plated Steel	Buna Nitrile	.834

Ordering Information

Sherwood Part Number	Description
TL580B	Pin Locking Tool

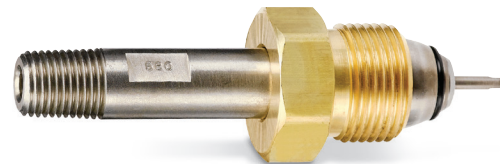
Used with Retractable Pin Adapter.

Ordering Information

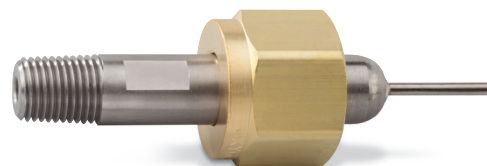
Sherwood Part Number	Description
TL580C	Checking Rod

Gas cylinders can be checked for content integrity by simply inserting the Checking Rod and pushing against the resistance of the check valve. The sound of escaping gas indicates residual cylinder pressure.

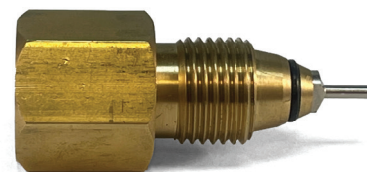
*Adapters can be used with GRPV Series



TLG580SLW



TLG346S



TL580RD

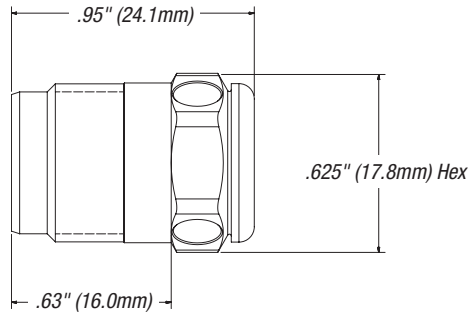


TL580B



TL580C

Pressure Relief Devices



P625-19X9-XXX

Ordering Information

Pressure Relief Device			-XX	Cylinder Working Pressure			Disc Rupture Range PSI @ 160° F	
CG-1 Frangible Disc No Fuse Metal	CG-4 * Frangible Disc 165° F Fuse Metal	CG-5 * Frangible Disc 212° F Fuse Metal		D.O.T. Spec 3A 3AA 3AL Cylinders PSI	D.O.T. Exemption Cylinders PSI	International Cylinders Bar	Min.	Max.
GV Low Pressure								
P625-19N9-26	P625-19C9-26M	P625-19C9-26W	-26	1665	—	—	2500	2775
P625-19N9-28	P625-19C9-28M	P625-19C9-28W	-28	1800	—	—	2700	3000
P625-19N9-32	P625-19C9-32M	P625-19C9-32W	-32	2015	—	—	3025	3360
P625-19N9-35	P625-19C9-35M	P625-19C9-35W	-35	2265	—	—	3400	3775
P625-19N9-38	P625-19C9-38M	P625-19C9-38W	-38	2400	—	—	3600	4000
P625-19N9-39	P625-19C9-39M	P625-19C9-39W	-39	—	—	200	3915	4351
P625-19N9-43	P625-19C9-43M	P625-19C9-43W	-43	2670	—	—	4005	4450
P625-19N9-46	P625-19C9-46M	P625-19C9-46W	-46	2900	—	—	4350	4833
P625-19N9-47	P625-19C9-47M	P625-19C9-47W	-47	2950	—	—	4425	4917
GVHM High Pressure								
P625-19N9H-48	—	P625-19C9H-48W	-48	3000	—	230	4500	5000
P625-19N9H-55	—	P625-19C9H-55W	-55	3500/3600	—	—	5250	5833
P625-19N9H-63	—	P625-19C9H-63W	-63	4000	—	—	6000	6665
P625-19N9H-65	—	P625-19C9H-65W	-65	—	4500	—	6075	6750
P625-19N9H-71	—	P625-19C9H-71W	-71	—	5000	—	6750	7500
P625-19N9H-78	—	P625-19C9H-78W	-78	5000	—	—	7500	8333
P625-19N9H-85	—	P625-19C9H-85W	-85	—	6000	—	8100	9000
P625-19N9H-95	—	P625-19C9H-95W	-95	6000	—	—	9000	10,000

* Copper disc must be used for hydrogen service.

Pressure relief devices come standard with a copper disc. For nickel disc option with CG-4 and CG-5, use an "N" in place of the "C" in the part number.

For chrome-plated CG1 PRDs, add "1" before Part Number. For example, P625-19N9H-XX becomes 1-P625-19N9H-XX.

Pressure Relief Device Technical Information is in the Appendix.

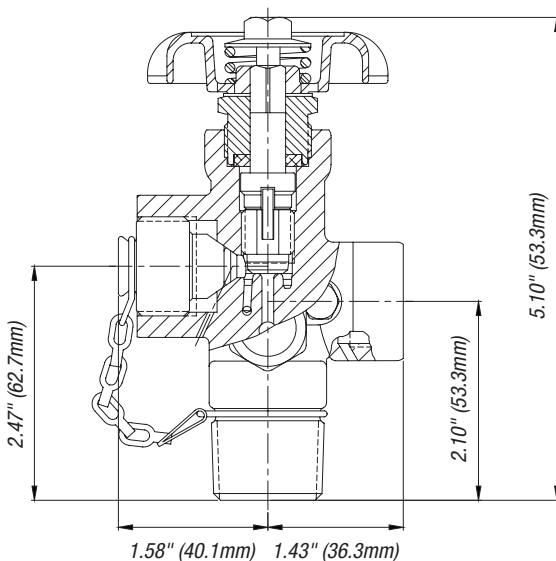
Industrial Gas Valves

BV Series

Valve Integrated Pressure Regulator Valve (VIPR)



BV6861-65-580T



Designed for use in larger capacity lightweight 4500 PSI cylinders, the BV Series features an integral regulator that reduces gas pressure on the 3000 PSI max outlet to 700–1000 PSI, enabling field use of a common UL® Rated 3000 PSI regulator.

Key Features & Benefits

- Unique dual outlet design enables use of lower or higher cylinder Working Pressure from the same valve/cylinder package
- Provides quick fill capability — no special filling or withdrawal adapters needed
- Strong, durable forged brass body manufactured by Sherwood to specifications stricter than most commercial forging specifications
- High-temperature aluminum alloy handwheel with large drainage holes
- Integral stainless steel tang helps prevent internal stem breakage
- Durable lower plug made of tough naval brass resists wear
- Lower plug is PTFE coated to add lubricity, which minimizes seizing and galling especially under high-pressure operation
- Internally threaded chamber design promotes longer life and helps protect valve body chamber threads from damage
- Nickel 201 rupture disc resists premature rupture that may be caused by corrosive ambient environments
- Inert PTFE packing provides leak-free stem seal, long cycle life and resistance to corrosion
- Regulator designed for long service life and tested to in excess of 16,000 cycles
- Pressure Relief Device strategically located in regulated pressure outlet prevents cylinder pressure from reaching downstream equipment
- Pressure Relief Device supplied standard for 4500 PSI cylinder with a test pressure of 1.5 times Working Pressure
- Regulated Outlet Pressure Relief Device rupture pressure is 2800–3000 PSI
- High-pressure outlet plug removal tool (Part Number 680PW-2) supplied separately to cylinder filling plants only

Ordering Information

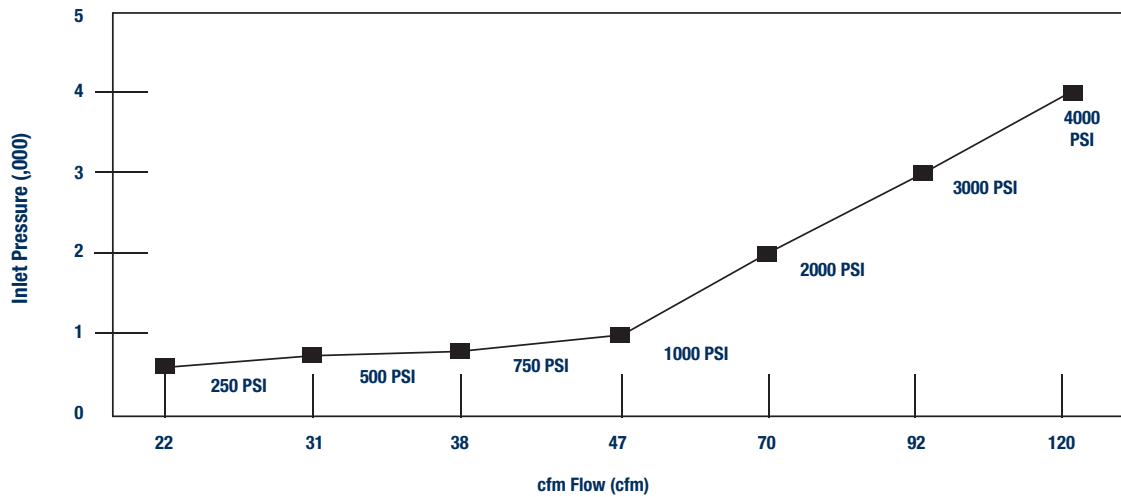
Sherwood Part Number	Gas Service	High Pressure Fill Port Connection	Regulated Outlet Connection	Regulated Outlet Pressure	Inlet	Cap & Plug
BV6861-STD-65-580T	Inert Gases	CGA 680 (high) .965–14 NGO RH Int.	CGA 580 (low)	700–1100 PSI @ 4500 PSI Inlet	¾" NGT	Yes
BV6861-65-580T	Inert Gases	CGA 680 (high) .965–14 NGO RH Int.	CGA 580 (low)	700–1100 PSI @ 4500 PSI Inlet	¾" NGT 24 Threads Oversize	Yes
BV6861-65-580TL	Inert Gases	CGA 680 (high) .965–14 NGO RH Int.	CGA 580 (low)	700–1100 PSI @ 4500 PSI Inlet	¾" NGT 24 Threads Oversize	No
680PW-2PK	Spanner Wrench Tool (Pack of 10)					

For Product Markings Reference, see **D** in the Appendix

BV Series

VIPR Valve

BV Series Regulated Outlet Flow



Design Specifications

	English	Metric
Test Pressure	4500 PSI	310 Bar
Proof Pressure	20,000 PSI	1379 Bar
Regulated Outlet Pressure @ 4500 PSI inlet Pressure	700–1100 PSI	48–76 Bar
Operating Temperature Range	-50° F to +120° F	-45° C to +49° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Minimum Cycle Life	5000 Cycles	5000 Cycles
Operating Torque	20–30 in.-lbs.	2.2–3.4 N-m
Closing Torque	10–20 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	70–80 ft.-lbs.	95–108.4 N-m
Outlet Fill Port with o-ring Installation Torque	24–36 in.-lbs.	2.7–4.1 N-m
Stem Nut Installation Torque	Nut flush with top of stem	Nut flush with top of stem
650-19 Series PRD Installation Torque	30–40 ft.-lbs.	40.3–53.7 N-m
4000-60-29 PRD Installation Torque	70–80 in.-lbs.	94.3–107.7 N-m

Industrial Gas Valves

BV Series

Valve Integrated Pressure Regulator Valve (VIPR)

Material of Construction	
Part Description	Materials of Construction
Body	Brass C37700
Filter	Sintered Bronze 65–100 Micron
Plug and Seat Assembly	
Plug	Nylon Zytel 101
Seat	Naval Brass C48500 PTFE Coated
Bonnet	Brass C37700
Handwheel	Aluminum A380
Nut	AISI 1010 Steel Corrosion Protective Coating
Handwheel Spring	Hard Drawn Spring Steel Cadmium or Zinc Plate
Washer, Handwheel	High Density Gray Fiber Paraffin Coated
Packing	Virgin PTFE
Plug Assembly	
Ring	Brass Wire
Chain	Brass
Plug	Brass C36000
O-Ring	Buna-N (680P-20) or Viton® (701P-20)
Pin	Carbon Steel C1215 Zinc Plated
Piston & Spring Assembly	
Piston	Brass C36000 ½ Hard
Seat	PCTFE
O-Ring	Viton® 75+ or -5 Durometer
Back-up Ring	PTFE
Spring	Stainless Steel 301 Passivated
Shim	Brass C26000
Gasket	Copper Annealed Soft
Safety Plug Assembly	
Body	Brass C36000
Retainer	Copper C11000
Burst Disc	Nickel 201
Safety Cap Assembly	
Gasket	Copper CDA 110
Burst Disc	Nickel 201
Safety Cap	Brass C36000

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S-1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Connections
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

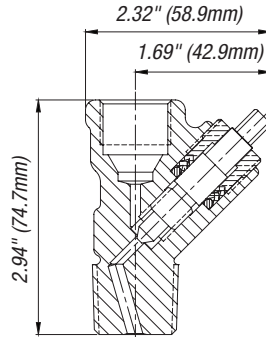
Replacement Parts		
Sherwood Part Number	Description	Quantity
1250B-40XPK	Plug and Seat	Varies
1250-2PK	Bonnet	25
1401PK	Handwheel	50
47-1003PK	Handwheel Nut	50
45-1012PK	Handwheel Spring	100
1250-6PK	PTFE Packing	100
4000-60-29PK	Regulator PRD	50
650-19F9-65PK	Pressure Relief Device Unitized Assembly Includes Plug, Rupture Disc and Webbed Seal Washer	50

AV Series

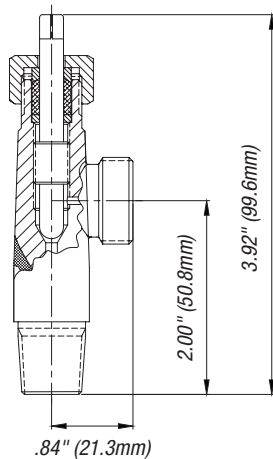
Small Cylinder Acetylene Wrench-Operated Valves



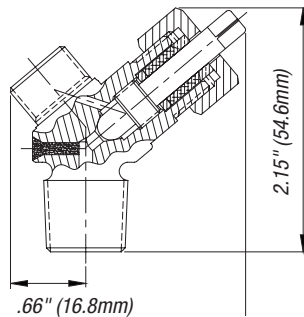
AV5160WB



AVB521



AVMC201



Key Features & Benefits

AV5160WB

- Use with 390 cu. ft. capacity (WB style) cylinders
- Enables easy access and operation within the cylinder collar

AVB521

- Use with 40 cu. ft. capacity (B style) cylinders
- Provides rugged durability in construction and field servicing applications
- Enables positive shut-off

AVB521S

- Use in manifold applications
- Clearly labeled "Manifold" with red bonnet nut
- Designed without fuse metal (no internal PRD)

AVB521SM

- Use in manifold applications in corrosive environments
- Features stainless steel stem
- Clearly labeled "Manifold" with red bonnet nut
- Designed without fuse metal (no internal PRD)

AVMC201

- Use with 10 cu. ft. capacity (MC style) cylinders
- Ideal for brazing and cutting applications
- Enables positive shut-off

Ordering Information

Sherwood Part Number	CGA	Outlet Thread Size	Inlet Thread Size	Fusible Metal
AV5160WB	510	.885–14 NGO LH Int.	¾" NGT	—
AVB521	520	.895–18 NGO RH Ext.	¾" NGT	212° F
AVB521S (Manifold)	520	.895–18 NGO RH Ext.	¾" NGT	None
AVB521SM (Manifold)	520	.895–18 NGO RH Ext.	¾" NGT	None
AVMC201	200	.625–20 NGO RH Ext.	¾" NGT	212° F

For Product Markings Reference, see **D** in the Appendix

Acetylene Valves

AV Series

Small Cylinder Acetylene Wrench-Operated Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	500 PSI	34 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻³ atm cc/sec.	1x10 ⁻³ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .14	
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Operating Torque AVB & AVMC Valves AV5160WB	6 –10 in.-lbs. 14-16 in.-lbs.	.7 – 1.1 N-m 1.6 - 1.8 N-m
Operating Torque	4 - 6 in.-lbs.	.4 - .7 N-m
Bonnet Nut Installation Torque AVB & AVMC Valves	15–35 in.-lbs.	1.7–3.9 N-m
Bonnet Nut Installation Torque AV5160WB	25–35 ft.-lbs.	34–47 N-m

Standards Conformance	
CGA V-9	Standards for Gas Cylinder Valves
CGA S1.1	Standards for Pressure Relief Devices
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Replacement Part Kits		
Sherwood Part Number	Description	Quantity
2000-9B30PK	Packing Gland	100
2000-9B20PK	Packing	100
2000-9B75PK	Packing Washer	100
5-5200A-2B00PK	AVB Stem	100
5-2000A-2B00PK	AVMC Stem	100

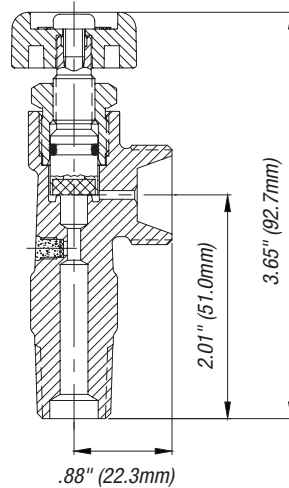
Material of Construction	
Part Description	Materials of Construction
<i>AVMC201</i>	
Lubricant	Dow Corning 55M
Packing Nut	Brass C36000
Packing Gland	Brass C36000
Packing	PTFE
Packing Washer	Brass C36000
Needle	Steel, Zinc Plated
Body	Brass C37700 & Fuse Metal
<i>AVB521SM</i>	
Retaining Ring	Stainless Steel
Strainer	Monel
Lubricant	Dow Corning 55M
Packing Nut	Brass C36000
Packing Gland	Brass C36000
Packing	PTFE
Packing Washer	Brass C36000
Needle	Stainless Steel
Body	Brass C37700
<i>AVB521S</i>	
Retaining Ring	Stainless Steel
Strainer	Monel
Lubricant	Dow Corning 55M
Packing Nut	Brass C36000
Packing Gland	Brass C36000
Packing	PTFE
Packing Washer	Brass C36000
Needle	Steel, Zinc Plated
Body	Brass C37700
<i>AV5160WB</i>	
Lubricant	Dow Corning 55M
Packing	PTFE
Bonnet	Brass C36000
Needle	Stainless Steel
Adapter	Brass C36000
Body	Brass C37700
<i>AVB521</i>	
Lubricant	Dow Corning 55M
Packing Nut	Brass C36000
Packing Gland	Brass C36000
Packing	PTFE
Packing Washer	Brass C36000
Needle	Steel, Zinc Plated
Body	Brass C37700 & Fuse Metal

AV-HW Series

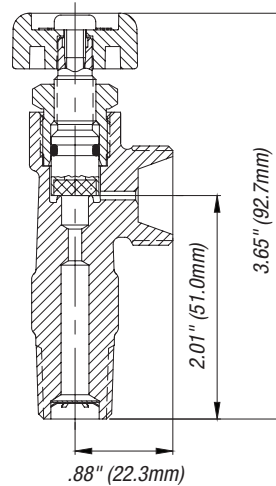
Small Cylinder Acetylene Handwheel-Operated Valves



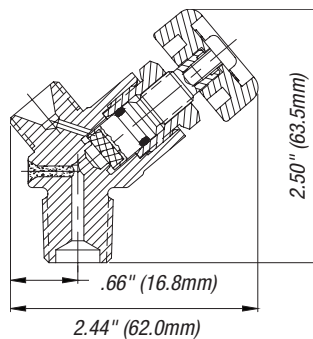
AVB521HW



AVB521HWM



AVMC201HW



Key Features & Benefits

All AV-HW series valves are offered with protected internal bonnet design.

AVB521HW

- Use with B style cylinders
- Handwheel enables ease of use in transportation and in the field
- Provides rugged durability for construction and field servicing applications

AVB521HWM

- Use in manifold applications
- Clearly labeled "Manifold" with red handwheel
- Enables ease of use in transportation and in the field
- Designed without fuse metal (no internal PRD)

AVMC201HW

- Use with 10 cu. ft. capacity (MC style) cylinders
- Enables ease of use in transportation and in the field
- Ideal for brazing and cutting applications

Ordering Information

Sherwood Part Number	CGA	Outlet Thread Size	Inlet Thread Size	Fusible Metal
AVB521HW	520	.895-18 NGO RH Ext.	3/8" NGT	212° F
AVB521HWM	520	.895-18 NGO RH Ext.	3/8" NGT	None
AVMC201HW	200	.625-20 NGO RH Ext.	3/8" NGT	212° F

For Product Markings Reference, see **B** in the Appendix

Acetylene Valves

AV-HW Series

Small Cylinder Acetylene Handwheel-Operated Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	500 PSI	34 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻³ atm cc/sec.	1x10 ⁻³ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .15	
Operating Torque	10 -20 in.-lbs	1 – 2 N-m

Standards of Conformance	
CGA V-9	Standard for Gas Cylinder Valves
ISO10297	International Standard for Cylinder Valves Design Specifications
CGA V-1	Compressed Gas Cylinder Valve Outlet
CGA S1.1	Standard for Pressure Relief Devices
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Replacement Parts		
Sherwood Part Number	Description	
78-2058-7-KIT	Gold Handwheel & Screw	25
79-2058-7-KIT	Red Handwheel & Screw	25
3329-13Y-KIT	Stem Assembly	25

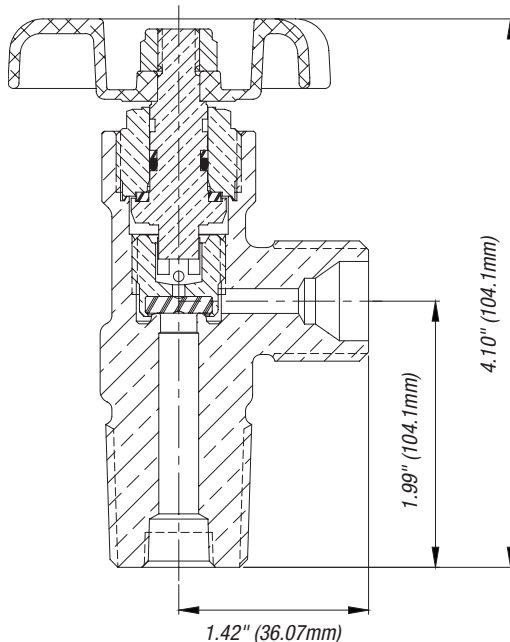
Materials of Construction	
Part Description	Materials of Construction
Handwheel	Aluminum A380
Screw	Zinc Plated Alloy Steel
Stem	Brass C36000
Bonnet	Brass C36000
O-Ring	Ethylene Propylene (EPDM)
Seat	Nylon, Zytel 101
Body	Forged Brass C37700
Lubricants	Christo-Lube
Fuse Metal	Bismuth, Lead, Cadmium, Tin
Retaining Ring (AVB521HWM)	PH15-7 MO Stainless Steel
Strainer (AVB521HWM)	Wire Monel Cloth

GSV Acetylene Series

Large Cylinder Acetylene Valves



GSV51060



Key Features & Benefits

- Durable forged brass body, precisely machined internal components and design elements have been upgraded to meet the newest revision of ISO 10297 and CGA V-9.
- High-temperature aluminum alloy handwheel with large drainage holes
- 100% helium leak tested
- Designed with low-torque operation for easy hand use
- Durable lower plug made of tough naval brass resists wear
- Precise quality machining results in exceptional finishes for low-torque sealing
- Metal-to-metal seal below bonnet threads prevents pressure accumulation at top of valve body
- High durometer back-up ring prevents extrusion of O-ring in extreme applications
- Direct drive stem design with optimized single O-ring seal reduces friction and operates at exceptionally low torque levels

Ordering Information

Sherwood Part Number	CGA Outlet Number	Outlet Thread Size	Inlet Thread Size
GSV30040	300	.825"–14 NGO RH Ext. (Commercial)	½" NGT
GSV30060	300	.825"–14 NGO RH Ext. (Commercial)	¾" NGT
GSV30080	300	.825"–14 NGO RH Ext. (Commercial)	1" NGT
GSV41060	410	.850"–14 NGO LH Ext. (Canadian Std.)	¾" NGT
GSV51040	510	.885"–14 NGO LH Int. (POL)	½" NGT
GSV51060	510	.885"–14 NGO LH Int. (POL)	¾" NGT
GSV51080	510	.885"–14 NGO LH Int. (POL)	1" NGT

For Product Markings Reference, see **A** in the Appendix

Acetylene Valves

GSV Acetylene Series

Large Cylinder Acetylene Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	500 PSI	34 Bar
Burst Pressure	13,184 PSI	909 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻³ atm cc/sec.	1x10 ⁻³ Bar mL/sec..
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .690	
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Operating Torque	10–20 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	50–60 ft.-lbs.	68–81 N-m
Handwheel Nut Installation Torque	25–45 in.-lbs.	2.8–5.2 N-m

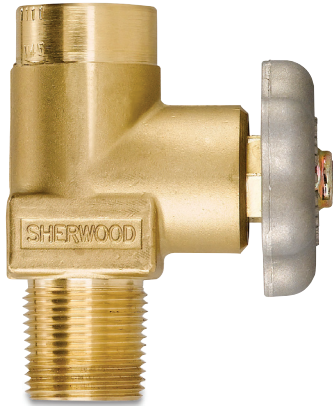
Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Replacement Parts		
Sherwood Part Number	Description	Quantity
1251-6PK	Handwheel Nut	100
1919APK	Handwheel	200

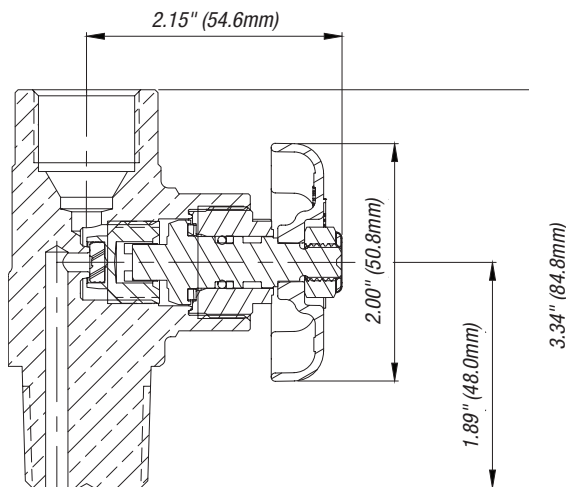
Part Description	Materials of Construction
Body	Forged Brass C37700;
Bonnet	Brass C36000; Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Lower Plug	Brass C48500
Lower Plug Seat	Nylon Zytel 101
Stem	Brass C36000
O-Ring	Ethylene Propylene (EPDM)
Back-up O-Ring	Ethylene Propylene (EPDM)
Lubricant	Christo-Lube
Thrust Washer	Delrin® 500 AF

GSVT Series

Vertical Outlet Acetylene Valves



GSVT51060



Key Features & Benefits

- Used on 360° collar type cylinders (including WB, WQ, WS, WT and WK style)
- Heavy-duty brass forged body
- O-ring designed for leak integrity and easy operation
- Handwheel eliminates interference with cylinder collar
- Easy-to-read valve markings roll stamped on outlet neck
- Soft seat design provides positive shut-off

Ordering Information

Sherwood Part Number	CGA Outlet	Outlet Thread Size	Inlet Thread Size
GSVT51060	510	.885–14 NGO LH Int.	¾"NGT
GSVT30060	300	.825–14 NGO RH Ext.	¾"NGT

For Product Markings Reference, see **A** in the Appendix

Acetylene Valves

GSVT Series

Vertical Outlet Acetylene Valves

Design Specifications		
	English	Metric
Max. Working Pressure	500 PSI	34.5 Bar
Burst Pressure	15,000 PSI	1034 Bar
Leak Rate	1x10 ⁻³ atm cc/sec.	1x10 ⁻⁵ Bar mL/sec.
Operating Temperature Range	-50° F to +149° F	-46° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Cycle Life Min.	2000 Cycles	2000 Cycles
Operating Torque	10–20 in.-lbs.	1.1–2.2 N-m
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Bonnet Installation Torque	50 - 60 ft. lbs.	68-81 N-m
Handwheel Nut Installation Torque	15-35 in. lbs.	1.7 - 3.9 N-m
Cv Flow Factor	.69	.69

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S-1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Connections
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Material of Construction	
Part Description	Materials of Construction
Handwheel	Aluminum ASTM SC84B
Locknut	Class 8 Steel with Nylon Insert
Stem	Brass C36000
Bonnet	Brass C36000 H02 Temper ½ Hard or CW614N Brass (European)
Backup O-Ring	Ethylene Propylene (EPDM)
O-Ring	Ethylene Propylene (EPDM)
Thrust Washer	Delrin® 500AF
Plug and Seat Subassembly	
Plug	Leaded Naval Brass C48500
Seat	Nylon, Zytel 101
Body	Forged Brass C37000
Lubricants	Christo-Lube

KVAC Series

Post Medical Valves



KVAC87044F-XX

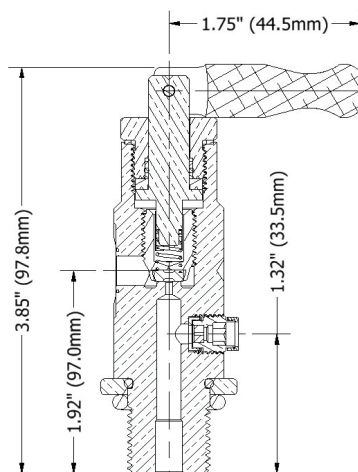
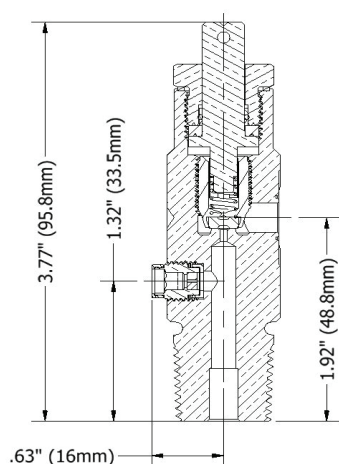


KVACB87054-XXRTG

Post-type medical valves for "F" and "D" type cylinders and used for all CGA-860 yokes.

Key Features & Benefits

- Inert PTFE packing provides leak-free stem seal, long cycle life and resistance to corrosion
- Secondary O-ring helps to provide a secure seal under vacuum purging and low-pressure operation
- Strong, durable body is made from extruded brass rod and coated with a protective chrome finish
- Chamber design protects threads and stem from damage
- Exceptional machining finishes for low-torque sealing and long packing life
- Durable lower plug is made of tough naval brass and coated with PTFE for lubricity
- Pressure Relief Device is an integrated assembly to ensure proper assembly and to resist tampering
- Designed for use with all yokes made to CGA 860 drawing specifications
- Available in wrench or toggle type



Medical Valves

KVAC Series

Post Medical Valves

For further information, see Data Code Tables on page 67–68.

Ordering Information					
Sherwood Part Number	Gas Service	Safety	CGA Outlet	Pin Indexing Hole Numbers	Inlet Thread Size
KVAC87044F-XX KVAC87054-XX	Oxygen	CG-4	870	Pins #2 and #5	½" NGT .750–16 UNF-2A
KVAC88044F-XX KVAC88054-XX	Oxygen and Carbon Dioxide Mixtures	CG-4	880	Pins #2 and #6	½" NGT .750–16 UNF-2A
KVAC89044F-XX KVAC89054-XX	Oxygen and Helium Mixtures	CG-4	890	Pins #2 and #4	½" NGT .750–16 UNF-2A
KVAC91041-XX KVAC91051-XX	Nitrous Oxide	CG-1	910	Pins #3 and #5	½" NGT .750–16 UNF-2A
KVAC93044F-XX KVAC93054-XX	Helium	CG-4	930	Pins #4 and #6	½" NGT .750–16 UNF-2A
KVAC94041-XX KVAC94051-XX	Carbon Dioxide	CG-1	940	Pins #1 and #6	½" NGT .750–16 UNF-2A
KVAC95044F-XX KVAC95054-XX	Air	CG-4	950	Pins #1 and #5	½" NGT .750–16 UNF-2A
KVAC96044F-XX KVAC96054-XX	Nitrogen	CG-4	960	Pins #1 and #4	½" NGT .750–16 UNF-2A
KVAC96541-XX KVAC96554-XX	Nitrous Oxide and Oxygen Mixtures	CG-1 CG-4	965	Pin #7	½" NGT .750–16 UNF-2A
KVAC97344-XX KVAC97354-XX	Medical Gas Mixtures	CG-4	973	Pins #11 and #24	½" NGT .750–16 UNF-2A

OPTIONS

- All valves are supplied with rupture discs rated for 2015 PSI Working Pressure cylinders. Rupture discs rated for other Working Pressures available on request.
 - To order ⅛" NPT modified gauge port, add "G" to end of Part Number (e.g. KVAC87054-32G).
 - To order rugged diecast aluminum toggle lever, add "TG" to end of Part Number (e.g. KVAC87054-32 becomes KVAC87054-32TG).
 - To order PTFE inlet O-ring, add "R" to end of Part Number (e.g. KVAC87054-32 becomes KVAC87054-32R).
- THIS OPTION ONLY AVAILABLE ON .750–16 UNF-2A INLET VALVES. XX = PRD Safety

Replacement Parts						
Pressure Relief Device Sherwood Part Number	Quantity	-XX	Cylinder Working Pressure	Color-Coded Ring to Designate Pressure (6513 MFX only)	Disc Rupture Range PSI @ 160° F	
					Min.	Max.
CG-1 (No Fuse Metal)						
9-4000-60-28PK	25	-28	1800 PSI	Orange	2700	3000
9-4000-60-32PK	25	-32	2015 PSI	None	3025	3360
9-4000-60-48PK	25	-48	3000 PSI	Black	4500	5000
CG-4 (165° F Fuse Metal)						
6513MFA-28PK	25	-28	1800 PSI	Orange	2700	3000
6513MFA-32PK	25	-32	2015 PSI	None	3025	3360
6513MFA-48PK	25	-48	3000 PSI	Black	4500	5000

KVAC Series

Post Medical Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Burst Pressure	12,000 PSI	827 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Leak Rate Internal/External	1x10 ⁻³ cc/sec.	1x10 ⁻³ Bar mL/sec.
Cv Flow Factor	Standard: .102	
Minimum Cycle Life	5000 Cycles	
Opening Torque	8–10 in.-lbs	1–1.1 N-m
Closing Torque	8–10 in.-lbs	1–1.1 N-m
Operating Torque	10–30 in.-lbs	1.1–3.4 N-m
Bonnet Torque	25–30 ft.-lbs.	33.9–40.6 N-m
PRD Torque	50–65 in.-lbs.	5.6–7.3 N-m

Standards Conformance	
CGA V-9	Standard for Compressed Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Inlet O-Ring for Straight Threaded KVAB Series Medical Valves			
Sherwood Part Number	Inlet Size	Material	Quantity
G210JPK	.750–16 UNF	Viton®	100
G210TPK	.750–16 UNF	PTFE	100

Part Description	Materials of Construction
Body	Brass C36000, Chrome Plated
Packing Washer	Copper
Bonnet & Stem Assembly	
Bonnet	Brass C36000, Nickel Plated
Stem	Brass C36000, Nickel Plated
Packing	PTFE
O-ring	Viton®
Backup ring	PTFE
Spring	316 Stainless Steel
Seat Assembly	
Plug	Leaded Naval Brass C48500, PTFE Coated
Seat Insert	Nylon, Zytel 101
Flange Ring	Brass C36000, Nickel Plated
Flange O-Ring	Viton®
Pressure Relief Device	
Plug	Brass C36000, Nickel Plated
Disc	Nickel
Gasket	Nylon, Zytel 101
Toggle	Diecast Aluminum, Chrome Plated
Toggle Pin	303 Stainless Steel

Lubricants

KVAC valves require no lubrication on any internal component except for the stem O-ring and the copper gasket. The lubrication used on these parts **MUST** be oxygen compatible. Sherwood recommends the use of Christo-Lube, Fluorolube® GR362, Krytox® 240AB or an equivalent lubricant.



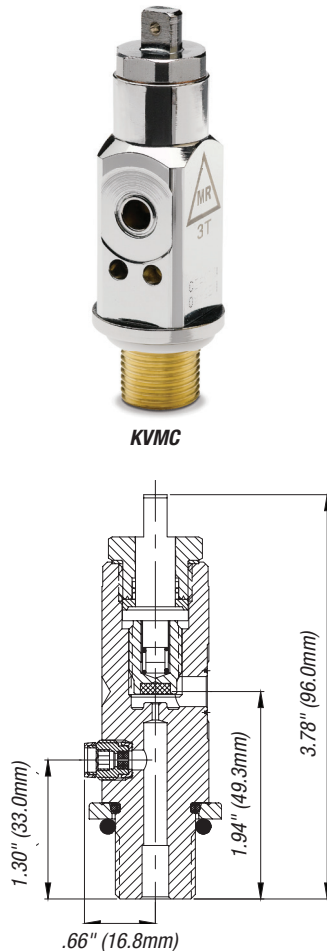
TL-KTS-C

Tool for Insertion/Crimping to replace KVAB toggle 1-KTS-1C and toggle pin J33-09308SS

Medical Valves

KVMC Series

Post Medical Valves for Use in Magnetic Resonance Imaging (MRI) Environments



Key Features & Benefits

- Special construction process significantly reduces magnetic attraction
- Meets all known tests for MRI-conditional components used in conjunction with a magnetic resonance imager for Level 3 Tesla requirements
- Clearly identified for hospital settings
- ASTM standard F 2503-05 marking
- Inert PTFE packing provides leak-free stem seal and resistance to corrosion
- Secondary O-ring helps to provide a secure seal under vacuum purging and low-pressure operation
- Strong, durable body is made from extruded brass rod and coated with a protective chrome finish
- Chamber design protects threads and stem from damage
- Exceptional machining finishes for low-torque sealing and long packing life
- Durable lower plug is made of tough naval brass and coated with PTFE for lubricity
- Copper sealing gasket provides permanent, leak-resistant bonnet seal
- Pressure Relief Device (PRD) is a single unit to ensure proper assembly and to resist tampering
- For use with all yokes made to CGA 860 drawing specifications
- Available in wrench, toggle or handwheel type
- Nominal stroke is 1.5 turns, full flow at $\frac{1}{3}$ turn

Ordering Information

Sherwood Part Number	Gas Service	Safety	CGA Outlet	Pin Indexing Hole Numbers	Inlet Thread Size
KVMC87054-XX	Oxygen	CG4	870	Pins #2 and #5	.750-16 UNF-2A
KVMC91051-XX	Nitrous Oxide	CG1	910	Pins #3 and #5	.750-16 UNF-2A
KVMC95054-XX	Air	CG4	950	Pins #1 and #5	.750-16 UNF-2A

OPTIONS

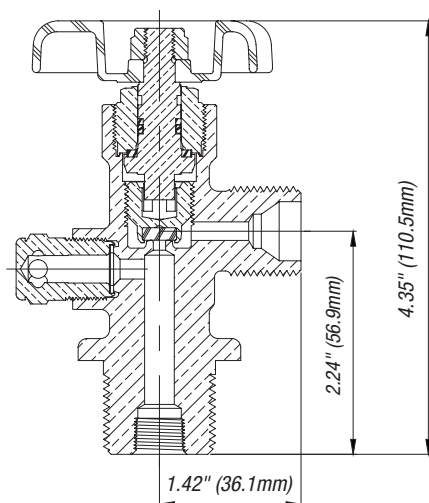
- To order rugged diecast aluminum toggle lever, add "TG" to end of Part Number (e.g. KVMC87054-32R) becomes (KVMC87054-32RTG).
- To order PTFE inlet O-ring, add "R" to end of Part Number (e.g. KVMC87054-32 becomes KVMC87054-32R). THIS OPTION ONLY AVAILABLE ON .750-16 UNF-2A INLET VALVES. XX= PRD Safety

GSV MRI Series

Global Valves for Use in MRI Environments



GSV54051-XXMRI



High Capacity Oxygen Valve designed for use in Magnetic Resonance Environments (MRI), specifically when installed on high-capacity aluminum cylinders.

Key Features & Benefits

- Supports aluminum cylinder capacity to 265 cu. ft. with various straight-threaded inlet sizes to fit your needs
- Special construction process significantly reduces magnetic attraction
- Tested and meets all known tests for MRI-compatible components used in conjunction with a magnetic resonance imager for Level 3 Tesla requirements
- Clearly identified for hospital settings with ASTM standard F 2503-05 markings
- 100% helium leak tested
- Heavy-duty forged brass body for durability and high pressure
- Precisely machined internal components meet the most stringent international valve performance standards
- Pressure Relief Device (PRD) is a unitized plug design which provides excellent flow characteristics, ensures proper assembly and tamper resistance
- Metal-to-metal seal below bonnet threads prevents pressure in the threads at the top of the valve body
- Direct-drive stem design with optimized O-ring (GSV) seal reduces friction and operates at exceptionally low torque levels
- Inlet and outlet thread configurations are available for a broad spectrum of customer, country and code specifications
- Tapped for dip tube as required

For Product Markings Reference, see **A** in Appendix

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA	Outlet Thread Size	Inlet Thread Size
GSV32051-XXMRI	0–3000 PSI	320	.825–14 NGO RH Ext.	1½–12 UNF
GSV32051-XX-75MRI	0–3000 PSI	320	.825–14 NGO RH Ext	¾–16 UNF
GSV32651-XXMRI	0–3000 PSI	326	.825–14 NGO RH Ext	1½–12 UNF
GSV32651-XX-75MRI	0–3000 PSI	326	.825–14 NGO RH Ext	¾–16 UNF
GSV34651-XXMRI	0–3000 PSI	346	.825–14 NGO RH Ext	1½–12 UNF
GSV34651-XX-75MRI	0–3000 PSI	540	.903–14 NGO RH Ext.	¾–16 UNF
GSV54051-XXMRI	0–3000 PSI	540	.903–14 NGO RH Ext	1½–12 UNF
GSV54051-XX-75MRI	0–3000 PSI	540	.903–14 NGO RH Ext	¾–16 UNF
GSV58051-XX-MRI	0–3000 PSI	580	.965–14 NGO RH Ext.	¾–16 UNF
GSV58051-XX-75MRI	0–3000 PSI	580	.965–14 NGO RH Int.	1½–12 UNF

For more information, refer to GSV Design Specification page



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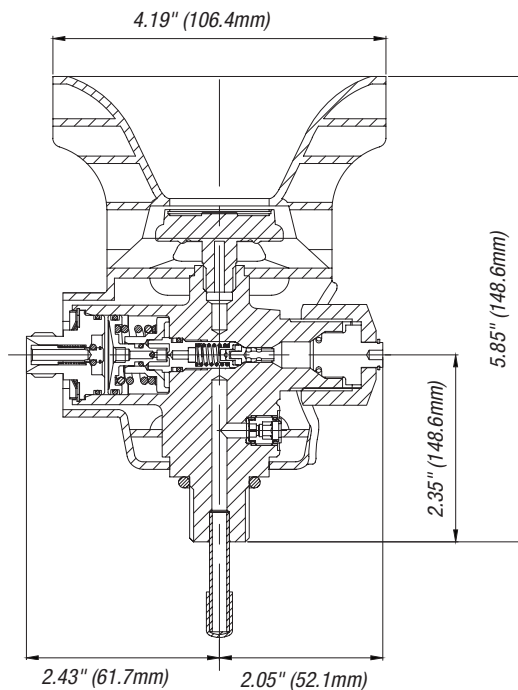
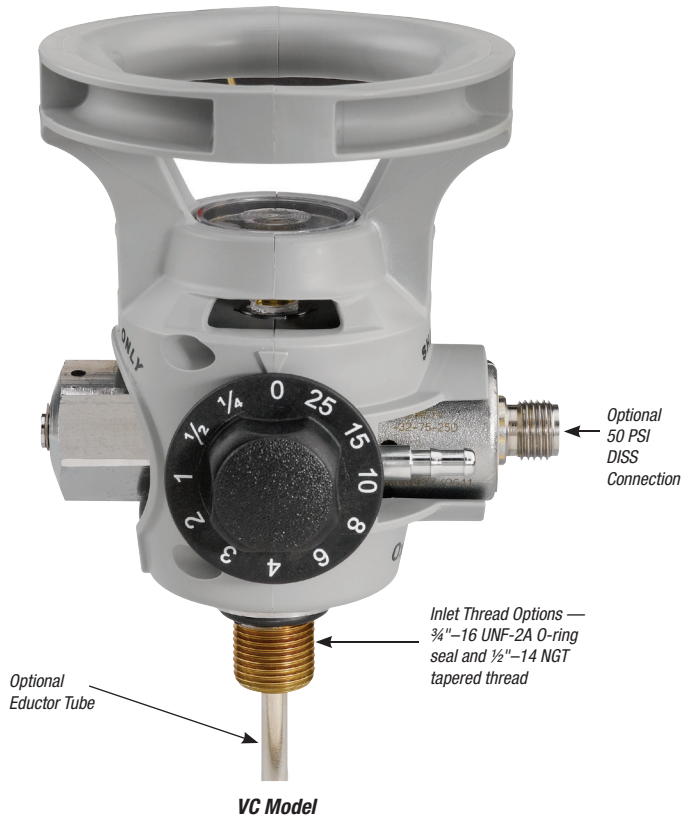


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Medical Valves

OxyGen I Series

Oxygen Valves with Integrated Pressure Regulators



Key Features & Benefits

Compact, Easy-to-Use Design

- Designed for ambulatory service applications, combines on/off with reduced pressure for direct patient care
- A 35% lower profile than comparable models provides more efficient racking and storage capabilities
- 15 to 25% lighter weight than comparable models
- Ergonomically designed shroud with carrying handles improves mobility and reduces user fatigue
- Shroud circumference is sized to fit within the footprint diameter of standard Medical-E cylinders
- Pressure gauge located at the top of the unit is clearly visible and protected by the shroud handle

Reliable, Quality Product

- Tested and meets all known tests for MRI-compatible components used in conjunction with a magnetic resonance imager for Level 3 Tesla requirements
- Flow rate accuracy within $\pm 10\%$ of dial setting
- Regulator adjustment knob with positive flow detents guards against inadvertent flow setting changes
- Inspection windows in the shroud permit convenient leak inspection
- All units are 100% helium leak tested
- Each unit is assigned a unique serial number for positive identification and tracking
- Fill and evacuation rates are equivalent to standard post medical valves and deliver substantial time and money savings on the fill line
- Shroud is made of a durable, high-performance nylon ABS polymer blend and exhibits excellent chemical and UV resistance
- Cleaned for oxygen service and oil free per ASTM G-93

OxyGen I Series

Oxygen Valves with Integrated Pressure Regulators — Model VC (Master Shut-Off Valve)



VC Model

Key Features & Benefits

- Check valve design prevents pressure to the fill connection during therapy applications
- Master Shut-Off Valve isolates pressure from both the regulator and hose barb connection
- Protective shroud shields the Master Shut-Off Valve from unintended operation of the handwheel

Ordering Information Model VC Version

Sherwood Part Number	DISS Connection	Flow Setting	Fill Connection	Inlet Connection
OxyGen I Series Model VC Master Shut-Off Valves				
VRAM5TVC-32-75-15	—	0–15 LPM	CGA 540 Check Valve	¾"–16 UNF-2A Aluminum Cylinder
VRAM5TVC-32-75-15D	✓	0–15 LPM	CGA 540 Check Valve	¾"–16 UNF-2A Aluminum Cylinder

NOTE: 32 in Part Number = 2015 Working Pressure, 3360 PSI standard Pressure Relief Device (PRD). Use TL2051VC fill tool for Master Shut-Off Valve.

Design Specifications		
	English	Metric
Fill Connection	CGA 540	
Outlet Connection	Barbed Fitting for ¼" I.D. Hose	
Maximum Working Pressure	3000 PSI	207 Bar
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Leak Rate Internal/External	1x10 ⁻³ cc/sec.	1x10 ⁻³ Bar mL/sec.
Flow Range	0, ¼, ½, 1, 2, 3, 4, 6, 8, 10, 12, 15 LPM	
PRD Torque	50–65 in.-lbs.	5.6–7.3 N-m
Barbed Fitting Torque	15–20 in.-lbs.	1.7–2.2 N-m
Bonnet Torque	13–15 ft.-lbs.	17.6–20.3 N-m



VC Model: Filling process requires a special 540 connection tool to override the back check mechanism (Part Number TL2051VC, shown here)

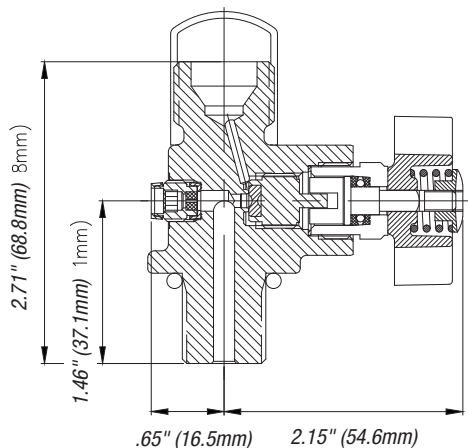
PLEASE NOTE: These components cannot be sold in Canada due to licensing restrictions. Potential customers outside the US should check licensing restrictions before considering purchase. These are fully approved for US distribution.

Medical Valves

YVBA Series
Vertical Outlet Oxygen Valves



YVBA5454-XX-75



Compact and designed for home healthcare use on small medical aluminum and composite cylinders.

Key Features & Benefits

- Compact design
- Chamber designed for easy operation
- Aluminum Silicon Bronze stem design for dependable service and long life
- Durable lower plug made of tough naval brass resists wear
- Lower plug is PTFE coated to add lubricity, which minimizes seizing and galling especially under high-pressure operation
- Internal bonnet gasket seal resists damage to chamber sealing area
- Compact molded Lexan® polycarbonate handwheel is easy to operate
- Single unit, compact Pressure Relief Device incorporates 165° F fusible metal backing to resist premature rupture and provide maximum cylinder protection
- Chrome plated for corrosion resistance and cosmetic appeal

Ordering Information				
Sherwood Part Number	CGA Outlet	Outlet Thread Size	Inlet Thread Size	Gauge
YVBA5454-XX-75	540	.903-14 NGO RH Ext.	.750-16 UNF-2A	None
YVBA5454-XX-75G	540	.903-14 NGO RH Ext.	.750-16 UNF-2A	1/8" NPTF

All valves supplied with CG-4 165° F fusible metal backed, flush-style Pressure Relief Devices and nickel rupture discs.
XX denotes Pressure Relief Device burst disc rupture pressure.
Valves are available in -28 (3000 Max. PSI), -32 (3360 Max. PSI) and -48 (5000 Max. PSI).

For Product Markings Reference, see **D** in the Appendix

YVBA Series

Vertical Outlet Oxygen Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Operating Temperature Range	-50° F to +120° F	-45° C to +49° C
Minimum Cycle Life	5000 Cycles	5000 Cycles
Operating Torque	3–5 in.-lbs.	.3–.6 N-m
Closing Torque	5–7 in.-lbs.	.6–.8 N-m
Bonnet Installation Torque	25–30 ft.-lbs.	33.9–7.3 N-m
PRD Installation Torque	50–65 in.-lbs.	5.6–7.3 N-m
Stem Nut Installation Torque	Nut Flush with Top of Stem	

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Body	Brass C37700 Chrome Plated
Bonnet	Brass, UNS ASTM-B16-53 Chrome Plated
Gasket	Copper
Handwheel	Lexan®
Plug and Seat Assembly	
Plug	Aluminum Silicon Bronze C64200
Seat	Nylon, Zytel 101 or Celanese 1000-11
Packing	Viton®
Packing	PTFE
Panel Mount Nut (as required)	Brass C36000, Chrome Plated
Spring	Type 302 Stainless Steel, Passivated
Stem	Aluminum Silicon Bronze Alloy #708-8 Nickel Plated
Stem Nut	Brass C36000

Inlet O-Ring for Straight Threaded YVB Valves		
Sherwood Part Number	Material	Quantity
G210A-9PK	Buna-N	50
G210TPK	PTFE	100
G210JPK	Viton®	100

Replacement Parts		
Sherwood Part Number	Description	Quantity
3506-9PK	Lower Plug	50
6521SPK	Handwheel	25
3506-10PK	Gasket	200
3506-18PK	Packing	100
19-3506-11PK	Spring	100
9-3506-12PK	Stem	100
1-3506-8PK	Stem Nut	100

Chlorine Gas Valves

Chlorine Gas Valves

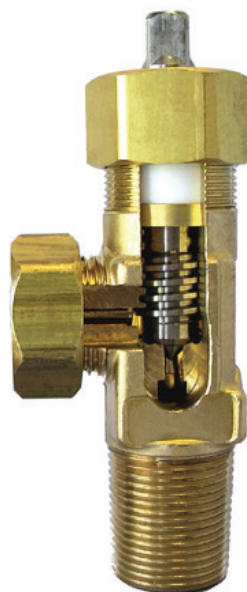
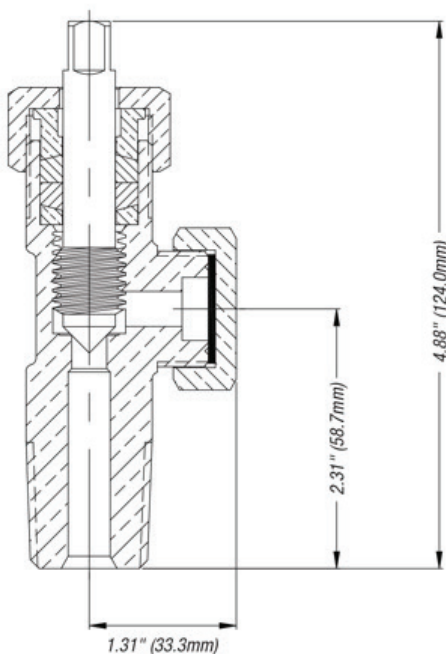
1210 & 1214 Series



1214X1-B1

Key Features & Benefits

- Manufactured in conformance to Chlorine Institute Pamphlet 17
- One-piece Monel® stem offers exceptional durability and positive shut-off in chlorine and other corrosive gas service
- Choice of PTFE (shown here) or Garlock® 6130 packing for easy operation and durable leak-resistant stem seal
- Large wrench flats on valve body for easy installation
- Aluminum Silicon Bronze (C64210) valve body offers corrosion resistance
- Available in oversize thread combinations to lengthen cylinder and ton container life in service
- Cylinder valve equipped with CG-2 (165° F) fusible plug pressure relief device to protect cylinder in the event of high heat exposure



For Product Markings Reference, see **E** in the Appendix

Chlorine Gas Valves

1210A & 1214A Series

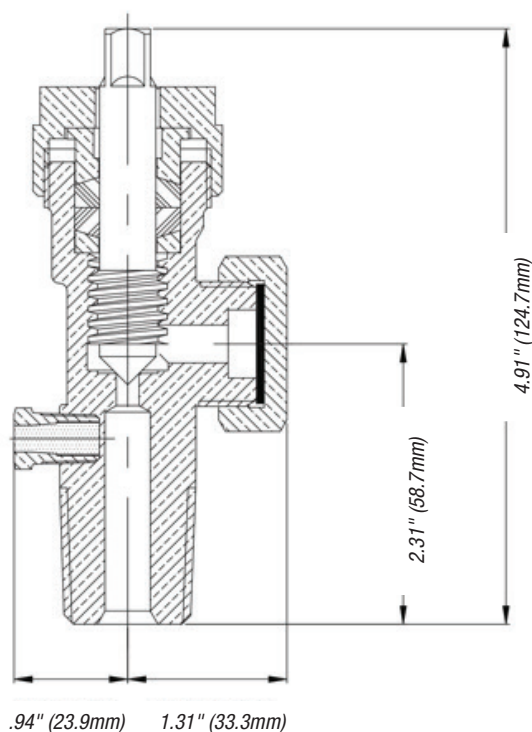


1210AX1-CL1

The Sherwood Exclusive Robust Valve features a heavy-duty body and packing nut for increased load carrying capacity and resistance against stress corrosion and cracking.

Key Features & Benefits

- Approved per the Chlorine Institute Pamphlet 17 Alternate Design Criteria
- Design retains same outlet, inlets, pressure relief device, packing ring, packings, follower, outlet cap, wrenches, yoke and materials as the basic valve
- One-piece Monel® stem offers exceptional durability and positive shut-off in chlorine and other corrosive gas service
- Choice of PTFE (shown here) or Garlock® 6130 packing for easy operation and durable leak-resistant stem seal
- Large wrench flats on valve body for easy installation
- Robust Aluminum Silicon Bronze (C64210) valve body offers corrosion resistance
- Available in oversize thread combinations to lengthen cylinder and ton container life in service
- Cylinder valve equipped with CG-2 (165° F) fusible plug pressure relief device to protect cylinder in the event of high heat exposure



For Product Markings Reference, see **E** in the Appendix

Chlorine Gas Valves

Chlorine Gas Valves

Chlorine Cylinder & Ton Container Valve

Design Specifications		
	English	Metric
Maximum Working Pressure	500 PSI	34 BAR
Burst Pressure	7200 PSI	496 BAR
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-60° F to +149° F	-51° C to +65° C
Leak Rate Internal/External	1 × 10 ⁻⁶ atm cc/s	1 × 10 ⁻⁶ mL/sec
Operating Torque	5–6 ft.-lbs.	6.8–8.1 N-m
Closing Torque	25 ft.-lbs.	33.9 N-m
Packing Nut Installation Torque	25–35 ft.-lbs.	33.9–47.4 N-m
Stem Installation Torque	10–12 ft.-lbs.	13.5 – 16.3 N-m
Fusible Plug Installation Torque	12–15 ft.-lbs.	16.3–20.3 N-m
Yoke Torque	Not to exceed 35 ft.-lbs.	Not to exceed 47.4 N-m
Minimum Cycle Life	2000 Cycles	2000 Cycles
Cv Flow Factor	1210A .733	1210A .733
	1214A 1.88	1214A 1.88

Materials of Construction	
Part Description	Materials of Construction
Body	Aluminum Silicon Bronze C64210
Stem	Monel® ASTM B164-84 Type UNS N04400 or N04405
Packing Nut	Brass C36000
Packing Collar	Naval Brass C48500
Packing Gland	Brass C36000
Packing	PTFE or Garlock® 6130
Outlet Cap	Brass C36000
Outlet Cap Gasket	PTFE
Fusible Plug PRD	Naval Brass C48500 (with 165° F fusible metal)

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S-1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Connections Standards
Chlorine Institute Pamphlet 17	Cylinder and Ton Container Procedure for Chlorine Packaging and Valve Design Criteria
ISO 10297	International Standard for Cylinder Valves Design Specification
TPED/ADR	Transportable Pressure Equipment Directives

For maintenance of valves, see *Repair Instructions for all Chlorine Gas Valves in Appendix.*

Parts List	
Part Description	Item Number
A, Packing NuteBody	P1210-3 (Basic Valve) P1210A-3 (Robust Valve)
B Packing Gland	P1210-4
C. Packing (2 required)	P1210-6 (Garlock 6130) P1210-6T (PTFE)
D. Packing Washer	P1210-5N
E. Stem	P1210-2M
F Outlet Cap Assembly	P1210-11
Outlet Cap Only	P1210-14
Outlet Cap Gasket	P10-G-T
G. Fusible Plug PRD	5853T

Chlorine Gas Valves

Chlorine Cylinder Valves

Ordering Information — 1210A Series

Sherwood Part Number	Inlet Thread Size*	CGA Outlet**	Pressure Relief Device	Packing
1210AX1-CL1	¾" NGT (CL)-1	660/820	CG-2 165° F Fuse-Metal	PTFE
1210A-CL1	¾" NGT (CL)-1	660/820	CG-2 165° F Fuse-Metal	Garlock® 6130
1210AX1-CL2	¾" NGT (CL)-2	660/820	CG-2 165° F Fuse-Metal	PTFE
1210A-CL2	¾" NGT (CL)-2	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1210AX1-CL3	¾" NGT (CL)-3	660/820	CG-2 165° F Fuse-Metal	PTFE
1210A-CL3	¾" NGT (CL)-3	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1210AX1-CL4	¾" NGT (CL)-4	660/820	CG-2 165° F Fuse-Metal	PTFE
1210A-CL4	¾" NGT (CL)-4	660/820	CG-2 165° F Fuse-Metal	Garlock 6130

Ordering Information — 1210 Series

Sherwood Part Number	Inlet Thread Size*	CGA Outlet**	Pressure Relief Device	Packing
1210X1-B1	¾" NGT (CL)-1	660/820	CG-2 165° F Fuse-Metal	PTFE
1210-B1	¾" NGT (CL)-1	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1210X1-B2	¾" NGT (CL)-2	660/820	CG-2 165° F Fuse-Metal	PTFE
1210-B2	¾" NGT (CL)-2	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1210X1-B3	¾" NGT (CL)-3	660/820	CG-2 165° F Fuse-Metal	PTFE
1210-B3	¾" NGT (CL)-3	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1210X1-B4	¾" NGT (CL)-4	660/820	CG-2 165° F Fuse-Metal	PTFE
1210-B4	¾" NGT (CL)-4	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1211X1-B1	1" NGT (CL)-1	660/820	CG-2 165° F Fuse-Metal	PTFE
1211-B1	1" NGT (CL)-1	660/820	CG-2 165° F Fuse-Metal	Garlock 6130
1211X1-B2	1" NGT (CL)-2	660/820	CG-2 165° F Fuse-Metal	PTFE
1211-B2	1" NGT (CL)-2	660/820	CG-2 165° F Fuse-Metal	Garlock 6130

*Inlet Thread Size Note:

(CL)-1 = 1st Thread Standard

(CL)-2 = 1st Thread 4 Threads Oversized

(CL)-3 = 1st Thread 8½ Threads Oversized

(CL)-4 = 1st Thread 14 Threads Oversized

**Outlet Connection Note: The same chlorine valve can be used with a CGA 660 connector nut connection or with a CGA 820 yoke connection.

Chlorine Gas Valves

Chlorine Gas Valves

Chlorine Ton Container Valves

Ordering Information — 1214A Series

Sherwood Part Number	Inlet Thread Size*	Outlet**	Pressure Relief Device	Packing
1214AX1-CL1	¾" NGT (CL)-1	660/820	None	PTFE
1214A-CL1	¾" NGT (CL)-1	660/820	None	Garlock® 6130
1214AX1-CL2	¾" NGT (CL)-2	660/820	None	PTFE
1214A-CL2	¾" NGT (CL)-2	660/820	None	Garlock 6130
1214AX1-CL3	¾" NGT (CL)-3	660/820	None	PTFE
1214A-CL3	¾" NGT (CL)-3	660/820	None	Garlock 6130
1214AX1-CL4	¾" NGT (CL)-4	660/820	None	PTFE
1214A-CL4	¾" NGT (CL)-4	660/820	None	Garlock 6130

Ordering Information — 1214 Series

Sherwood Part Number	Inlet Thread Size*	Outlet**	Pressure Relief Device	Packing
1214X1-B1	¾" NGT (CL)-1	660/820	None	PTFE
1214-B1	¾" NGT (CL)-1	660/820	None	Garlock 6130
1214X1-B2	¾" NGT (CL)-2	660/820	None	PTFE
1214-B2	¾" NGT (CL)-2	660/820	None	Garlock 6130
1214X1-B3	¾" NGT (CL)-3	660/820	None	PTFE
1214-B3	¾" NGT (CL)-3	660/820	None	Garlock 6130
1214X1-B4	¾" NGT (CL)-4	660/820	None	PTFE
1214-B4	¾" NGT (CL)-4	660/820	None	Garlock 6130
1209X1-B1	1" NGT (CL)-1	660/820	None	PTFE
1209-B1	1" NGT (CL)-1	660/820	None	Garlock 6130
1209X1-B2	1" NGT (CL)-2	660/820	None	PTFE
1209-B2	1" NGT (CL)-2	660/820	None	Garlock 6130
1209X1-B3	1" NGT (CL)-3	660/820	None	PTFE
1209-B3	1" NGT (CL)-3	680-820	None	Garlock 6130

*Inlet Thread Size Note:

(CL)-1 = 1st Thread Standard

(CL)-2 = 1st Thread 4 Threads Oversized

(CL)-3 = 1st Thread 8½ Threads Oversized

(CL)-4 = 1st Thread 14 Threads Oversized

**Outlet Connection Note: The same chlorine valve can be used with a CGA 660 connector nut connection or with a CGA 820 yoke connection.

Chlorine Gas Valves

Parts and Accessories

Fusible Plugs

- Manufactured in accordance with Chlorine Institute specifications and CGA S-1.1
- Materials: Brass C48500 and 165° F fusible alloy

Ordering Information — Fusible Plugs for Cylinder Valves

Sherwood Part Number	Inlet Thread Size	Hex Size
5853T	1/8" NGT	7/16"

Ordering Information — Fusible Plugs for Ton Container Valves

Sherwood Part Number	Inlet Thread Size	Hex Size
1333-N1	3/4" NGT (CL)-1	1 1/4"
1333-N2	3/4" NGT (CL)-2	1 1/4"
1333-N3	3/4" NGT (CL)-3	1 1/4"
1333-N4	3/4" NGT (CL)-4	1 1/4"
1303-N1	1" NGT (CL)-1	1 1/4"
1303-N2	1" NGT (CL)-2	1 1/4"
1303-N3	1" NGT (CL)-3	1 1/4"



Fusible Plugs

Yoke

- Complies with Chlorine Institute specifications and CGA V-1
- Material: Forged steel with zinc plating
- CGA 820 connection

Ordering Information — Yoke

Sherwood Part Number	Description	Minimum Clearance
628B	Yoke Assembly	1 1/4"
P628A-2	Replacement Stem	1 1/4"
P628A-3	Replacement Slotted Follower	1 1/4"



Yoke

Flex Connectors

- 3/8" OD, zinc-plated copper
- Working pressure 500 psig
- Provided with CGA 660 connector nuts for non-yoke applications

Ordering Information — Flex Connectors

Sherwood Part Number	Connectors/Length
6414X2C	CGA 820 × CGA 820; 4 ft.
6414C	CGA 820 × CGA 820; 6 ft.
6414X1C	CGA 820 × CGA 820; 10 ft.



Flex Connectors

Chlorine Parts and Accessories

Chlorine Gas Valves
Parts and Accessories



High Flow Yoke Adapters



Wrenches



1534

High Flow Yoke Adapters

- Material: Aluminum Silicon Bronze C64210

Ordering Information — High Flow Yoke Adapters	
Sherwood Part Number	Size
5888-6	CGS 820 x 3/8" SAE Flare
5888-D	CGA 820 x 1/2"-14 NPT (male)
5888-E	CGA 820 x 660

Ordering Information — Gaskets for Yoke Adapters	
Sherwood Part Number	Size
P10-CLAL	Lead Outlet Gasket (.937" OD)
P10-G-T	PTFE Outlet Gasket (.937" OD)

Wrenches

- Designed for use with 1210/1214 and 1210A/1214A chlorine valves and yokes
- Material: Forged steel construction
- Size: 1 1/4" open end; 3/8" stem square

Ordering Information — Wrenches	
Sherwood Part Number	Description
635	Straight Shaft
635X3	Twisted Shaft

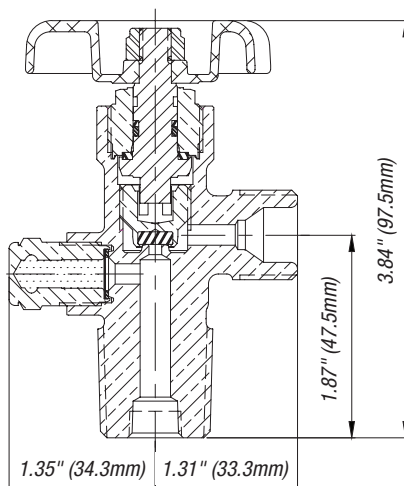
1534 Refacing Tool

- Increase the life of the valve with this easy-to-use, manually operated reseating tool

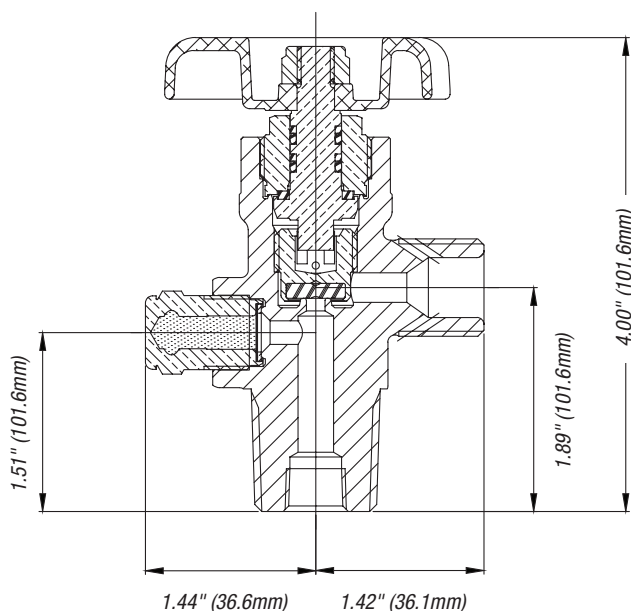
Ordering Information — 1534 Refacing Tool	
Sherwood Part Number	Description
1534	For use with 1210 and 1214

NGSV, NGSHV & NGSRPV Series

Global Industrial Gas Valves for Hydrocarbon-Based Flammable Gases



NSGV Series
Up to 3,500 PSI Working Pressure



NGSVH
Up to 6,400 PSI Working Pressure

Global valve for hydrocarbon-based flammable gases, including compressed natural gas (CNG), methane, ethane and other similar gases.

Key Features & Benefits

- Heavy-duty forged brass body for durability and high pressure
- Precisely machined internal components meet the most stringent international valve performance standards
- Reduced internal stress zones
- Innovative valve core design
- Durable Buna-N O-ring and PTFE backup O-ring compatible with flammable gases
- Pressure Relief Device (PRD) unitized plug design provides excellent flow characteristics
- Metal-to-metal seal below bonnet threads prevents pressure in the threads at top of valve body
- Direct-drive stem design with optimized O-ring (NGV) or double O-ring (NGVHM) seal reduces friction and operates at exceptionally low torque levels
- Inlet tapped (1/4" NPT) for dip tube as required

For Product Markings Reference, see **A** in the Appendix

Alternative Energy Valves

NGSV, NGSVH & NGSRPV Series

Global Industrial Gas Valves for Hydrocarbon-Based Flammable Gases

Design Specifications		
	English	Metric
Maximum Working Pressure	NGSV: 3,500 PSI NGSVH: 6,400 PSI	NGSV: 241 Bar NGSVH: 413 Bar
Burst Working Pressure	NGSV: 10,000 PSI NGSVH: 13,500 PSI	NGSV: 689 Bar NGSVH: 931 Bar
Operating Temperature Range	-50° F to +130° F	-45° C to +54° C
Leak Rate Internal/External	1x10 ⁻³ atm cc/sec.	1x10 ⁻³ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	Standard: .690	
Operating Torque	NGSV: 10–20 in.-lbs. NGSVH: 10–20 in.-lbs.	NGSV: 1.1–2.2 N-m NGSVH: 1.1–2.2 N-m
Bonnet Assembly Torques	NGSV: 50–60 ft.-lbs. NGSVH: 60–70 ft.-lbs.	NGSV: 67.8–81.3 N-m NGSVH: 81.3–94.9 N-m
PRD Assembly Torques	NGSV: 25–35 ft.-lbs. NGSVH: 40–50 ft.-lbs.	NGSV: 33.9–47.4 N-m NGSVH: 54.2–67.8 N-m
PRD Torques	NGSV: 25–35 ft.-lbs. NGSVH: 40–50 ft.-lbs.	NGSV: 33.9–47.4 N-m NGSVH: 54.2–67.8 N-m
NGRPV Cap Assembly Torques	15–25 ft.-lbs.	20.3–33.9 N-m

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
ISO 15996	International Standard for Residual Pressure Valves Design Specifications (NGRPV)
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Part Description	Materials of Construction
Body	Brass C37700; Chrome Plating When Applicable
Bonnet	Brass C36000; Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Lower Plug	Brass C48500
Lower Plug Seat	Nylon, Zytel 101
Lubricant	Christo-Lube
Pressure Relief Device	Brass C36000; Chrome Plating When Applicable
Plug	Nickel Alloy 201; Copper C22000
Rupture Disc	Copper C11000
Seal Gasket	
Stem	Brass C36000
O-Ring	Buna-N
Back-up O-Ring	PTFE
Thrust Washer	Delrin® 500 AF

Replacement Parts		
Sherwood Part Number	Description	Quantity
1251-6PK	Handwheel Nut	100
1919APK	Handwheel	200
P625-19X9-XXPK	Pressure Relief Device Unitized Assembly Includes Plug, Rupture Disc and Webbed Seal Washer	100
P625-19X9H-XXPK	Pressure Relief Device Unitized Assembly Includes Plug, Rupture Disc and Webbed Seal Washer	50

NGSV, NGSHV & NGSRPV Industrial Gas Valves for Hydrocarbon Based Flammable Valves

For further ordering information, refer to the Selection of Pressure Relief Devices, the Pressure Relief Device Numbering Matrix, and the Valve Part Numbering Matrix.

NGSV and NGSHV Series

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread
<i>Ethane</i>				
NGSV35061-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
<i>Ethylene</i>				
NGSV35061-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
<i>Methane</i>				
NGSV3506X-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
NGSV35025EX-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E ISO
NGSHV6956X-XX	3001 PSI–4700 PSI	695	1.045–14 NGO LH Int.	¾" NGT
NGSHV69525EX-XX	3001 PSI–4700 PSI	695	1.045–14 NGO LH Int.	25E ISO
NGSHV7036X-XX	4701 PSI–6400 PSI	703	1.125–14 NGO LH Int.	¾" NGT
NGSHV70325EX-XX	4701 PSI–6400 PSI	703	1.125–14 NGO LH Int.	25E ISO
<i>Natural Gas</i>				
NGSV3506X-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
NGSV35025EX-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E ISO
NGSHV6956X-XX	3001 PSI–4700 PSI	695	1.045–14 NGO LH Int.	¾" NGT
NGSHV69525EX-XX	3001 PSI–4700 PSI	695	1.045–14 NGO LH Int.	25E ISO
NGSHV7036X-XX	4701 PSI–6400 PSI	703	1.125–14 NGO LH Int.	¾" NGT
NGSHV70325EX-XX	4701 PSI–6400 PSI	703	1.125–14 NGO LH Int.	25E ISO

NGSRPV Series

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread
<i>Ethane</i>				
NGSRPV35061-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
<i>Ethylene</i>				
NGSRPV35061-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
<i>Methane</i>				
NGSRPV3506X-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
NGSRPV35025EX-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E ISO
<i>Natural Gas</i>				
NGSRPV3506X-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
NGSRPV35025EX-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E ISO

X-XX in Part Number = safety type (X-) and safety pressure (-XX).

For example, NGSV3504X-XX with a safety type of CG-5 and 4000 PSI safety pressure would be NGSV35045-38.

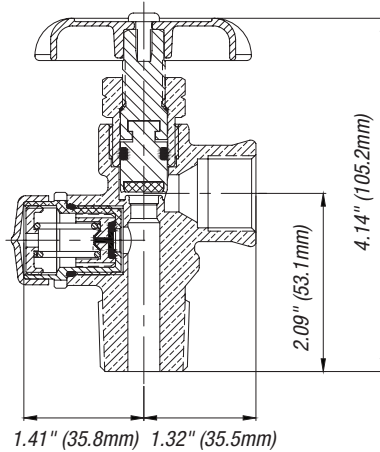
Alternative Energy Valves

PVE3250 Series

Propylene Valves for DOT Cylinders



PVE3250R-435



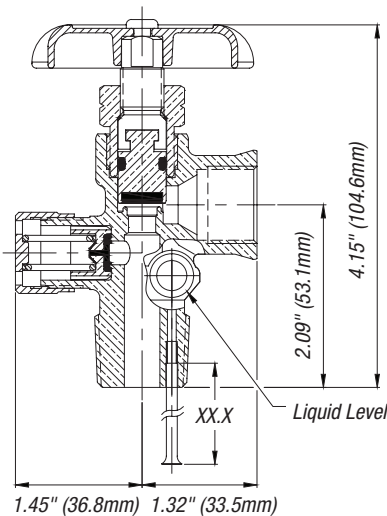
PVE3250R Series

Key Features & Benefits

- Internal pressure relief valve
- Designed for use in single port 100 lb. or multi-port 420 lb. DOT cylinder
- For use with both 4BW240 and 4BW260 cylinders
- Start to discharge pressure 435 not to exceed to 480 PSI
- Compliant with CGA Technical Bulletin 27
- Rugged C36600 brass body construction
- Includes replaceable PRV (CGA recommends replacing every 10 years)



PVE3250CLG435



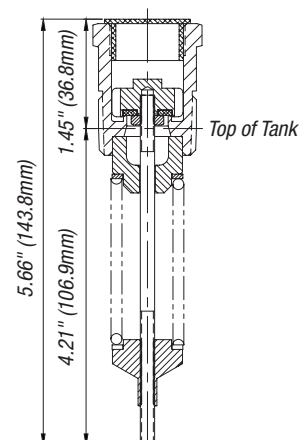
PVE3250C Series

Key Features & Benefits

- Designed for use in single port 100 lb. or multi-port 420 lb. DOT cylinder
- Compatible with propylene only 4BW260 cylinders
- Pressure relief valve incorporated into the valve body, not replaceable (CGA recommends replacing every 10 years)
- Rugged C36600 brass body construction
- Start to discharge pressure 435 PSI
- Compliant with CGA Technical Bulletin 27



PVE446B



PVE446B Series

Key Features & Benefits

- Compatible with propylene only, 4BW260 cylinders
- For use on 420 lb. multi-port cylinders
- Start to discharge pressure 435 PSI
- Compliant with CGA Technical Bulletin 27

For Product Markings Reference, see  in the Appendix

PVE3250 Series

Propylene Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	500 PSI	34 BAR
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-60° F to +149° F	-51° C to +65° C
Leak Rate Internal/External	1 × 10 ⁻³ atm cc/s	1 × 10 ⁻³ mL/sec
Operating Torque	10-20 in lbs.	1.1- 2.2 N-m
Bonnet Installation Torque	50- 60 ft.-lbs.	67- 44 N-m
Minimum Cycle Life	2000 Cycles	2000 Cycles

Part Description	Materials of Construction
Body	Brass C37700
Bonnet & Stem Assembly	
Bonnet	Brass C36000
Upper Stem	PTFE Coated Brass C36000
O-Ring	Buna-N
Lubricant	Drakeol #9 Oil
Lower Stem	Brass C36000
Seat	Nylon
Handwheel	Aluminum
Handwheel Screw	Plated Steel
Safety Assembly	
Safety Body	Brass C36000
Spring	Stainless Steel
Safety Seat Holder	Glass Filled Nylon
Safety Seat	Buna-N
Safety Retainer	Brass C36000
Bonnet Locking Pin	Plated Hardened Steel
Protective Cap	Vinyl
Thread Sealant	Everseal 183

Ordering Information					
Sherwood Part Number	Cylinder Type	CGA Outlet Connection	Inlet Connection	Start to Discharge Setting (PSI)	Special Features
PVE3250C-435	4B260, 4BA260, 4BW260	510	¾" NGT	435–520	—
PVE3250CLG435-XX.X*	4B260, 4BA260, 4BW260	510	¾" NGT	435–520	Liquid Level Gauge, Dip Tube
PVE3250R-435	4B260, 4BA260, 4BW260, 4BW240	510	¾" NGT	435–480	Replaceable CG-7 Pressure Relief Device
PVE446B	4B260, 4BA260, 4BW260	1.0–20 UNEF-2B	1"NPT	435–520	Relief Valve for Propylene Service Only

* XX.X — Specify length of dip tube relative to cylinder size.

Replacement Parts	
3250-8LH-KIT	Bonnet Assembly Kit for PVE3250C and PVE3250CLG
3250R-10-KIT	50 Replaceable Pressure Relief Devices for PVE3250R-435
TL3250R	Tool for Replaceable CG-7



TL3250R

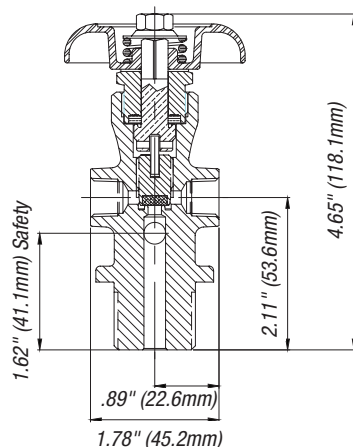
Alternative Energy Valves

DF Series

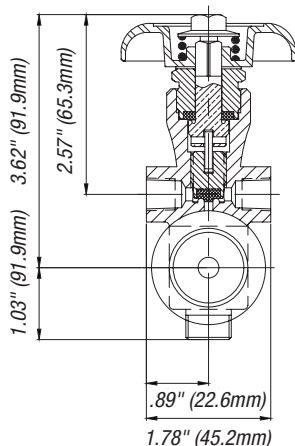
Alternative Fuel Valves



DF11655-XX



DFN11550-XX



Key Features & Benefits

- Dual outlet valves for fuel gas manifold use
- Dual outlet design allows for manifolding without use of adapters or tees, eliminating multiple joints
- Location of outlets above valve seat enables individual cylinder isolation without shutting off manifold
- Designed for direct manifold connections, reducing components and leak points
- Crimped seat feature prevents seat extrusion and cold flow of the polymer seat
- Available in multiple seat material configurations to accommodate all high-purity gas applications
- Increased flow (Cv) to aid in reducing vent and purge times
- Low operating torque design to ensure ease of operation during filling and use
- Available with unitized Pressure Relief Device having fuse-metal backed or unbacked burst disc

Ordering Information

Sherwood Part Number	Gas Service	Number of Outlets	Outlet Orientation	Outlet Thread Size	Inlet Thread Size
DF11661-XXFKF	Air/Oxygen, Inert Gas	Two 180° Apart	Horizontal Vertical	1/4" NPT Female	3/4" NGT
DFN11555-XXHFKF	CNG/Hydrogen, Methane	Two 180° Apart	Horizontal Vertical	1/4" NPT Female	1.125 UNF Straight
DF11565-XXHFKF DF11665-XXFKF	CNG/Hydrogen, Methane	Two 180° Apart	Horizontal Vertical	1/4" NPT Female	3/4" NGT
DFN16550-XXHFKP	Air/Oxygen, Inert Gas, CNG/Hydrogen, Methane	Two 180° Apart	Horizontal	7/16"-20 UNF Straight	1.125 UNF Straight
DFN11550-XXHFKP	Air/Oxygen, Inert Gas, CNG/Hydrogen, Methane	Two 180° Apart	Horizontal	1/4" NPT Female	1.125 UNF Straight
DFN11650-XXKP	Air/Oxygen, Inert Gas, CNG/Hydrogen, Methane	Two 180° Apart	Vertical	1/4" NPT Female	1.125 UNF Straight

PLEASE NOTE: Part numbers beginning with "DFN" represent Electroless Nickel Plated valves.

For Product Markings Reference, see **D** in the Appendix

DF Series

Alternative Fuel Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	6250 PSI	431 Bar
Burst Pressure	20,000 PSI	1379 Bar
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Operating Temperature Range	-50° F to +120° F	-46° C to +49° C
Minimum Cycle Life	5000 Cycles	
Operating Torque	15–25 in.-lbs.	1.7–2.8 N-m
Closing Torque	25–35 in.-lbs.	2.8–3.9 N-m
Bonnet Installation Torque	45–55 ft.-lbs	61–74.5 N-m
Pressure Relief Device Installation Torque	30–40 ft.-lbs.	40.7–54 N-m
Stem Nut Installation Torque	Nut Flush with Top of Stem	

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S-1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Connections
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Body	Brass C37700
Bonnet	Brass C36000
Handwheel	Aluminum per ASTM SC84B
Handwheel Nut	ANSI 1010 Steel, Plated with Organic Zinc Chromate
Washer	Polypropylene
Plug & Seat Assembly	
Plug	PTFE Coated Brass C48500
Seat	PCTFE
Packing	PTFE
Pressure Relief Device Assembly	
Body	Brass C36000 (212° F or 165° F for backed devices)
Disc	Nickel Alloy 201
Gasket	Copper, Dead Soft
Spring	Zinc Plated, Steel Spring Wire, Hard Drawn
Stem & Tang Assembly	
Tang	Type 303 or 304 Stainless Steel, Passivated
Stem	Brass C36000
Pin	Type 18-8 or 302 Stainless Steel, Passivated

Inlet O-Ring for Straight Threaded DF Valves			
Sherwood Part Number	Material	Size	Qty
G216BPK	Buna-N 70 Durometer	1.125 UNF	100

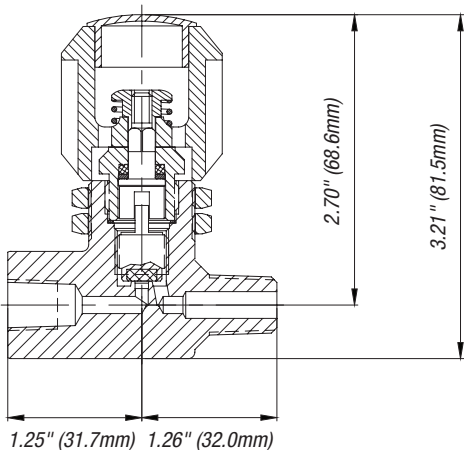
High Pressure Line Valves

YVA Series
High-Pressure Line Valves

Designed for Compressed Gas Storage & Cascade Fill Systems meeting the demands of SCUBA & SCBA professionals internationally.



YVA3010A



Key Features & Benefits

- Strong, durable forged brass body manufactured by Sherwood to specifications stricter than most commercial forging specifications
- Compact design especially suited for use on compressor or cascade panels
- Chamber specially designed for low-torque operation
- Aluminum Silicon Bronze stem design for dependable service and long life
- Proprietary dual packing chamber design provides dependable seal characteristics, long service life and easy operation
- Durable lower plug made of tough naval brass to resist wear
- Lower plug is PTFE coated to add lubricity, which minimizes seizing and galling especially under high-pressure operation
- Internal protected bonnet gasket seal provides positive, damage-resistant chamber seal
- Compact molded Lexan® polycarbonate handwheel is easy to use
- Safe, dependable and easily rebuilt and maintained

Ordering Information					
Sherwood Part Number	Inlet Thread Size	Outlet Thread Size	Panel Mount	Panel Hole Size	Chrome Plated
YVA3010	¼" NPT Int.	¼" NGT Ext.	No	—	Yes
YVA3010A	¼" NPT Int.	¼" NGT Ext.	Yes	1⅞"	Yes
YVA3010AB*	¼" NPT Int.	¼" NGT Ext.	Yes	1⅞"	Yes

* Cleaned for Oxygen service

For Product Markings Reference, see **D** in the Appendix

YVA Series

High-Pressure Line Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	7000 PSI	483 Bar
Storage Temperature Range	-65° F to +155° F	-54° C to +68° C
Operating Temperature Range	-50° F to +120° F	-45° C to +49° C
Minimum Cycle Life	5000 Cycles	5000 Cycles
Operating Torque	10–15 in.-lbs.	1.1–2.2 N-m
Closing Torque	10–15 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	25–30 ft.-lbs.	2.8–3.4 N-m
Stem Nut Installation Torque	Nut Flush with Top of Stem	

Materials of Construction	
Part Description	Materials of Construction
Body	Brass C37700 Chrome Plated
Bonnet	Brass, UNS ASTM-B16-53 Chrome Plated
Gasket	Copper
Handwheel	Lexan®
Handwheel Cap	Lexan®
Lower Plug	Aluminum Silicon Bronze C64200
Lower Plug Seat	Nylon: Zytel 101 or Celanese 1000-11
Packing (3506-18)	PTFE
Packing (3506-7)	PTFE
Panel Mount Nut (as required)	Brass C36000, Chrome Plated
Spring	Type 302 Stainless Steel, Passivated
Stem	Aluminum Silicon Bronze Alloy #708-8 Nickel Plated
Stem Nut	Brass C36000

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Replacement Part Kits		
Part Number	Description	Quantity
1-3506-8PK	Stem Nut	100
1389-2DPK	Handwheel	25
1389-4BPK	Plug Handwheel Cap	100
19-3506-11PK	Spring	100
3506-10PK	Copper Gasket	200
3506-18PK	PTFE Gasket	100
3506-9PK	Plug & Seat Assembly	50
9-3506-12PK	Stem	100

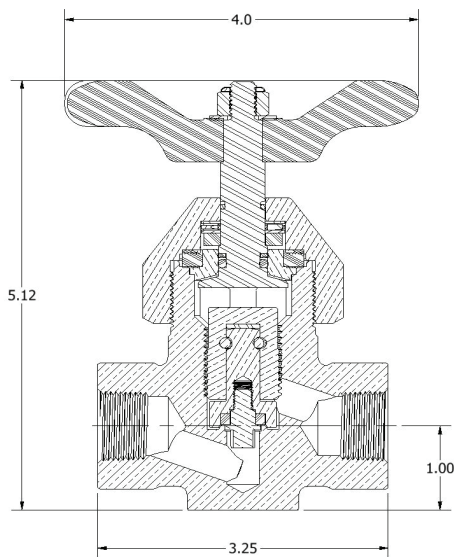
High Pressure Line Valve

630 Series

Master Shut-Off Valves



630GR-6



High-pressure shut-off valves designed for heavy-duty use on tube trailers, manifold systems and other piping systems. Valves are suitable for use with oxygen, acetylene, nitrogen, argon, helium, hydrogen, carbon dioxide, nitrous oxide and other inert gases.

Key Features & Benefits

- Easy operation- Lowest operating torque available, EZ grip handwheel and slow opening design combine to make a smooth feel at high pressures.
- Versatility - Specially designed resilient soft seat has been third party certified for high pressure oxygen service. This universal valve can fulfill all your gas service needs for multiple gas applications.
- Front or back panel mounting options available.
- Axially moving lower seat provides direct pressure ensuring a leak tight seal.
- PCTFE seat insert and PTFE packing has been used successfully for over 30 years in master shut-off valve applications
- Pressure ratings — 6000 PSI, non-corrosive gases except oxygen; 5500 PSI at 120° F oxygen
- Innovative stem seal provides leak-free stem seal, long cycle life and resistance to corrosion
- Vacuum tested to ensure highest purity filling operations
- Field rebuildable- All valves are field serviceable when maintenance is required.

Ordering Information

Sherwood Part Number	Outlet Thread Size	Inlet Thread Size	Features*
630GR-4	½" NPT (Female)	½" NPT (Female)	
630GR-6	¾" NPT (Female)	¾" NPT (Female)	
630GR-8	1"–1½" NPSM (Male)	1"–1½" NPSM	
630GR-4PM	½" NPT (Female)	½" NPT (Female)	PANEL MOUNT
630GR-6PM	¾" NPT (Female)	¾" NPT (Female)	PANEL MOUNT
630GR-8PM	1"–1½" NPSM (Male)	1"–1½" NPSM	PANEL MOUNT

* NOTES:

A. 6000 PSI @ 70° F except 5500 PSI @ 120° F for oxygen.

B. 6000 PSI valve is cleaned for oxygen service with oxygen pressure not exceeding 5500 PSI @ 120° F.

C. Valves with 1"–1½" NPSM connections rated to 3500 psi (242 bar) due to the connections maximum pressure rating per CGA V-10

For Product Markings Reference, see **F** in the Appendix

630 Series

Master Shut-Off Valves

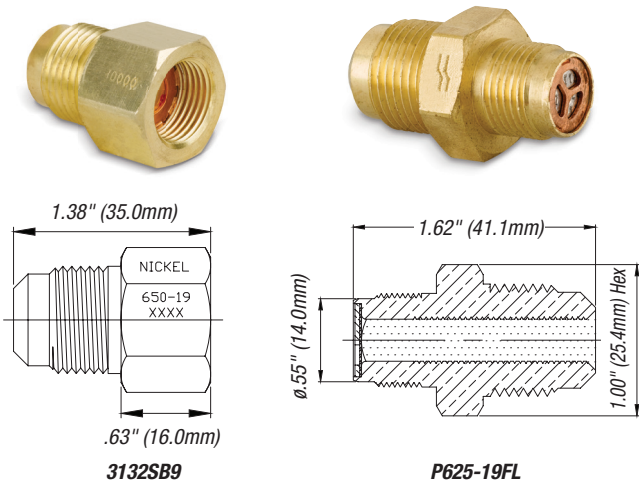
Design Specifications		
	English	Metric
Maximum Working Pressure	6000 PSI	413 Bar
Maximum Working Pressure, Oxygen	5500 PSI @ 120° F	379 Bar @ 49° C
Oxygen Surge Pressure Rating	4350 PSI	300 Bar
Burst Pressure	15,000 PSI	1034 Bar
Leak Rate	1x10 ⁻⁴ atm cc/sec	1x10 ⁻⁴ Bar mL/sec
Operating Temperature	-50° F to 149° F	-45° C to +65° C
Operating Torque	7-9 in-lbs.	.8 - 1 Nm
Cv Flow Factor	2.3	2.3

Replacement Part Kits		
Sherwood Part Number	Description	Quantity
630-4KITPK	Plug and Seat assembly with PCTFE seal	5
630-8KITPK	Handwheel, Washer & Locknut	5
630-3KITPK	Stem, Stem Seal, Bearings and Inner Bonnet	5
630-3PMKITPK	Panel Mount Stem, Stem Seal, Bearings, and Inner Bonnet,	5

Materials of Construction	
Part Description	Materials of Construction
Body	Forged Brass C37700
Packing	PTFE
Handwheel	Black Phenolic
Bonnet & Inner Bonnet	Brass C36000
Stem	303 Stainless Steel
Stem O-ring	Buna-N
Bonnet O-Ring	Viton
Plug Assembly	
Plug	Brass C36000
Plug Tip	Brass C36000
Spring Pin	18-8 Stainless Steel
Retaining Staple	302 Stainless Steel
Seat	PCTFE
Seat Retainer	Brass C36000
Backup Ring	Buna-N
Needle Bearing and Washer	Stainless Steel
Backup Ring	Buna-N
Thrust Bearing	302 Stainless Steel
Handwheel Nut	18-8 Stainless Steel
Handwheel Washer	18-8 Stainless Steel
Lubricant	Turmoxygen

Fuse Plug and Pressure Relief Device

Fuse Plug and Pressure Relief Devices
3132 Pipe-a-way Fuse Plug

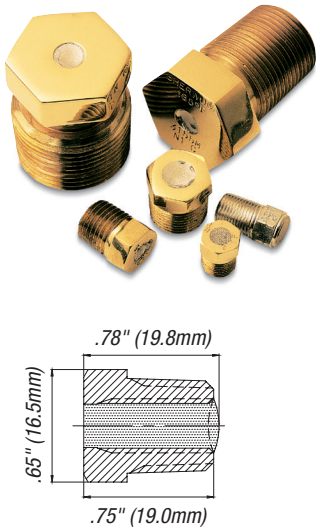


Key Features & Benefits

- 3132: Vented Pressure Relief Valve Assemblies for use in conjunction with 650 external-style relief devices
- P625-19N9-FL-XXW Series: Flared Pressure Relief Devices Assembly for use with 625 internal-style N-style relief devices
- Enable a pipe-a-way configuration
- Provide method of direction for flow or relief
- Burst ranges up to 10,000 PSI

Ordering Information				
Sherwood Part Number	Outlet	Inlet	Fusible Metal	Material
3132SB9-XX Series	½" SAE Flared	.650-19	212° F	Copper
3132SBF9-XX Series	½" SAE Flared	.650-19	212° F	Nickel
P625-19N9-FL-XXW Series	½" SAE Flared	.625-19	212° F	Nickel

Fuseplugs



Key Features & Benefits

- Produced from high-quality brass
- Meticulously controlled fusible alloy ensures accurate and consistent melt temperatures
- Fusible alloy is cast into plug body to ensure an extremely strong bond between alloy and plug body
- Fusible plug stamped with fusible metal yield temperature
- Maximum service pressure of fusible plus is 500 PSI

Ordering Information				
Sherwood Part Number	Thread Size	Fusible Metal Yield Temp. Nominal	Clear Opening Diameter	Quantity
FPA212PK	⅛" NPTF	212° F	.219"	100
FPB212PK	¼" NPT	212° F	.250"	100
FP201B-NPTPK	⅛" NPTF	212° F	.199"	250
FP202B-BSPPK	⅛" BSP	212° F	.199"	250

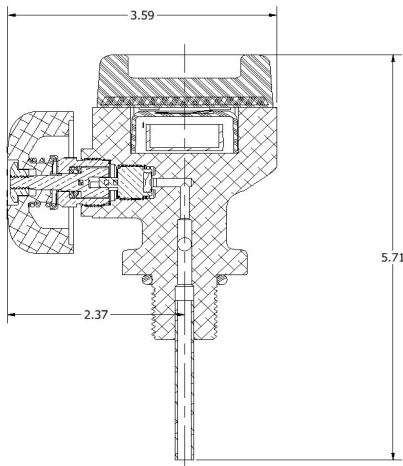
NOTE: BSP = British Standard Pipe Thread, NPT = National Pipe Thread, NPTF = National Pipe Threaded Fine.

YV Series

SCBA Cylinder Valves



YV4700HP



SCBA valves specialize in gas cylinder applications for respiratory protection and protective equipment. Our SCBA valves are mainly used by fire fighters for rescue operations, oil and gas, utilities and mining service industries.

Key Features & Benefits

- Made of durable lightweight, forged aluminum, the product line meets the stringent performance requirements of NIOSH and NFPA.
- Innovative stem seal provides leak-free stem seal, long cycle life and resistance to corrosion
- Outlet locations offered with 90°, 150°, and 180° outlet configurations
- Includes rubber bumper to protect valve and gauge
- Luminescent valve gauge is doubled-sided for ease of readability
- Various options for locking and non-locking handwheel options available
- Available in both low pressure (2265 PSI) and high pressure (4500 PSI) cylinder configurations

Ordering Information

Sherwood Part Number	Outlet Thread Size	Inlet Thread Size	Pressure	Features
YV2300	CGA 346 180°	.750 -16UNF-2A	2265 PSI	Small locking handwheel
YV2301	CGA 346 180°	.750 -16UNF-2A	2265 PSI	Small non-locking handwheel
YV2301A	CGA 346 180°	.750 -16UNF-2A	2265 PSI	Large Diamond handwheel
YV4500	CGA 347 180°	.875 -16UNF-2A	4500 PSI	Small locking handwheel
YV4501	CGA 347 180°	.875 -16UNF-2A	4500 PSI	Small non-locking handwheel
YV4501A	CGA 347 180°	.875 -16UNF-2A	4500 PSI	Large Diamond handwheel
YV4522HPH	CGA 347 150°	.875 -16UNF-2A	4500 PSI	Tri-lobe handwheel w/bracket
YV4522LPB	CGA 346 150°	.750 -16UNF-2A	2265 PSI	Small locking handwheel w/ bracket
YV4700LP	CGA 346 90°	.750 -16UNF-2A	2265 PSI	Small non-locking handwheel
YV4700HP	CGA 347 90°	.875 -16UNF-2A	4500 PSI	Small locking handwheel

For Product Markings Reference, see **D** in the Appendix

SCBA Valves

YV Series

SCBA Cylinder Valves

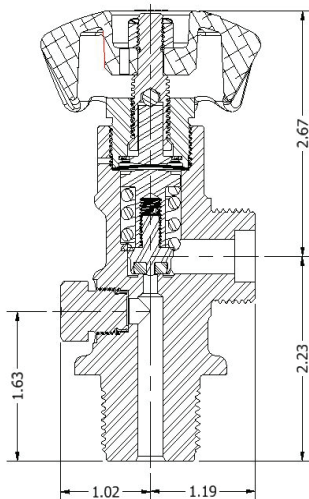
Design Specifications		
	English	Metric
Maximum Working Pressure	4500 PSI	310 Bar
Burst Pressure	PSI	Bar
Leak Rate	1x10 ⁻⁴ atm cc/sec	1x10 ⁻⁴ Bar mL/sec
Operating Temperature	-50° F to 149° F	-45° C to +65° C
Operating Torque	7-9 in-lbs.	.8 - 1 N-m
Cv	.26	.26
Bonnet Torque	15 - 20 ft.lbs.	20-27 N-m
PRD Installation Torque	10 - 12 ft.lbs.	14-16 N-m

Replacement Part Kits		
Part Number	Description	Quantity
1-3506-8PK	Stem Nut	100
3506-20PK	Chamber Repair Kit	25
3506-13PK	PTFE Packing	100
3506-9PK	Plug & Seat Assembly	50
450-14PK	Backup Ring	50
9-3506-12BPK	Stem	100
61-3506-14PK	Bonnet	100
1389-2DPK	Handwheel	25
450-40PK	Gauge Assembly	10

Materials of Construction	
Part Description	Materials of Construction
Body	Aluminum
Packing	PTFE
Handwheel	Epoxy Coated Aluminum
Bonnet	Brass C36000
Stem	Bronze
PRD Plug Assembly	
Plug	Brass C36000
Disc	Copper
Washer	Copper
Seat	PA 6/6
Seat Retainer	PTFE coated Bronze
Backup Ring	Buna-N
Spring	Stainless Steel
Bumper Guard	Polyvinyl Chloride
Drain Tube	Aluminum
Gasket	Copper C11000

7074 / 7774 Series

Stainless Steel Diaphragm Packless Cylinder Valves

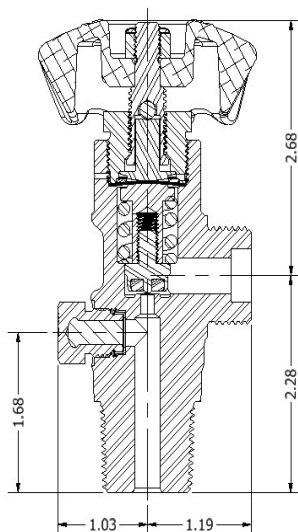


The 7074 Series 303 Stainless Steel Diaphragm Packless Valves are designed for a variety of high purity and high pressure applications including analytical & instrumentation gases, EPA protocol gases, environmental monitoring and medical applications using pharmaceutical gases.

The 7774 Series of 316L Diaphragm Packless Valves are used in corrosive gas applications, cylinder phosphine gas, atmospheric and purging gases, dopant and reactant gases.

Key Features & Benefits

- New smooth operating stem ensures ease of operation during filling and use.
- Precisely machined internal components meet the most stringent international valve performance standards
- Superior anti-extrusion seat for longer life.
- Diaphragm in wetted gas area are a nickel based alloy for corrosion resistance.
- Rated at 3000 PSI cylinder service pressure
- Available with unitized pressure relief device having fuse-metal backed or unbacked burst disc
- 100% Helium leak tested
- Inlet and outlet thread configurations are available for a broad spectrum of customer, country and code specifications
- Pressure Relief Device (PRD) is a unitized plug design that provides excellent flow characteristics, ensures proper assembly and tamper resistance
- Inlet tapped (1/4" NPT) for dip tube as required



For Product Markings Reference, see **G** in the Appendix

Specialty Gas Valves

7074 / 7774 Series

Stainless Steel Diaphragm Packless Cylinder Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Storage Temperature	-60° F to +149° F	-51° C to +65° C
Operating Torque	30-50 in.lbs.	3.4-5.6 N-m
Closing Torque	50 in.lbs.	5.6 N-m
Leak Rate	1x10 ⁻⁷ atm cc/s	1x10 ⁻⁷ Bar mL/sec
Handwheel nut Installation torque	30-50 in.lbs.	3.4-5.6 N-m
PRD Installation Torque	20-30 ft.lbs.	27-41 N-m
Cv Flow Factor	.36	.36
Minimum Cycle Life	2000 Minimum	2000 Minimum

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Materials of Construction		
Part Description	7074 Materials of Construction	7774 Materials of Construction
Body	303 Stainless Steel	316L Stainless Steel
Bonnet	Stainless Steel	Stainless Steel
Handwheel	Powder coated aluminum	Powder coated aluminum
Handwheel Nut	Stainless Steel	Stainless Steel
Stem	Stainless Steel	Stainless Steel
Seat holder	Stainless Steel	Stainless Steel
Seat	PCTFE, Vespel, PVDF	PCTFE, Vespel, PVDF
Pressure Relief Device		
Plug	Stainless Steel	Stainless Steel
Rupture Disc	Nickel Alloy; Platinum, Stainless	Nickel Alloy; Platinum, Stainless
Seal Gasket	Silver	Silver
Diaphragm	Stainless Steel/Hastelloy (Gas Wetted)	Stainless Steel/Hastelloy (Gas Wetted)
Spring	Stainless Steel	Stainless Steel
Diaphragm Support	Nylon 6/6	Nylon 6/6
Ball Bearing	Stainless Steel	Stainless Steel
Stem Bearing Button	Stainless Steel	Stainless Steel

7074 / 7774 Series

Stainless Steel Diaphragm Packless Cylinder Valves

7074 Ordering Information					
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	PRD	Outlet Thread Size	Inlet Thread Size
<i>Carbon Dioxide</i>					
707432040	0 PSI–3000 PSI	320	None	.825–14 NGO RH Ext.	¾" NGT
7074320651-XXX	0 PSI–3000 PSI	320	CG-1	.825–14 NGO RH Ext.	1.125"–12 UNF
<i>Fluorides, Chlorides mixtures</i>					
707433060	0 PSI–3000 PSI	330	None	.825–14 NGO RH Ext.	¾" NGT
707433044-XXX	0 PSI–3000 PSI	330	CG-4	.825–14 NGO RH Ext.	½" NGT
707433064-XXX	0 PSI–3000 PSI	330	CG-4	.825–14 NGO RH Ext.	¾" NGT
707433054-XXX	0 PSI–3000 PSI	330	CG-4	.825–14 NGO RH Ext.	1.125"–12 UNF
<i>Carbon Monoxide and Hydrogen</i>					
707435060	0 PSI–3000 PSI	350	None	.825–14 NGO LH Ext.	¾" NGT
707435064-XXX	0 PSI–3000 PSI	350	CG-4	.825–14 NGO LH Ext.	¾" NGT
707435054-XXX	0 PSI–3000 PSI	350	CG-4	.825–14 NGO LH Ext.	1.125"–12 UNF
<i>Argon, Helium, Krypton, Neon, Nitrogen and Xenon</i>					
707458060	0 PSI–3000 PSI	580	None	.965–14 NGO RH Int.	¾" NGT
707458061-XXX	0 PSI–3000 PSI	580	CG-1	.965–14 NGO RH Int.	¾" NGT
707458051-XXX	0 PSI–3000 PSI	580	CG-1	.965–14 NGO RH Int.	1.125"–12 UNF
<i>Sulfur Hexafluoride</i>					
707459061-XXX	0 PSI–3000 PSI	590	CG-1	.965–14 NGO LH Int.	¾" NGT
707459051-XXX	0 PSI–3000 PSI	590	CG-1	.965–14 NGO LH Int.	1.125"–12 UNF
<i>Boron Trichloride, Ethyl Fluoride, Phosgene, Nitric Oxide, Various Refrigerants, Sulfur dioxide, and other mixtures covered under CGA V1, CGA 660 connection.</i>					
70746660	0 PSI–3000 PSI	660	None	1.030–14 NGO RH Ext.	¾" NGT
707466061-XXX	0 PSI–3000 PSI	660	CG-1	1.030–14 NGO RH Ext.	¾" NGT
707466064-XXX	0 PSI–3000 PSI	660	CG-4	1.030–14 NGO RH Ext.	¾" NGT
707466051-XXX	0 PSI–3000 PSI	660	CG-1	1.030–14 NGO RH Ext.	1.125"–12 UNF
707466054-XXX	0 PSI–3000 PSI	660	CG-4	1.030–14 NGO RH Ext.	1.125"–12 UNF
707466054-XXX-75	0 PSI–3000 PSI	660	CG-4	1.030–14 NGO RH Ext.	.750"–16 UNF
<i>Ammonia, Dimethylamine, Monoethylamine, Trimethylamine</i>					
707470564-XXX	0 PSI–3000 PSI	705	CG-4	1.125–14 UNS RH Ext.	¾" NGT
707470554-XXX	0 PSI–3000 PSI	705	CG-4	1.125–14 UNS RH Ext.	1.125"–12 UNF

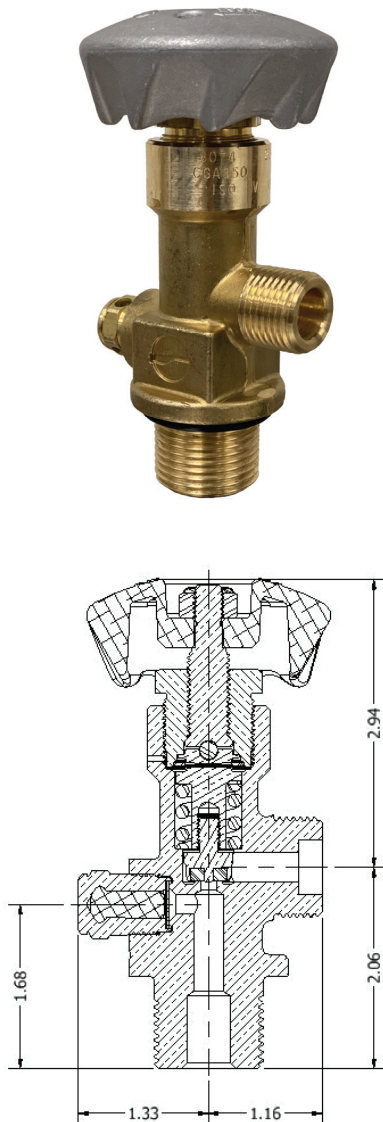
7774 Ordering Information					
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	PRD	Outlet Thread Size	Inlet Thread Size
<i>Carbon Dioxide</i>					
777432061-XXX	0 PSI–3000 PSI	320	CG-1	.825–14 NGO RH Ext.	¾" NGT
<i>Fluorides, Chlorides mixtures</i>					
777433060	0 PSI–3000 PSI	330	CG-4	.825–14 NGO RH Ext.	¾" NGT
777433044-XXX	0 PSI–3000 PSI	330	CG-4	.825–14 NGO RH Ext.	½" NGT
777433064-XXX	0 PSI–3000 PSI	330	CG-4	.825–14 NGO RH Ext.	¾" NGT
<i>Carbon Monoxide and Hydrogen</i>					
777435040	0 PSI–3000 PSI	350	None	.825–14 NGO LH Ext.	½" NGT
777435060	0 PSI–3000 PSI	350	None	.825–14 NGO LH Ext.	¾" NGT
777435064-XXX	0 PSI–3000 PSI	350	CG-4	.825–14 NGO LH Ext.	¾" NGT
<i>Argon, Helium, Krypton, Neon, Nitrogen and Xenon</i>					
777458060	0 PSI–3000 PSI	580	None	.965–14 NGO RH Int.	¾" NGT
777458061-XXX	0 PSI–3000 PSI	580	CG-1	.965–14 NGO RH Int.	¾" NGT
<i>Sulfur Hexafluoride</i>					
777459061-XXX	0 PSI–3000 PSI	590	CG-1	.965–14 NGO LH Int.	¾" NGT
<i>Boron Trichloride, Ethyl Fluoride, Phosgene, Nitric Oxide, Various Refrigerants, Sulfur dioxide, and other mixtures covered under CGA V1, CGA 660 connection.</i>					
77746660	0 PSI–3000 PSI	660	None	1.030–14 NGO RH Ext.	¾" NGT
777466061-XXX	0 PSI–3000 PSI	660	CG-1	1.030–14 NGO RH Ext.	¾" NGT
777466064-XXX	0 PSI–3000 PSI	660	CG-4	1.030–14 NGO RH Ext.	¾" NGT
777466025E0	0 PSI–3000 PSI	660	CG-1	1.030–14 NGO RH Ext.	25E ISO

For valves not listed in the table above, please call for price and availability.

Specialty Gas Valves

8074 Series

Brass Diaphragm Packless Cylinder Valves



The 8074 Series Brass Diaphragm Packless Valves are designed for a variety of high purity and high pressure applications, Ultra high purity mixtures, pharmaceutical and pure gas applications.

Key Features & Benefits

- New smooth operating stem ensures ease of operation during filling and use
- Precisely machined internal components meet the most stringent international valve performance standards
- Superior anti-extrusion seat for longer life
- Rated at 3000 PSI cylinder service pressure
- Available with unitized pressure relief device having fuse-metal backed or unbacked burst disc
- 100% Helium leak tested
- Inlet and outlet thread configurations are available for a broad spectrum of customer, country and code specifications
- Pressure Relief Device (PRD) is a unitized plug design that provides excellent flow characteristics, ensures proper assembly and tamper resistance
- Inlet tapped (1/4" NPT) for dip tube as required

For Product Markings Reference, see © in the Appendix

8074 Series

Brass Diaphragm Packless Cylinder Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Storage Temperature	-60° F to +149° F	-51° C to +65° C
Operating Torque	20-40 in.-lbs.	2.3-4.5 N-m
Closing Torque	40 in.-lbs.	4.5 N-m
Leak Rate	1x10 ⁻⁷ atm cc/s	1x10 ⁻⁷ Bar mL/sec
Handwheel nut Installation torque	25-45 in.-lbs.	2.8-5.0 N-m
PRD Installation Torque	35-45 ft.-lbs.	47-61 N-m
Cv Flow Factor	.36	.36
Minimum Cycle Life	2000 Minimum	2000 Minimum

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Body	Brass C37700/Chrome Plating When Applicable
Bonnet	Brass C36000/Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Stem	Brass C48500
Seat holder	Brass C36000
Seat	Nylon 6/6
Pressure Relief Device	
Plug	Brass C36000; Chrome Plating When Applicable
Rupture Disc	Nickel Alloy 201; Copper C22000
Seal Gasket	Copper C11000
Diaphragm	Stainless Steel/Hastelloy (Gas Wetted)
Spring Retainer	Brass C36000
Spring	Stainless Steel
Stem Bearing Button	Brass C48500
Ball Bearing	Stainless Steel

Specialty Gas Valves

8074 Series

Brass Diaphragm Packless Cylinder Valves

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<i>Oxidizing Mixtures</i>				
807429661-XXX	0 PSI–3000 PSI	296	.803–14 UNS RH Int.	¾" NGT
807429651-XXX	0 PSI–3000 PSI	296	.803–14 UNS RH Int.	1.125"–12 UNF
<i>Carbon Dioxide</i>				
807432061-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	¾" NGT
807432065-XXX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	1.125"–12 UNF
<i>Nitrous Oxide</i>				
807432661-XXX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	¾" NGT
8074326651-XXX	0 PSI–3000 PSI	326	.825–14 NGO RH Ext.	1.125"–12 UNF
<i>Carbon Monoxide and Hydrogen</i>				
807435065-XXX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
807435065-XXX-7	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT-7 Threads O/S
807435051-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	1.125"–12 UNF
807435055-XXX-75	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	.750"–16 UNF
<i>Oxygen</i>				
807454061-XXX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	¾" NGT
<i>Argon, Helium, Krypton, Neon, Nitrogen and Xenon</i>				
807458061-XXX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	¾" NGT
807458051-XXX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	1.125"–12 UNF
<i>Sulfur Hexafluoride</i>				
807459061-XXX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	¾" NGT
807459051-XXX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	1.125"–12 UNF
807459051-XXX-75	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	.750"–16 UNF
<i>Refrigerant</i>				
807466061-XXX	0 PSI–3000 PSI	660	1.030–14 NGO RH Ext.	¾" NGT

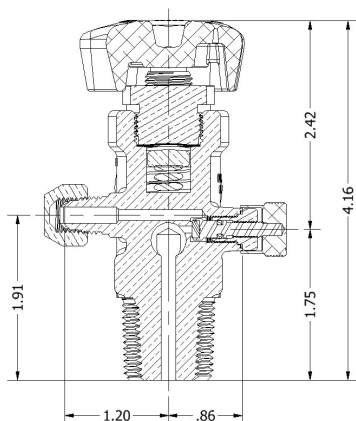
Chrome plating: To order, add letter "A" after the letters 8074 in the Part Number. For example 807454061-XXX becomes 8074A54061-XXX

Fusible back pressure relief devices: For 165° F or 212° F nominal melting temperatures, change 1 in the Part Number to 4 (165° F) or 5 (212° F) (ie. 807435061-XXX becomes 807435064-XXX for 165° F, or 807435065-XXX for 212° F).

For valves not listed in the table above, please call for price and availability.

1132 Series

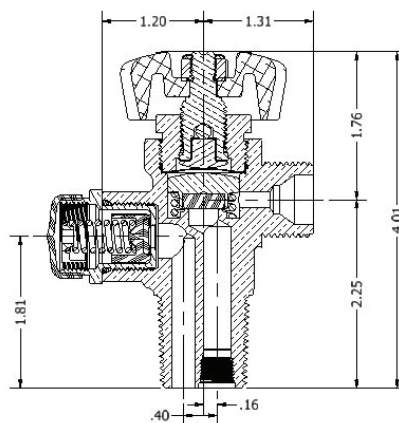
Low Pressure Brass Diaphragm Packless Cylinder Valves



The 1132 Series Low Pressure Brass Diaphragm Packless Valves are designed for use in liquefied gas applications, including refrigerants and flammables. It is especially suited for propane, butane, fuel-gas applications and sterilant gas applications.

Key Features & Benefits

- Replaceable spring-loaded Type CG-7 safety for use on liquefied gas cylinders have water capacities not exceeding 254 lbs
- PTFE seat insert and controlled stem travel assure positive shut-off and long wear-resistant service
- Two piece stem reduces wear and increases valve life
- Optional integrated valve charging port with 1/4" SAE flare connection
- Liquid and vapor withdrawal available
- Excess flow device available for liquid withdrawal option for propane and butane
- 50 mm handwheel designed for ease of operation and to reduce the risk of valve damage from over-torque



Ordering Information

Sherwood Part Number	Inlet	Outlet	PRD	PRV Start to Discharge Pressure (PSI)	PRV Flow Capacity (SCFM)	Diptube tap	Pressurizing Port
1132E510-375	3/4" NGT	CGA 510	CG-7	375	318 ^a	N/A	No
1132E510-435	3/4" NGT	CGA 510	CG-7	435	381 ^b	N/A	No
1132T555-375	3/4" NGT	CGA 555	CG-7	375	318 ^a	1/8" NPT	No
1132T555-435	3/4" NGT	CGA 555	CG-7	435	381 ^b	1/8" NPT	No
1132X9510-375	3/4" NGT	CGA 510	CG-7	375	318 ^a	1/8" NPT	Yes
1132X9555-375	3/4" NGT	CGA 555	CG-7	375	318 ^a	1/8" NPT	Yes
1132X9555-435	3/4" NGT	CGA 555	CG-7	435	381 ^b	1/8" NPT	Yes
1132X9510-435	3/4" NGT	CGA 510	CG-7	435	381 ^b	1/8" NPT	Yes
1132X8510	3/4" NGT	CGA 510	CG-3	N/A	N/A	1/8" NPT	No

a = Rated Flow Pressure = 480 PSI

b = Rated Flow Pressure = 413 PSI

For Product Markings Reference, see  in the Appendix

Specialty Gas Valves

1132 Series

Low Pressure Brass Diaphragm Packless Cylinder Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	500 PSI	34 Bar
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Storage Temperature	-65° F to +155° F	-54° C to +68° C
Operating Torque	10-20 in.lbs.	1.1-2.3 N-m
Closing Torque	30-40 in.-lbs.	3.4-4.5 N-m
Leak Rate	1x10 ⁻⁵ atm cc/s	1x10 ⁻⁵ Bar mL/sec
Handwheel nut Installation torque	30-40 in.lbs.	3.4-4.5 N-m
PRV Installation Torque	10-12 ft.lbs.	13.6-16.3 N-m
Cv Flow Factor	1.12/1.5 (1132E)	1.12/1.5 (1132E)
Minimum Cycle Life	2000 Minimum	

Materials of Construction	
Part Description	Materials of Construction
Body	Brass C37700
Bonnet	Brass C36000
Handwheel	Powder Coat Aluminum
Handwheel Nut	Steel with nylon insert
Stem	Brass C48500
Seat holder	Brass C36000
Seat	PTFE
Diaphragm	Stainless Steel
Spring	Stainless Steel
Ball Bearing	Stainless Steel

Charge Port parts for X9 Versions	
Bonnet	Brass C36000
Knob	Anodized Aluminum
Washer	Copper
O-ring	Viton
Stem	Stainless Steel
Seat	Nylon 6/6

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications

Replacement Parts		
Sherwood Part Number	Description	Quantity
3250R-10-KIT	CG-7 Pressure Relief Valve (435 PSI)	50
3250R-10-375-KIT	CG-7 Pressure Relief Valve (375 PSI)	50
TL3250R	Tool to install replacement PRV	1
1132-17	3/8" NPT to 1/4" NPT Diptube adapter	200

Liquid Withdrawl Excess Flow Device



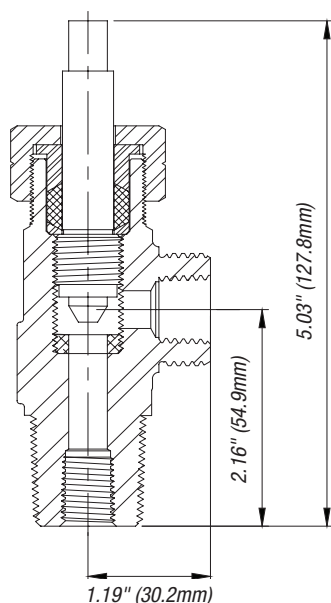
Liquid Withdrawal Excess Flow Device			
Sherwood Part Number	Shut off Flow & Pressure	Inlet	Outlet
510B-1000	1.2 GPM at 4 PSI	1/8" NPT	1/8" NPT
510P-1000	2 GPM @ 10 PSI	1/8" NPT	1/8" NPT

1206A Series

Packed Wrench-Operated Valves for Anhydrous Ammonia Applications



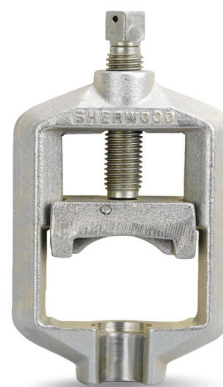
1206AX5



Designed for anhydrous ammonia applications, including commercial refrigeration, metal treating and chemical manufacturing

Key Features & Benefits

- One-piece lead carbon steel, case-hardened, nickel-plated stem provides positive shut-off in corrosive gas service with exceptional durability
- One-piece PTFE packing promotes easy operation while providing a durable leak-resistant stem seal
- Designed to ensure a safe, long, trouble-free life under all service conditions
- 1206AX5 compatible with both CGA 705 and 240 outlets
- 1206AX9 compatible with CGA 240 outlet only
- Inlet Tap 1/4"–18 NPT



628X1



5877

Ordering Information

Sherwood Part Number	Description	CGA Outlet
1206AX5	Packed Ammonia Cylinder Valve	705, 240
1206AX9	Packed Ammonia Cylinder Valve with Lead Washer Recess	240
628X1	Ammonia Yoke	800
5877	Adapter	800

For Product Markings Reference, see  in the Appendix

Specialty Gas Valves

1206A Series

Packed Wrench-Operated Valves for Anhydrous Ammonia Applications

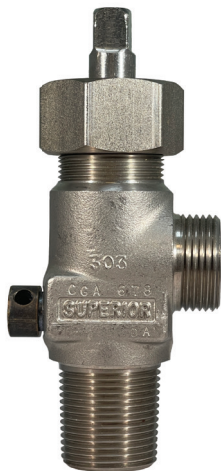
Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Burst Pressure	15,000 PSI	1034 Bar
Leak Rate	1x10 ⁻⁵ atm cc/s	1x10 ⁻⁵ Bar mL/sec
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Operating Torque	5–6.5 ft.-lbs.	6.8–8.8 N-m
Closing Torque	15 ft.-lbs.	20.3 N-m
Cv Flow Factor	0.733	0.733
Cycle Life	1000 Minimum	1000 Minimum

Standards Conformance	
CGA V-9	Standards for Gas Cylinder Valves
CGA S1.1	Standards for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

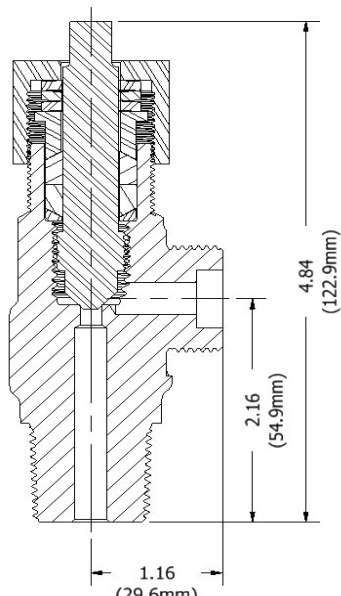
Materials of Construction	
Part Description	Materials of Construction
Stem	12L14 Carbon Steel with Nickel Plating
Packing Nut	12L14 Carbon Steel with Zinc Plating
Packing Gland	12L14 Carbon Steel with Zinc Plating
Packing	PTFE
Packing Washer	12L14 Carbon Steel with Zinc Plating
Seat	Tin (SN)
Body	303 Stainless Steel

5983L Series

Live Loaded Stainless Steel Packed Wrench-Operated Valves



5983L-660



Designed for corrosive bulk cylinder applications, DOT transports of specialty gases and chemicals for petrochemical, pharmaceutical, textile and electronics industries

Key Features & Benefits

- Robust 303 Stainless Steel body providing superior corrosion resistance in multiple gas applications
- Proven live-loaded packing design provides a constant load to ensure stem seal for the life of the valve
- Body to stem seal designed to withstand severe internal and external conditions
- One-piece stainless steel stem provides positive shutoff in corrosive gas service with exceptional durability
- PTFE packing promotes easy operation while providing a durable leak-resistant stem seal under all service conditions
- Optional tapped inlet threads for dip tube assembly

Ordering Information

Sherwood Part Number	Tank Connection	Outlet	PRD*
5983L-330	¾" NGT	CGA 330	None
5983L-350	¾" NGT	CGA 350	None
5983L-660	¾" NGT	CGA 660	None

*Pressure relief device can be added upon request

For Product Markings Reference, see  in the Appendix

Specialty Gas Valves

5983L Series

Live Loaded Stainless Steel Packed Wrench-Operated Valves

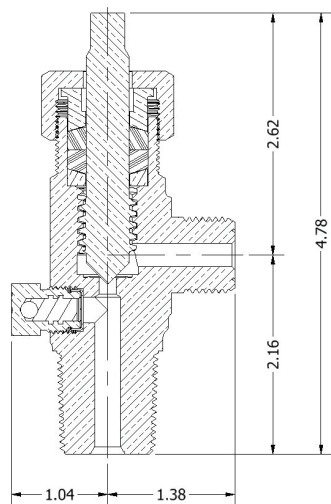
Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Burst Pressure	15,000 PSI	1034 Bar
Leak Rate	1x10 ⁻⁵ atm cc/s	1x10 ⁻⁵ Bar mL/sec
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Operating Torque	5–6.5 ft.-lbs.	6.8–8.8 N-m
Closing Torque	15 ft.-lbs.	20.3 N-m
Cv Flow Factor	0.733	0.733
Cycle Life	2000 Minimum	2000 Minimum

Standards Conformance	
CGA V-9	Standards for Gas Cylinder Valves
CGA S1.1	Standards for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Stem	Stainless Steel
Packing Nut	Stainless Steel
Packing Gland	Stainless Steel
Packing	PTFE
Packing Washer	Stainless Steel
Body	Stainless Steel

1214Y Series

Bronze Packed Wrench-Operated Valves



The 1214Y Series is designed for use in applications using corrosive gases, insecticides, & fumigant preservatives and bleaching agents.

Key Features & Benefits

- Aluminum silicon bronze valve body offers proven resistance against various corrosive gases
- One-piece Monel stem provides positive shutoff in corrosive gas service with exceptional durability
- PTFE packing promotes easy operation while providing a durable leak-resistant stem seal
- Optional tapped inlet threads for dip tube assembly
- Available with standard CGA connections as well as international inlets and outlets
- Available with unitized pressure-relief device having fuse metal backing
- Optional offering: Secondary bonnet seal cap providing extra defense in leak tightness for highly critical applications

Ordering Information

Sherwood Part Number	Tank Connection	Outlet	PRD	Special Features
1214Y26B	3/4" NGT	CGA 330	None	1/4" Inlet Tap, Outlet Cap & Chain, Oxygen Cleaned
1214Y9-330PxM	3/4" NGT	CGA 330	CG4	Platinum Burst Disc
121Y41B	3/4" NGT	CGA 330	None	Secondary seal cap, Outlet Cap & Chain, Oxygen Cleaned
1214F6	3/4" NGT	CGA 660	None	Oxygen Cleaned
1214Y3-SB	3/4" NGT	CGA 670/CGA 679	None	Oxygen Cleaned

For Product Markings Reference, see  in the Appendix

Specialty Gas Valves

1214Y Series

Bronze Packed Wrench-Operated Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Burst Pressure	15,000 PSI	1034 Bar
Leak Rate	1x10 ⁻⁵ atm cc/s	1x10 ⁻⁵ Bar mL/sec
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Operating Torque	5–6.5 ft.-lbs.	6.8–8.8 N-m
Closing Torque	15 ft.-lbs.	20.3 N-m
Cv Flow Factor	0.88 to 1.8	.88 to 1.88
Cycle Life	2000 Minimum	2000 Minimum

Standards Conformance	
CGA V-9	Standards for Gas Cylinder Valves
CGA S1.1	Standards for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Stem	Monel
Packing Nut	Brass
Packing Gland	Brass
Packing	PTFE
Packing Washer	Aluminum Silicon Bronze
Body	Aluminum Silicon Bronze

RVE Series

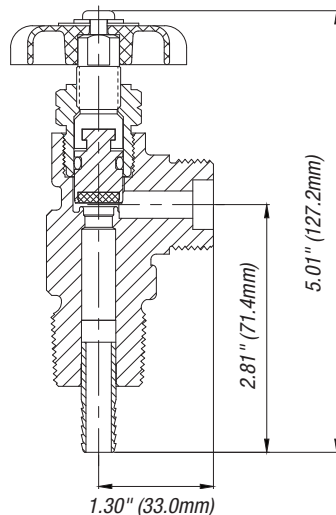
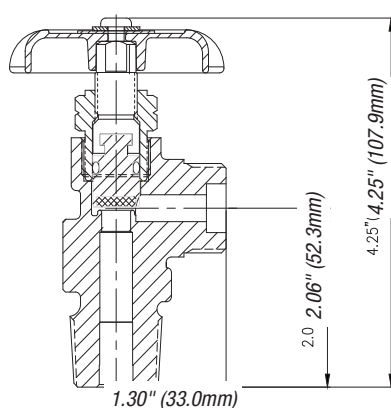
Refrigerant Recovery Valves



RVE6660V
Vapor Service



RVE6660L
Liquid Service



Designed to ensure the cleanest, driest refrigerant gas for the most efficient operation of any HVACR system

Key Features & Benefits

- Replaceable bonnet and stem assembly for ease of service in the field
- For use with large multi-port refrigerant reclaim cylinders
- PTFE coated anti-galling stem for ease of operation
- Replaceable color-coded handwheels
- Ease of operation due to low operating torque with proven o-ring seal technology
- Major component forged and machined from brass alloys controlled to exacting specifications

YVE445FR Relief Valve

Key Features & Benefits

- For 1" NPT tank connection
- Up to 1000 lb. water capacity
- For use on DOT cylinders at 260 PSI Working Pressure
- Start to discharge range 390 to 520 PSI



YVE445FR

Ordering Information

Sherwood Part Number	Description	Tank Connection	CGA Outlet	Handwheel
RVE6660V	Vapor Service Valve	3/4" NGT	660	Blue to Indicate Vapor Service
RVE6660L	Liquid Service Valve	3/4" NGT	660	Red to Indicate Liquid Service
YVE445FR	Relief Valve	1" NPT	None	None

For Product Markings Reference, see **D** in the Appendix

Specialty Gas Valves

RVE Series

Refrigerant Recovery Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	600 PSI	41 BAR
Operating Temperature Range	-50° F to +149° F	-45° C to +65° C
Storage Temperature Range	-60° F to +149° F	-51° C to +65° C
Leak Rate Internal/External	1 × 10 ⁻⁴ atm cc/s	1 × 10 ⁻⁴ mL/sec
Operating Torque	10-20 in lbs.	1.1- 2.2 N-m
Bonnet Installation Torque	50- 60 ft.-lbs.	67- 44 N-m
Cv	.54	.54

Materials of Construction		
Part Description	RVE6660L	RVE6660V
Body	Brass C37700	Brass C37700
Bonnet & Stem Sub		
Bonnet	Brass C36000	Brass C36000
Upper Stem	Brass C36000	Brass C36000
Gasket	Nylon 101	Nylon 101
Lower Stem Sub	O-Ring: Neoprene Lower Stem: Brass C36000 Seat: Nylon 101	O-Ring: Neoprene Lower Stem: Brass C36000 Seat: Nylon 101
Handwheel	ASTM SC848 Aluminum Die Cast	ASTM SC848 Aluminum Die Cast
Decal Plate	Polyethylene Low Density	Polyethylene Low Density
Washer	Steel w/Zinc Plate	Steel w/Zinc Plate
Screw	Steel w/Zinc Plate	Steel w/Zinc Plate
Tube	Brass C36000	—
Thread Sealant	Everseal 183	Everseal 183

Replacement Parts		
Description	RVE6660L	RVE6660V
Bonnet & Stem Assembly	3250-9LH-KIT	3250-9LH-KIT
Vapor Handwheel	1901R	1901B
Decal Plate	3250-9L	3250-9V
Washer	J23B19RA	J23B19RA
Screw	J12-F10-85AP	J12-F10-85AP

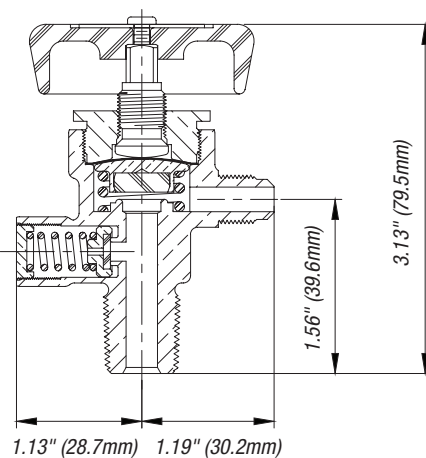
Materials of Construction for YVE445FR Valves	
Part Description	Materials of Construction
Body	Brass C36000
Stem & Poppet Sub	
Poppet	Brass C36000
Seat	Neoprene W
Nut	Steel w/Zinc Plating
Stem	Steel w/Zinc Plating
Thread Sealant	Titan 7271
Guide	Brass C36000
Washer	Brass C36000
Spring	302 Stainless Steel
Retainer	Brass C36000
Protective Closure	Polyethylene Low Density
Thread Sealant	Everseal 183

1014 Series

Refrigerant Cylinder Valves



1014-B



1014 Valve Series

Key Features & Benefits

- Diaphragm refrigerant cylinder valve for use in refrigerant recovery applications
- Integral Pressure Relief Device (CG-7)
- Diaphragm construction with sulfur-free neoprene seat
- Strong, durable forged brass body manufactured by Sherwood to specifications stricter than most commercial forging specification

Design Specifications

	English	Metric
Maximum Working Pressure	600 PSI	41.4 Bar
Operating Temperature	-50° F to 149° F	-45° C to +65° C
Leak Rate	1x10 ⁻⁴ atm cc/sec	1x10 ⁻⁴ Bar mL/sec
Operating Temperature	-50° F to 149° F	-45° C to +65° C
Operating Torque	10-20 in-lbs.	1-2 Nm

Ordering Information

Sherwood Part Number	CGA	Outlet	Inlet	Safety	Extra Features
1014-B	165	¼" SAE Flare	¼" NGT	400 PSI	—
1014-C	165	¼" SAE Flare	⅜" NGT	400 PSI	—
1014-CB	165	¼" SAE Flare	⅜" NGT	400 PSI	Cleaned For Oxygen Service and Oil Free Per CGA G-4.1
1014X2-B	165	¼" SAE Flare	¼" NGT	600 PSI	Cleaned For Oxygen Service and Oil Free Per CGA G-4.1
1014X2-C	165	¼" SAE Flare	⅜" NGT	600 PSI	Cleaned For Oxygen Service and Oil Free Per CGA G-4.1

Specialty Gas Valves

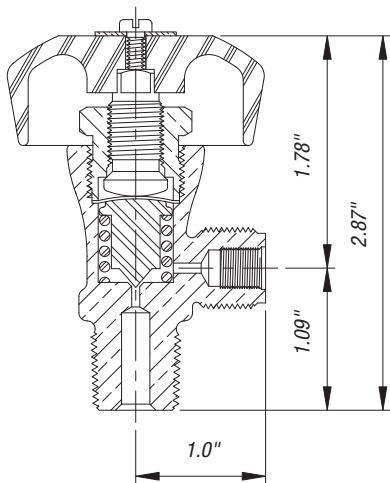
6411 Series
Diaphragm Packless Lecture Bottle Valves



The 6411 Series is designed specifically with corrosive gases in mind and with a durable construction for the specialty gases and gas mixtures used in laboratories.

Key Features & Benefits

- Proven leak-tight diaphragm seal
- Forged brass and aluminum silicon bronze bodies withstand severe service conditions
- Low operating torque design ensures ease of operation during filling and use
- Robust lower stem seal providing repeatable positive shutoff
- Available with standard CGA connections



Ordering Information				
Sherwood Part Number	Material	Inlets	Outlets	Metallic Seat Material
6411-170	Brass	3/8" NGT	CGA 170	303 Stainless Steel
6411-180	Brass	3/8" NGT	CGA 180	303 Stainless Steel
6411X3-180	Aluminum Silicon Bronze	3/8" NGT	CGA 180	303 Stainless Steel

6411 Series

Diaphragm Packless Lecture Bottle Valves

Design Specifications		
	English	Metric
Maximum Working Pressure	3000 PSI	207 Bar
Leak Rate	1x10 ⁻⁷ atm cc/s	1x10 ⁻⁷ Bar mL/sec
Operating Temperature	-50° F to +130° F	-45° C to +54° C
Operating Torque	ft.-lbs.	N-m
Closing Torque	4 ft.-lbs.	5.4 N-m
Cv Flow Factor	.25	.25
Cycle Life	2000 Minimum	2000 Minimum

Standards Conformance	
CGA V-9	Standards for Gas Cylinder Valves
CGA V-1	Compressed Gas Cylinder Valve Outlet
A-A-59860	US General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	Materials of Construction
Upper Stem	Brass
Spring	Stainless Steel
Bonnet	Brass
Diaphragms	Stainless Steel
Lower seat	Stainless Steel
Body	Brass or Aluminum Silicon Bronze

Appendix

DOs and DO NOTs for Valve Use

Source: Compressed Gas Association, Inc. CGA V-9, 2012, p. 39

DOs

Proper care of compressed gas cylinder valves includes (but is not limited to) the following:

- Stored valves shall be packaged so cleanliness is maintained and adequate protection against damage during handling is provided.
- Valves should be visually inspected at each refill for any signs of damage or leakage.
- Question the supplier when a valve malfunctions and the problem cannot be diagnosed.
- Inspect PRDs per CGA S-1.1 before each refilling.
- Verify that a particular valve is suitable for both the cylinder and the commodity with which it is intended to be used.
- Open the valve slowly to prevent development of high pressure surges and heat generation on downstream equipment.
- When replacing PRDs, only original manufacturers' assemblies and parts shall be used unless the interchange of parts is proven by suitable test.
- When replacing PRDS, refer to the marking on the device to ensure the proper rated device is installed.
- When the cylinder is not in use, even when empty, the valve should be in the closed position with the outlet cap in place and the transport cap installed.
- Check the condition of both the inlet and outlet threads before inserting a valve into a cylinder to ensure that the threads are not damaged, especially the first thread. A damaged first inlet thread could adversely affect insertion. If the damage cannot be repaired by manually deburring with a file, replace the valve.
- Handle valves carefully to avoid damage, especially to threads, which could prevent proper connection to mating parts.
- Replace the valve or PRD whenever any of its required markings are no longer legible.
- Valves that are shipped not fully assembled or with unattached components shall be protected from contamination.
- Only lubricants specially prepared for oxygen service shall be used on tapered threaded inlet connections.

NOTE: Not all PTFE tapes are suitable for oxygen service. Only PTFE tapes suitable for oxygen service shall be used.

DO NOTs

This list is not intended to be comprehensive. The user is cautioned to review maintenance activity with the valve supplier before beginning work if there is any uncertainty on the part of the user.

Proper care of compressed gas valves includes the following:

- Do not use a damaged valve where function or integrity might have been affected.
- Do not continue to use a valve that operates abnormally, such as it becoming noisy or progressively harder to operate.
- Do not try to recondition a valve until the design and operations of the valve are fully understood and the proper tools are available.
- Do not reuse a valve having a tapered inlet thread with less than four full threads showing after it is installed into the cylinder hand-tight.
- Do not use an automatic operator, adapter, wrench or other tool to obtain a greater mechanical advantage on handwheel-operated valves without first consulting with the valve manufacturer to ensure that the applied torque does not exceed the safe operating torque for the valve.
- Do not use the number of exposed valve threads to determine whether a valve is adequately engaged and leak tight in a cylinder. (See CGA V-11, General Guidelines for the Installation of Valves into High Pressure Aluminum Cylinders, for valve installed in aluminum cylinders.) Even with a new valve in a new steel cylinder, both with nominal $\frac{3}{4}$ "-14 NGT threads, the number of exposed full threads after three wrench turns can vary between two and five.
- Do not lubricate valve internal surfaces with the pressure boundary without first checking with the valve manufacturer.
- Do not lubricate oxygen service valve threads (to cylinder threads) for installation in straight-threaded aluminum.
- Do not use poor fitting jaws on valving machines because they could cause:
 - Excessive bending and torsional forces into the valve
 - Rounding off of valve wrench flat corners with obliteration of valve identification markings, or
 - Interference of jaws with valve outlet, PRD, etc., resulting in damage and leaks
- Do not attempt to adjust spring-loaded (CG-7) PRDs because they are not adjustable once set at the factory. Adjustments result in damage to the PRD as well as the valve itself.
- Do not lift, drag or move a cylinder using the valve handwheel as a handle. It is not designed for this purpose and doing so can cause the valve to open.
- Do not use adapters to adapt the CGA valve outlet connection to another CGA valve outlet connection unless adapters satisfy the conditions for their use specified in CGA V-1.
- Do not put a reconditioned valve into service unless it has been tested to this standard.
- Do not use internal operating replacement parts unless they were supplied by the valve manufacturer.

Appendix

Repair Instructions for All Chlorine Gas Valves

WARNING

In order to ensure proper and continued performance of Sherwood products, regular inspection and maintenance are required to detect any corrosion or unusual wear of metallic and non-metallic parts.

These instructions are intended for trained chlorine valve installers and repairers. If you are not familiar with chlorine valve equipment and applications, do not proceed.

Disassembly of Valve

A. Place the valve assembly into a vise or similar holding fixture.

The holding fixture must securely grip the valve body on the wrench flats so no damage is done to the internal bores, external or internal threads, outlet or fusible plug PRD.

B. Chamber

1. Using a 1¼" socket or hex box wrench, remove the packing nut by turning it counter-clockwise.
2. Using a ¾" square socket or open end wrench, remove the stem from the valve chamber by turning it counter-clockwise. The packing gland, the two packings and the packing collar will be removed with the stem.
3. Remove the packing gland, the two packings and the packing collar from the stem.

C. Outlet

1. Remove the outlet cap from the valve assembly by turning it counter-clockwise.

D. Fusible Plug Pressure Relief Device (Cylinder Valves)

1. Using a 7/16" socket or hex box wrench, remove the fusible plug PRD by turning it counter-clockwise.

Inspection of Valve and Components

A. Valve Body

1. Inspect the valve body for cracks. If cracks are suspected, scrap the valve body. Inspect the valve body chamber bore for dirt, debris and damage. Blow out the valve body chamber using clean, dry compressed air or nitrogen to remove these contaminants.
2. Examine all internal and external threads for damage or deterioration due to wear or corrosion. Special attention should be given to the threads closest to the outlet since they are the most vulnerable to corrosive attack.
3. Examine the valve body seat for excessive wear or corrosion build up. Wear creating a 1/8" x 90° or greater bevel should be eliminated with the 1534 refacing tool (1210/1214) The valve has reached its end of life and should be replaced when the tool can no longer remove this bevel.
4. Clean the internal threads for the fusible plug to remove all thread luting compound.
5. If the valve body is damaged or corroded, do not attempt to repair. Order a new valve assembly.

B. Components

1. Scrap any component that is suspected of being cracked. Also, replace components damaged, worn or corroded to the point where safe operation, valve performance or leak integrity may be compromised. Special attention should be given to wear grooves in the nose of the stem. Stems with grooves 1/64" or greater in depth should be replaced.
2. Special attention should be given to the fuse plug for signs of leakage. An extrusion of the fusible metal greater than 1/64" may adversely affect use of the emergency kit tool used to temporarily seal fusible metal leaks.
3. It is recommended that both of the packings be replaced before the valve is reassembled.

Assembly of Valve

NOTE: All parts must be clean, free of oil, chips and other contaminants before beginning assembly.

A properly calibrated torque wrench must be used. Overtightening will damage components and the valve body. Undertightening may result in leaks. Reassembly of a used valve should not begin until all the components of that valve have been examined to determine their combined effects on valve performance and operation.

A. Chamber

1. Insert the stem into the valve chamber and turn it clockwise; engage it one full thread. Engaging the stem more than one full thread may make installation of parts difficult.
2. Place the packing collar, flat side down, onto the stem.
3. Install two packings with the flat sides facing each other, and place them onto the stem.
4. Place the packing gland with the beveled end down onto the stem.
5. Tighten the stem using a $\frac{3}{8}$ " square socket and a torque wrench to 10–12 ft.-lbs. to coin the seat in the body.
6. Press down on the packing gland until the two packings are completely below the top of the body.
7. Install the packing nut over the stem. Making sure the threads are properly engaged, tighten the packing nut to 25–30 ft.-lbs. using a $1\frac{1}{4}$ " socket and torque wrench.

B. Outlet

1. Install the outlet cap onto the valve assembly outlet, turning clockwise until hand tight.

C. Fusible Plug PRD (Cylinder Valve)

1. Apply a chlorine-compatible thread luting compound onto the bottom threads of the fusible plug PRD.
2. Thread the fusible plug PRD, finger tight, making sure at least one thread is engaged in the body.
3. Using a $\frac{7}{16}$ " socket and a proper torque wrench, tighten the fusible plug to 12–15 ft.-lbs. or $1\frac{1}{2}$ –2 turns.

Testing of Assembled Valve

NOTE: Only leak detection solutions compatible with chlorine should be used. Thus, only commercial or household detergents should be used that DO NOT contain ammonia, phosphates or other chemicals which are harmful to copper alloys and can initiate stress corrosion cracking of these alloys.

- A. Test each reassembled valve by installing the valve securely in a suitable test fixture and pressurizing the valve with air, nitrogen or carbon dioxide to 500 psig.
- B. With the outlet plugged or capped, open the valve assembly slowly and check for leaks through the valve body, past the stem and all threaded connections using a leak detection solution.
- C. Close the valve assembly and remove the outlet cap assembly or plug. Pressurize the valve to 500 psig and check for seat leakage through the outlet.
- D. If any leakage is detected, in the open or closed position, make necessary repairs and retest the valve before returning to service.

NOTE: Periodic retightening of the packing nut to 25–30 ft.-lbs. may be required to maintain a leak-tight packing nut and stem seal. However, tightening more than is necessary or applying excessive torques will prematurely wear the packings and may damage the packing nut and the valve body threads.

Appendix

Pressure Relief Devices Technical Information

Almost all compressed gas containers are fitted with pressure relief devices. A pressure relief device is a pressure- and/or temperature-activated device used to prevent the pressure from rising above a predetermined maximum, and thereby prevent rupture of a normally charged cylinder when subjected to a standard fire test as required by Title 49 of the U.S. Code of Federal Regulations (49CFR 173.34(d)), or equivalent regulations of Transport Canada.

The Compressed Gas Association, in pamphlet CGA S-1.1, has classified pressure relief devices according to type using the letter designation CG followed by a numeral. Each of these types described are in the following subsections (reference CGA S-1.1).

Type CG-1 (Pressure Relief Rupture Disk)

A rupture disk (synonymous with the name burst disk within the industry) is a pressure-operated device which affords protection against development of excessive pressure in cylinders. This device is designed to sense excess pressure in a cylinder and will function when the cylinder is of sufficient magnitude to cause the rupture or bursting of the rupture disk element, thereby venting the contents of the cylinder. The rupturing of the rupture disk element results in a non-reclosing orifice.

Rupture disk devices installed on compressed gas cylinders may be either an integral part of the cylinder valve assembly or may be installed on the cylinder as an independent attachment. The materials of construction selected must be compatible with the fluid in the cylinder as well as the cylinder valve materials with which the rupture disk device comes in contact in order to minimize corrosion.

One of the most common types of rupture disk devices consists of a gasket and a rupture disk and a rupture disk holder. These components are only supplied as factory-assembled devices designed to be replaced as a unit.

The gasket is the part which provides the proper seal to prevent leakage of the cylinder contents past the rupture disk assembly and may be constructed of metallic or nonmetallic materials.

The rupture disk is the operating part of the pressure relief device and, when installed in a proper rupture disk holder, is designed to burst at a predetermined pressure to permit discharge of the cylinder contents. Such disks are usually made of metallic materials and may be of flat, preformed, reinforced, grooved or scored construction. Nonmetallic materials are also used for specific applications.

The rupture disk holder is the part of the pressure relief device which contains the opening, against which the rupture disk mates. The rupture disk holder usually also contains the discharge porting or passages, beyond the operating parts of the device, through which fluid must pass to reach the atmosphere. In many cases, the discharge holder is provided with radial vent holes through which the fluid in the cylinder vents to the atmosphere. This radical discharge design provides an anti-recoil feature, which minimizes rocketing of compressed gas cylinders during discharge of the contents through the pressure relief device. Other types of discharge ports may also be provided in rupture disk holders to suit specific application requirements.

Most rupture disk devices are designed with holders having either sharp-edged or radius-edged orifices to which the rupture disk mates. The sharp-edged orifice produces a shear-type actuation mode whereby the disk ruptures in shear, producing a characteristic leaf-type configuration after functioning.

The radius-edged orifice produces a tension-type actuation mode whereby the disc stretches over the radius-edge. This thins the center of the disc until it can no longer hold the pressure. This type of rupture produces a characteristic rose petal configuration after functioning.

Since the actuation modes of each type of holder described above are completely different, it is important that only original manufacturer's assemblies be used in the replacement of rupture disk devices.



WARNING

The pressure relief rupture disk device is a primary safety component and hence the following precautions should be noted and adhered to:

- A. Only trained personnel should be permitted to service pressure relief devices
- B. Tightening of the rupture disk assembly to the cylinder valve or to the cylinder itself should be in accordance with the manufacturer's instructions. Tightening to a torque less than the manufacturer's recommendations may result in a leaking device or a device that may rupture at a lower pressure than specified. Conversely, over tightening can also result in disk actuation at a lower pressure than specified due to excessive twisting action, which may create wrinkles or distortions in the disk, which may cause premature failure of the disk and inadvertent release of the pressure contents. Either of these premature releases could cause serious injury or death.



WARNING

Components of devices designed to rupture in shear are very similar in appearance to those designed to rupture in tension but are not interchangeable because they have completely different modes of actuation. If components are inadvertently interchanged, i.e. a disk designed to rupture in shear is installed in a rupture disk holder designed to rupture in tension, a serious cylinder failure incident could result that could lead to loss of life due to the significant increase in pressure required to rupture the disk. Conversely if a disk designed to rupture in tension is installed in a rupture disk holder designed to rupture in shear, premature rupture could occur with complete loss of contents due to significant reduction in rupture pressure of the disk. That may lead to fire, personal injury or death.

Limitations

A rupture disk is a pressure-operated device which affords protection against excessive pressure. It protects against excessive pressure when the properties of the gas, cylinder design, and percentage of charge in the cylinder are such that exposure to excessively high temperatures will cause an increase in internal pressure sufficient to actuate the rupture disk

Pressure Relief Devices Technical Information

before the cylinder loses its integrity and weakens. The rupture disk also protects against excessive pressure due to improper charging practices such as overfilling.

A rupture disk is a non-reclosing device. Once the disk has ruptured, there is no way to prevent the complete release of the contents of the cylinder.

This device does not provide good protection against pressures caused by exposure to excessively high temperatures when the cylinder is only partially charged. The pressure rise may not be sufficient to actuate the rupture disk before the cylinder loses its integrity and weakens.

Consideration should be given to environmental conditions to which the cylinder may be exposed. Severely corrosive atmospheres may contribute to premature rupture of the disk. To prevent corrosion of the rupture disk, care must be taken to select materials of construction that do not interact with either the contents of the cylinder or the anticipated environmental conditions.

Type CG-2 and CG-3 (Fusible Plugs)

A fusible plug is a thermally operated pressure relief device which affords protection against excessive pressure developed by exposure to excessive heat. Once sufficient heat melts the fusible alloy, the entire contents of the cylinder will be vented. The CG-2 fusible alloy has a nominal melt temperature of 165° F (73.9° C); the CG-3 fusible metal has a nominal melt temperature of 212° F (100° C).

Fusible plugs can be installed on the cylinder as independent devices or fusible alloy can be cast directly into a suitable orifice in the cylinder valve body. In some cases, a fusible plug may be installed as a separate device into the cylinder valve body.

! WARNING No attempt should be made to repair fusible plug devices. They are not repairable and attempts to repair will destroy the integrity of the fusible alloy causing leakage of gases that may lead to fire, personal injury or death.

Limitations:

Since the fusible plug is a thermally operated device, it is designed to function only when the fusible metal melts out. Hence, it does not protect against over pressure from improper charging practices. Sufficient heat to melt the fusible alloy is necessary for proper functioning of this type of device. Therefore, the location of such devices is an important consideration. Industry practice limits the application of these style fusible plugs to cylinders with 500 psig (3447 kPa) service pressure or less to minimize the possibility of cold flow or extrusion of the fusible alloy. A fusible device is a nonreclosing devices and when it functions, it releases the entire contents of the cylinder.

Type CG-4 and CG-5 (Combination Rupture Disk/Fusible Plug)

A combination rupture disk/fusible plug pressure relief device requires both excessive pressure and excessive temperature to cause it to operate. Sufficient heat is required to first melt out the fusible metal, after which the device will afford the same protection as the CG-1 rupture disk device.

The CG-4 combination device has fusible alloy with a nominal melt temperature of 165° F (73.9° C). The CG-5 combination device has fusible alloy with a nominal melt temperature of 212° F (100° C).

In this type of device, the rupture disk portion (CG-1) is directly exposed to the internal cylinder pressure, and so it is directly upstream of the fusible metal. In general, the same components that make up the CG-1 device are used and the vent portion or downstream side of the rupture disk is thus reinforced against rupturing by the fusible alloy, and the fusible alloy is reinforce against extrusion by the rupture disk.

NOTE: The same precautions noted for CG-1 devices should be adhered to for CG-4 and CG-5 device. See previous warnings.

Limitations:

CG-4 and CG-5 combination devices function only in the presence of both excessive heat and excessive pressure, and sufficient heat must be present first to melt the fusible metal. Therefore, this device does not offer protection against over pressure from improper charging practices.

Type CG-7 (Pressure Relief Valves)

A pressure relief valve is a spring-loaded pressure-operated device designed to relieve excessive cylinder pressure, reclose, and reseal to prevent further release of product from the cylinder after excessive pressure is removed and valve resealing pressure has been achieved.

The primary advantage of using the pressure relief valve is that functioning of this type of device may not release all of the contents of the cylinder but is designed to reseal after resealing pressure has been achieved. This characteristic, in fire conditions, will minimize feeding the fire in the case of flammable or combustible cylinder contents.

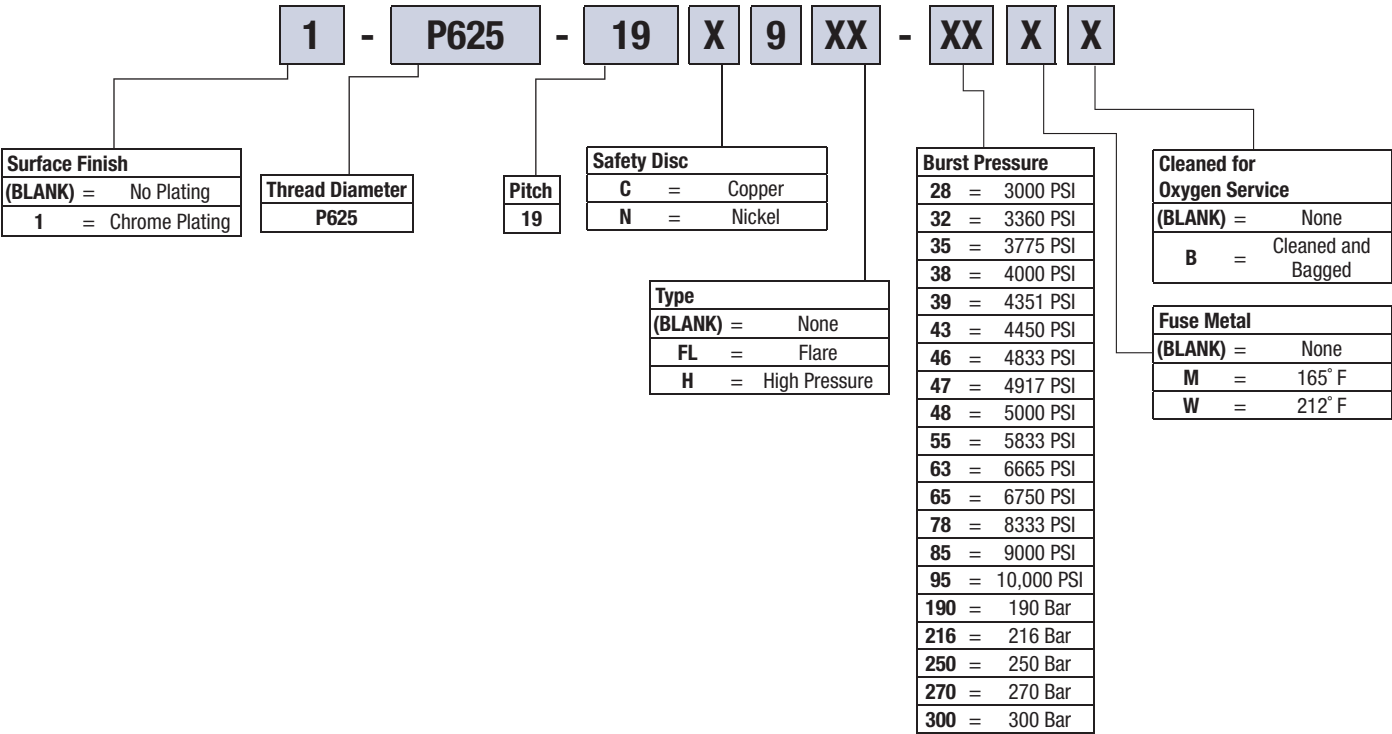
Limitations:

Pressure relief valves are designed to maintain the pressure in the cylinder at a limit as determined by the spring force. Therefore, such devices do not protect the cylinder against possible rupture when continued application of external heat or direct flame impingement weakens the cylinder wall to the point where its rupture pressure is less than the operating pressure of the relief valve.

If you require assistance in selecting a Pressure Relief or Safety device for a specific application, please contact Sherwood Customer Service at 888-508-2583 with the following information: Part number of the valve assembly being repaired, if applicable; Type of gas service in which cylinder will be used; and service or test pressure of the cylinder.

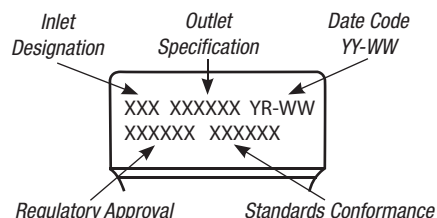
Appendix

Pressure Relief Device Numbering Matrix: Unitized Plug Series



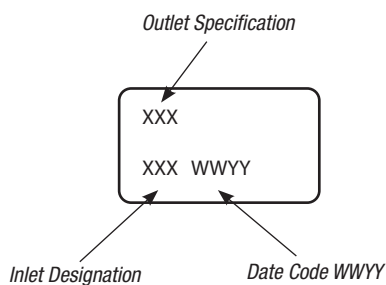
Product Markings Reference

A GSV, GSHV, GSV Acetylene, GSRPV, GSVT, NGSV, and NGSRPV Series

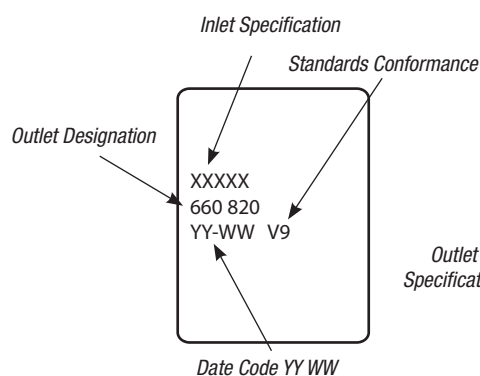


NOTE: For European valves, there may be a third line designating Bar pressure rating.

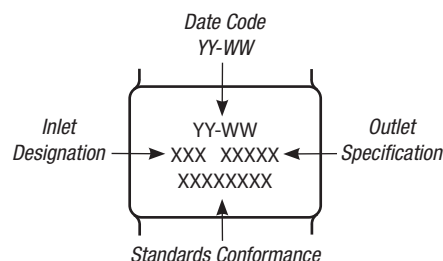
C 1206A, 1214Y, 5983L, and 8074 Series



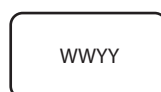
E 1210 and 1214 Series



B AV Handwheel-Operated Series

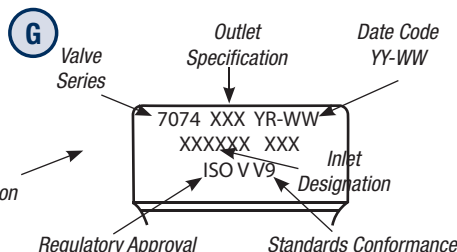
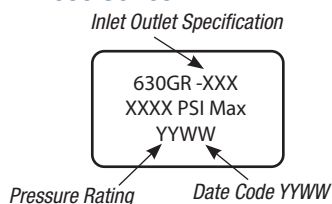


D Date Code Stamping Standard for BV, AV Wrench-Operated, YVBA, PVE3250, YVE, DF, YVA, PVE, and PA



First two characters indicated the week of the calendar year the product was manufactured. For example: 01 – first week of calendar year or 10 – tenth week of calendar year. Last two characters indicate the last two digits of the year manufactured.

F 630 Series



Inlet Code	
Inlet Code	Inlet Thread Designation
4FPT	¼"–18 NPT Female
06N	¾"–18 NGT
8MPT	½"–14 NPT
08N	½"–14 NGT
12FPT	¾"–14 NPT Female
12N	¾"–14 NGT
12NC(1-4)	¾"–14 NGT (CL) (1-4)
12S	¾"–14 SGT
16N	1"–11½ NGT
16NC(1-3)	1"–11½ NGT (CL) 1-3
U8	½"–20 UNF
U10	¾"–18 UNF
SP12	¾"–14 NPSM
U12	¾"–16 UNF
U14	7/8"–14 UNF
U18	1½"–12 UNF
17E	17,4 ISO/DIS 11116
198	DIN 477 W18,8 x ¼
25E	25,8 ISO/DIS 10920.2 & DIN 477 28,8 x ¼
313	DIN 477 W31,3 x ¼
V1	20 X 14 JIS B 8246
V2	28 X 14 JIS B 8246
V3	28 X 14 JIS B 8246 (Reduced Length)
W6	0.06–14 AS2473
W71	0.715–14 AS2473
W1	1–14 AS2473

Outlet Codes	
Code	Description
CGA	CGA Outlet
ABN	Brazil, ABNT
AS	Australia, AS2473
BS	British Standard
DIN	Germany
IND	Chile, Indura
INF	Mexico, INFRA
IRA	Argentina, IRAM
JIS	Japan
NF	France
SMS	Sweden

NOTE: Date codes include the last two digits of the year manufactured and two digits to represent the week manufactured. For example, the year is represented as "08" for 2008 or "10" for 2010. For example, the week is represented as "01" for first week of the year manufactured and "10" for tenth week of the year manufactured. In some standards the year comes first, and in some standards the week comes first.

Appendix

KVAC and KVMC Medical Valves Date Code Tables

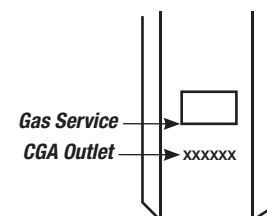
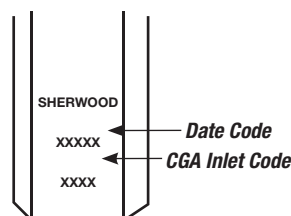
1983			
Date Code	Month	Year	Examples
In 1983, the date code was controlled by Sherwood drawing 3095, rev C. The date code was a simple three-character code representing month and year. Month was the first character, represented by a letter of the alphabet with A being January, B being February, etc. Note that the letter I was used (for September) so the plan ended with L = December.	A = January	83 = 1983	A83 = January, 1983
	B = February	84 = 1984	G84 = July, 1984
	C = March	85 = 1985	
	D = April	...	
	E = May		
	F = June		
	G = July		
	H = August		
	I = September		
	J = October		
	K = November		
	L = December		
The final two characters were a numeric representation of the year with 83 = 1983, 84 = 1984, etc.			

1989			
Date Code	Week	Year	Examples
In 1989, drawing 3095 was revised to Rev D. It now included the option of a weekly code instead of the monthly code. This option was used on the K valves. 01 was used to indicate the first week of the calendar year, 02 the second week, 03 the third week, etc.	01 = 1st week	89 = 1989	01-89 = 1st week of 1989
	02 = 2nd week	90 = 1990	13-89 = 13th week of 1989
	03 = 3rd week	91 = 1991	...
	04 = 4th week		
	05 = 5th week		
	06 = 6th week		
	07 = 7th week		
	08 = 8th week		
	09 = 9th week		
	10 = 10th week		
	11 = 11th week		
	...		
	52 = 52nd week		

Note that the dash may be replaced by a blank space.

1990	
Date Code	
In 1990, drawing 3095 was revised to Rev E. This removed the month + year option from the drawing (was still in use for some non-K valves) and left only the week + year format. It also added an optional L "in the vicinity of the date code" to show that the valve was manufactured at the Sherwood facility in Lockport, NY. The dash (or space) between month and year was retained.	

1997				
Date Code	Week	Year	Sherwood Facility	Examples
In 1997, the controlling drawing was changed to STD724, Rev A. This retained the week + year format but added a single character to represent the plant where the valve was manufactured. The dash or blank space between year and week was also deleted.	01 = 1st week	99 = 1999	L = Lockport, NY	1099L = 10th of 1999, manufactured at the Sherwood facility in Lockport, NY
	02 = 2nd week	00 = 2000	W = Washington, PA	0200W = 2nd week of 2000, manufactured at the Sherwood facility in Washington, PA
	03 = 3rd week	01 = 2001	Blank = Niagara Falls, NY	5101 = 51st week of 2001; the lack of a plant location character at the end means that the valve was manufactured at the Sherwood facility in Niagara Falls, NY
	04 = 4th week			
	05 = 5th week			
	06 = 6th week			
	07 = 7th week			
	08 = 8th week			
	09 = 9th week			
	10 = 10th week			
	11 = 11th week			
	...			
	52 = 52nd week			

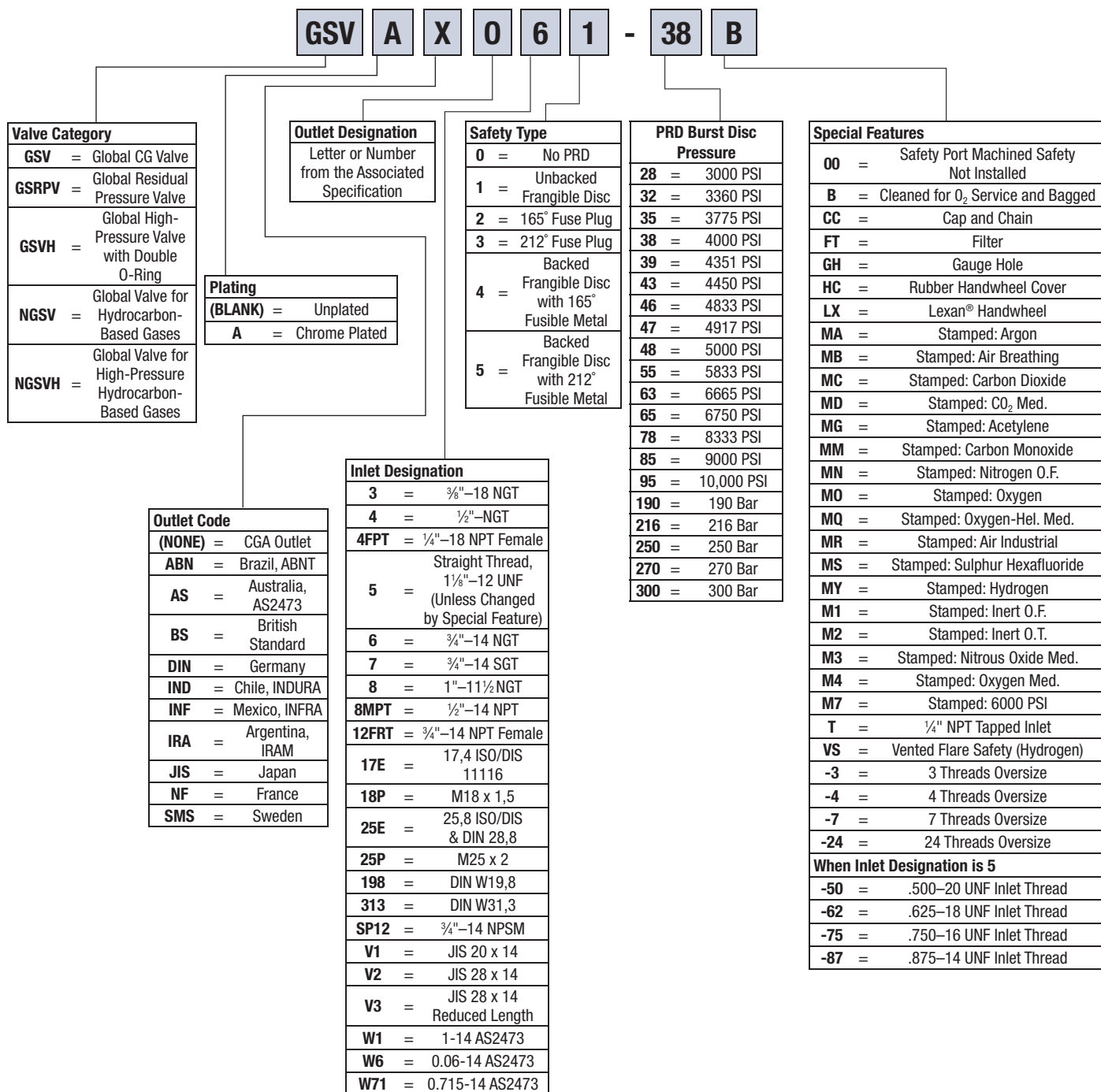


KVAC and KVMC Medical Valves Date Code Tables

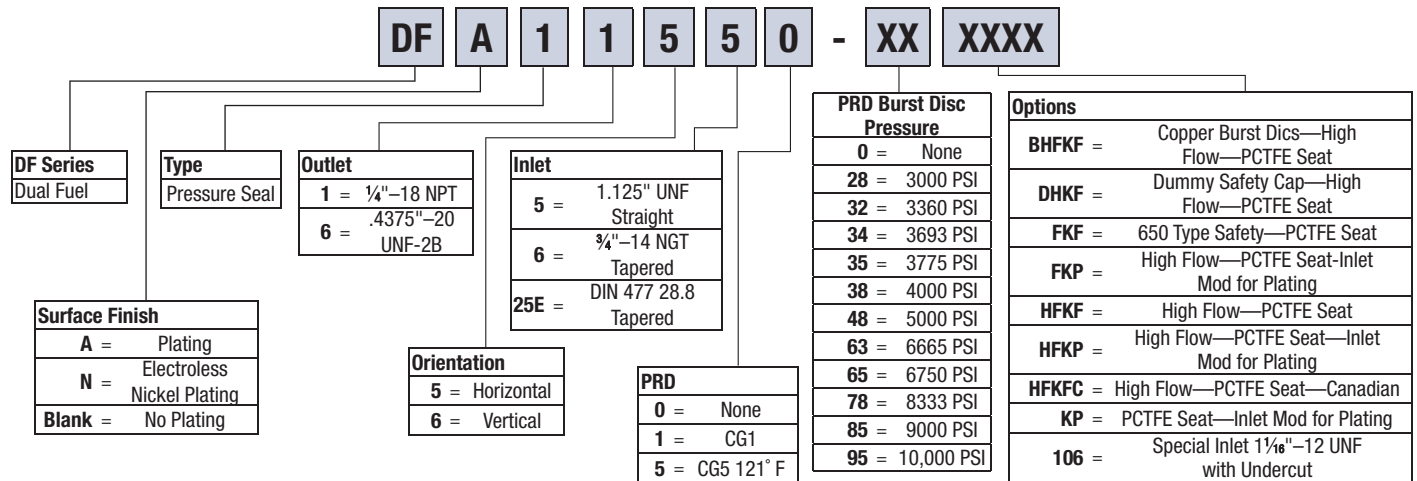
2002				
Date Code	Shift	Year	For Non-Leap Years	Examples
In 2002, the controlling drawing was changed to STD724B. This changed the date code to include the shift, the day number of the year and the year. For the first character, 1 = first shift, 2 = second shift and 3 = third shift. The second character is a letter to represent the year. A = 2002, B = 2003, C = 2004. The letter I is not used (because of its similarity to the numeral 1), so H = 2009 and J = 2010. The character O is also not used (similarity to 0), so N = 2014 and P = 2015. The final three characters represent the day of the year. 001 = January 1, 032 = February 1 and 365 = December 31.	1 = 1st shift	A = 2002	001 = January 1	1A001 = 1st shift, 2002, January 1
	2 = 2nd shift	B = 2003	002 = January 2	2B181 = 2nd shift, 2003, June 30
	3 = 3rd shift	C = 2004	003 = January 3	3C213 = 3rd shift, 2004, July 31
		D = 2005		
		E = 2006	031 = January 31	
		F = 2007		
		G = 2008	059 = February 28	
		H = 2009	060 = March 1	
		J = 2010		
		K = 2011	090 = March 31	
		L = 2012	091 = April 1	
		M = 2013		
		N = 2014	365 = December 31	
		P = 2015		
		Q = 2016	For Leap Years	
		R = 2017	001 = January 1	
		S = 2018	002 = January 2	
		T = 2019	003 = January 3	
		U = 2020		
		V = 2021	031 = January 31	
				
			059 = February 28	
			060 = February 29	
			061 = March 1	
				
			091 = March 31	
			092 = April 1	
				
			366 = December 31	

Appendix

Valve Part Numbering Matrix: Global Valves

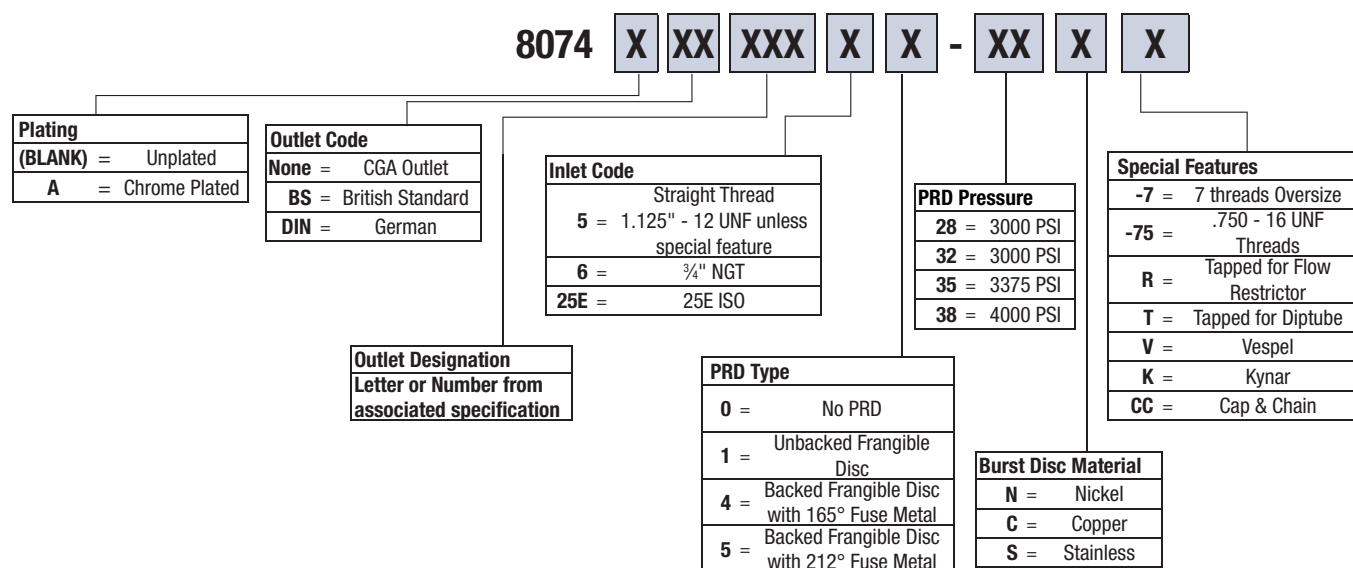


Valve Part Numbering Matrix: DF Series

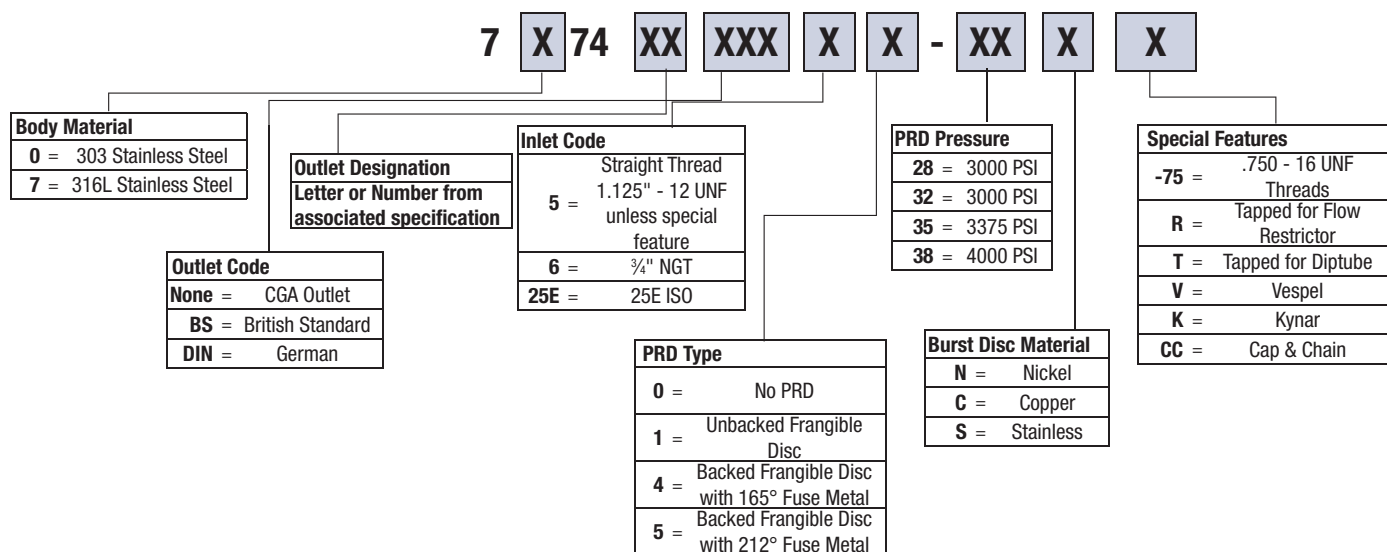


Appendix

Valve Part Numbering Matrix: 8074 Series



Valve Part Numbering Matrix: 7074/7774 Series



Appendix

Cylinder Valve Selection

Quick Reference for Valve Abbreviations

Use the Sherwood Cylinder Valve Series Abbreviation Chart on this page with the Sherwood Cylinder Valve Selection Charts found on **pages** . The Sherwood Cylinder Valve Selection Chart are for reference only and list:

- The most commonly used gases
- The Compressed Gas Association primary outlet to be used with each gas
- The Sherwood valves designated for use with this gas
- The Pressure Relief Device styles that are authorized by the DOT for use with these gases

PLEASE NOTE: The Sherwood Cylinder Valve Selection Charts are partial lists extracted from the CGA V-1 and S-1.1 pamphlets. They can change without notice as the CGA V-1 and S-1.1 pamphlets are amended. Sherwood will issue periodic changes to the catalog. If there is any discrepancy or question between these lists and the CGA V-1 and S-1.1 pamphlets, the CGA V-1 and S-1.1 pamphlets take precedence.

Sherwood Cylinder Valve Series Abbreviation Chart	
Abbreviation	Sherwood Valve Series
AVB	Small Cylinder Acetylene Wrench-Operated Valves
AVBHW	Small Cylinder Acetylene Handwheel-Operated Valves
AVMC	Small Cylinder Acetylene Wrench-Operated Valves
AVMCHW	Small Cylinder Acetylene Handwheel-Operated Valves
AVWB	Small Cylinder Acetylene Wrench-Operated Valves — WB Style
BV	Hi/Lo Valves with Built-in Regulator
DF	Alternative Energy Valves
GSRPV	Residual Pressure Valves
GSV	Global Industrial Cylinder Valves
GSVT	Vertical Outlet Acetylene Valves
KVAC	Post Medical Valves
KVMC	Post Medical Valves MRI
NGSV	Industrial Gas Valves for Hydrocarbon Based Flammable Valves
YVB	Vertical Outlet Oxygen Valves

Cylinder Valve Selection

Acetylene – Chlorine Trifluoride

Sherwood Cylinder Valve Selection Chart										
Gas Name PSI (KPa)	FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)							Pressure Relief Devices (see p. 79)
			AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	KV	
Acetylene*	5130									
>50 cu. ft. (1.39 m ³)		510			•			•		CG-3
35–75 cu. ft. (970 L–2.08 m ³)		520	•							CG-3
-10 cu. ft. (280 L)		200		•						CG-3
Air (R729)	1060									
0–3000 (0–20,680) Threaded		346				•	•	•		CG-1, -4, -5
0–3000 (0–20,680) Yoke		950							•	
3001–4700 (20,690–32,400)		347				•	•	•		CG-1, -4, -5
4701–6400 (32,412–44,126)		702						•		CG-1, -4, -5
Allylene (see Methylacetylene)										
Argon	1060									
0–3000 (0–20,680)		580				•	•	•		CG-1, -4, -5
3001–4700 (20,690–32,400)		680				•		•		CG-1, -4, -5
4701–6400 (32,412–44,126)		677						•		CG-1, -4, -5
Arsine	2300	350								Prohibited
Boron Fluoride (see Boron Trifluoride)										
Boron Trifluoride	0263	330								Prohibited
Bromine Pentafluoride	4303	670						•		Prohibited
Bromine Trifluoride	0263	670						•		Prohibited
Bromochlorodifluoromethane (R12B1)	0100	660						•		CG-1, -2, -3, -7
Bromoethylene (see Vinyl Bromide)										
Bromomethane (see Methyl Bromide)										
Bromotrifluoroethylene (R113B1)	3100	510								CG-1
Bromotrifluoromethane (R13B1)	0100									
Butane (R600)	2100									
		660						•		CG-1, -7
Gas Withdrawal		510								CG-7
Liquid Withdrawal		555								CG-7
1-Butene	2100	510								CG-7
2-Butene	2100	510								CG-7
Butylene (see 1-Butene)										
Butylene (see 2-Butene)										
1-Butyne (see Ethylacetylene)										
Carbon Dioxide (R744)	0110									
Threaded		320						•		CG-1, -4
Yoke		940							•	CG-1
Carbonic Acid (see Carbon Dioxide)										
Carbon Monoxide	2260	350					•	•		
Carbon Oxysulfide (see Carbonyl Sulfide)										
Carbon Tetrafluoride (see Tetrafluoromethane)										
Carbonyl Chloride (see Phosgene)										
Carbonyl Fluoride	0213	660								N.R. CG-4
Carbonyl Sulfide	2201	330								CG-2, -4
Chlorine	4203									
Threaded		820								CG-2
Yoke		820								CG-2
Chlorine Pentafluoride	4303	670								Prohibited
Chlorine Trifluoride	4203	670								CG-4

*Acetylene is the only gas in this table that is not specified by gas pressure; it is specified by volumetric units.

Appendix

Cylinder Valve Selection

1-Chloro-1, 1-Difluoroethane (R142b) – Ethylene Oxide

Sherwood Cylinder Valve Selection Chart

Gas Name PSI (KPa)	FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)							Pressure Relief Devices (see p. 79)
			AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	KV	
1-Chloro-1, 1-Difluoroethane (R142b)	2100	510								CG-2, -3, -7
Chlorodifluoromethane (R22)	0100	660								CG-1, -2
Chloroethane (see Ethyl Chloride)	0100									
Chloroethylene (see Vinyl Chloride)										
Chloromethane (see Methyl Chloride)										
Chloropentafluoroethane (R115)	0100	660						•		
1-Chloro-1,2,2,2-Tetrafluoroethane (R124)	0100	660						•		
1-Chloro-2,2,2-Trifluoroethane (R133a)	5200	660						•		
Chlorotrifluoroethylene (R1113)	0100									
Chlorotrifluoromethane (R13)	0100	660						•		
Cyanogen	2200	660						•		
Cyanogen Chloride	0303	660								
Cyclobutene	2100	510								
Cyclopropane	2100									
Threaded		510						•		
Yoke		920							•	
Deuterium	2160	350						•		
Diborane	5360	350						•		
Dibromodifluoroethane	1100	660								N.R.
Dibromodifluoromethane (R12B2)	0100	660						•		N.R.
1,2-Dibromotetrafluoroethane (R114B2)	0100	660						•		N.R. CG-1
1,2-Dichlorodifluoroethylene	0100	660						•		N.R.
Dichlorodifluoromethane (R12)	0100	660						•		CG-1, -2, -3, -7
Dichlorofluoromethane (R21)	0100	660						•		N.R. CG-1
1,1-Dichlorotetrafluoroethane (R114a)	0100	660						•		N.R. CG-1
1,2-Dichlorotetrafluoroethane (R114)	0100	660						•		N.R. CG-1
2,2-Dichloro-1,1,1-Trifluoroethane (R123)	0100	660						•		N.R.
Dicyane (see Cyanogen)										
Diethylzinc	3300	510								Prohibited
Difluorodibromoethane (see Dibromodifluoroethane)										
Difluorodibromomethane (see Dibromodifluoromethane)										
1,1-Difluoroethane (R152a)	N/A	510								CG-2, -3, -7
1,1-Difluoroethylene (R1132a)	2110	350								CG-1, -4
Difluoromonochlorethane (see Chlorodifluoroethane)										
Dinitrogen Oxide (see Nitrous Oxide)										
Dinitrogen Tetroxide (see Nitrogen Dioxide)										
Dinitrogen Trioxide (see Nitrogen Trioxide)										
Diphosgene	0303	660								Prohibited
Epoxymethane (see Ethylene Oxide)										
Ethane (R170)	2110	350						•		CG-1
Ethene (see Ethylene)										
Ethylacetylene	2100	510								N.R. CG-2
Ethylamine (see Monoethylamine)										
Ethyl Chloride (R160)	2100	300								N.R. CG-2
Ethylene (R1150)	2160									
Threaded	350							•		CG-1
Yoke	900								•	CG-1
Ethylene Oxide	5120	510								See CFR49 173.323

Cylinder Valve Selection

Ethylidene Fluoride – Methane (R50)

Sherwood Cylinder Valve Selection Chart										
Gas Name PSI (KPa)	FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)							Pressure Relief Devices (see p. 79)
			AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	KV	
Ethylidene Fluoride (see 1,1-Difluoroethane)										
Ethyne (see Acetylene)										
Fluorine	4343	679								Prohibited
Fluoroethylene (see Vinyl Fluoride)										
Fluoroform (R23) (see Trifluoromethane)										
Fluoromethane (see Methyl Fluoride)										
Gases in Small Cylinders (see "Introduction" Par. 2.10 in CGA pamphlet V-1-1994)										
Germane	2300	350								Prohibited
Helium	0160									
0–3000 (0–20,680) Threaded		580				•	•	•		CG-1, -4, -5
0–3000 (0–20,680) Yoke		930							•	CG-4
3001–4700 (20,690–32,400)		680				•		•		CG-1, -4, -5
4701–6400 (32,412–44,126)		677					•	•		CG-1, -4, -5
Hexafluoroethane (R116)	0100	660					•	•		CG-1, -4
Hexafluoro-2-Propanone (see Hexafluoroacetone)										
Hexafluoropropylene (R1216)	0100	660								CG-1
Hydrobromic Acid, Anhydrous (see Hydrogen Bromide)										
Hydrochloric Acid, Anhydrous (see Hydrogen Chloride)										
Hydrofluoric Acid, Anhydrous (see Hydrogen Fluoride)										
Hydrogen	2160									
0–3000 (0–20,680) Threaded		350					•	•		CG-4, -5
3001–4700 (20,690–32,400)	695							•	•	CG-4, -5
4701–6400 (32,412–44,126)	703							•	•	CG-4, -5
Hydrogen Bromide	0203	330								CG-4
Hydrogen Chloride	0213	330								CG-4
Hydrogen Fluoride	0203	670								N.R.
Hydrogen Selenide	2300	350								Prohibited
Hydrogen Sulfide	2201	330								CG-2, -4
Iodine Pentafluoride	4303	670								Prohibited
Isobutane (R601)	2100	510								CG-7
Isobutene (see Isobutylene)										
Isobutylene	2100	510								CG-7
Krypton	0160					•	•	•		
0–3000 (0–20,680)		580				•	•	•		CG-1, -4, -5
3001–4700 (20,690–32,400)		680				•	•	•		CG-1, -4, -5
4701–6400 (32,412–44,126)		677								CG-1, -4, -5
Laughing Gas (see Nitrous Oxide)										
Liquid Dioxide (see Nitrogen Dioxide)										
Marsh Gas (see Methane)										
Medical Gas Mixture										
Methane (R50)	2160									
0–500 (0–3450)		510								CG-7
0–3000 (0–20,680)		350					•	•		CG-1, -4, -5
3001–4700 (20,690–32,400)	695						•	•		CG-1, -4, -5
4701–6400 (32,412–44,126)		703					•	•		CG-1, -4, -5

Appendix

Cylinder Valve Selection

Methanethiol – Oxirane

Sherwood Cylinder Valve Selection Chart

Gas Name PSI (KPa)	FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)							Pressure Relief Devices (see p. 79)
			AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	KV	
Methanethiol (see Methyl Mercaptan)										
Methoxyethylene (see Vinyl Methyl Ether)										
Methylacetylene	2100									CG-7
	510									
Methyl Bromide	0200	330								N.R.
Methyl Chloride (R40)	2100	510								CG-7
Methylene Fluoride (R32) (Difluoromethane)	2110	350						•		CG-1, -7
Methyl Fluoride (R41) (Fluoromethane)	2103	350						•		CG-4
Methyl Mercaptan	2201	330								N.R.
2-Methylpropene (see Isobutylene)										
Methyl Vinyl Ether (see Vinyl Methyl Ether)										
Monochlorodifluoromethane (see Chlorodifluoromethane)										
Monochloropentafluoroethane (see Chloropentafluoroethane)										
Monochlorotetrafluoroethane (see Chlorotetrafluoroethane)										
Monochlorotrifluoromethane (see Chlorotrifluoromethane)										
Mustard Gas [Bis (2-Chloroethyl) Sulfide]	0303	660								Prohibited
Natural Gas	2160									
0–500 (0–3450)		510								CG-7
0–3000 (0–20,680)		350					•	•		CG-4, -5
3001–5500 (20,690–37,900)		695					•	•		CG-4, -5
5501–7500 (38,000–51,700)		703					•	•		CG-4, -5
Neon	0160									
0–3000 (0–20,680)		580					•	•		CG-1, -4, -5
3001–4700 (20,690–32,400)		680					•	•		CG-1, -4, -5
4701–6400 (32,412–44,126)		677					•	•		CG-1, -4, -5
Nickel Carbonyl	2300	660								Prohibited
Nickel Tetracarbonyl (see Nickel Carbonyl)										
Nitric Oxide	4361	660								Prohibited
Nitrogen	0160									
0–3000 (0–20,680) Threaded		580					•	•		CG-1, -4, -5
0–3000 (0–20,680) Yoke		960							•	CG-1, -4, -5
Oil Tolerant		621					•	•		CG-1, -4, -5
3001–4700 (20,690–32,400)		680					•	•		CG-1, -4, -5
4701–6400 (32,412–44,126)		677					•	•		CG-1, -4, -5
Nitrogen Dioxide	4301	660								Prohibited
Nitrogen Peroxide (see Nitrogen Dioxide)										
Nitrogen Sesquioxide (see Nitrogen Trioxide)										
Nitrogen Tetroxide (see Nitrogen Dioxide)										
Nitrogen Trifluoride	4140	670								CG-3, -4, -5
Nitrogen Trioxide	N.A.	660								CG-3, -4, -5
Nitrous Oxide (R744a)	4110									
Threaded		326						•		CG-1
Yoke		910							•	CG-1
Octafluorocyclobutane (RC318)	0100	660								CG-7
Octafluoropropane (R218)	0100	660						•		CG-1, -7
Oxirane (see Ethylene Oxide)										

Cylinder Valve Selection

Oxygen – Tungsten Hexafluoride

Sherwood Cylinder Valve Selection Chart										
Gas Name PSI (KPa)	FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)							Pressure Relief Devices (see p. 79)
			AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	KV	
Oxygen	4060									
0–3000 (0–20,680) Threaded		540					•	•		CG-1, -4, -5
0–3000 (0–20,680) Yoke		870							•	CG-1, -4, -5
3001–4700 (20,690–32,400)		577					•	•		CG-1, -4, -5
4701–6400 (32,412–44,126)		701					•	•		CG-1, -4, -5
Oxygen Difluoride	4343	679								Prohibited
Pentaborane	3300	350								Prohibited
Pentafluoroethane (HFC-125)	0100	660						•		CG-1, -7
Perfluorobutane (FC-3-1-10) (R-610)	0100	660						•		N.R. CG-2, -7
Perfluor-2-Butene	0100	660						•		N.R. CG-2
Perfluorocyclobutane (see Octafluorocyclobutane)										
Perfluoroethane (see Hexafluoroethane)										
Perfluoropropane (see Octafluoropropane)										
Phosgene	0303	660								Prohibited
Phosphine	3310									Prohibited
	350									
Propane (R290)	2100									
Gas Withdrawal		510, 810								CG-7
Liquid Withdrawal	555	CG-7								
Propene (see Propylene)										
Propylene (R1270)	2100	510								CG-7
Propyne (see Methylacetylene)										
Silane	3160									
0–3000 (0–20,680)		350								CG-4
Silicon Tetrahydride (see Silane)										
Sulfur Dioxide (R764)	0201	660								CG-2
Sulfur Hexafluoride	0100	590					•	•		CG-1, -5
Sulfur Tetrafluoride	0303	330								Prohibited
Sulfuryl Fluoride	0200	660								CG-2
1,1,1,2-Tetrafluoroethane (R134a)	0100	167						•		CG-1
Tetrafluoroethylene (R1114)	5110	350						•		CG-1, -4
Tetrafluoromethane (R14)	0160	580						•		CG-1, -4, -5
Tetrafluorosilane (see Silicon Tetrafluoride)										
Trichlorofluoromethane (R11)	0100	660						•		N.R.
1,1,1-Trichlorotrifluoroethane	0100	660						•		N.R.
1,1,2-Trichlorotrifluoroethane (R113)	0100	660						•		N.R.
Triethylaluminum	3300	510								N.R.
Trifluorobromomethane (see Bromotrifluoromethane)										
Trifluorochloroethylene (see Chlorotrifluoroethylene)										
Trifluoromethane (HFC-23)	0110	660						•		CG-1, -4
Trifluoromethyl Chloride (see Chlorotrifluoromethane)										
Trifluoromethyl Iodide	0200	660								CG-4
Trifluorovinyl Bromide (see Bromotrifluoroethylene)										
Trimethylene (see Cyclopropane)										
Trimethylmethane (see Isobutane)										
Tungsten Hexafluoride	0303	670								N.R.

Appendix

Cylinder Valve Selection

Uranium Hexafluoride – Xenon & Medical Gas Mixtures

Sherwood Cylinder Valve Selection Chart										
Gas Name PSI (KPa)	FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)							Pressure Relief Devices (see p. 79)
			AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	KV	
Uranium Hexafluoride	0303	330								Prohibited
Vinyl Bromide	5100	510								N.R. CG-2
Vinyl Chloride (R1140)	5100	510								CG-2
Vinyl Fluoride (R1141)	2100	350								CG-4
Vinylidene Fluoride (see 1,1-Difluoroethylene)										
Vinyl Methyl Ether	5100	510								CG-2
Xenon	0160									
0–3000 (0–20,680)		580				•	•	•		CG-1, -4
3001–4700 (20,690–32,400)		680				•	•	•		CG-1, -4
4701–6400 (32,412–44,126)		677					•	•		CG-1, -4
Medical Gas Mixtures for Pressures up to 3000 (20,680)										
Carbon Dioxide and Oxygen (CO ₂ not over 7%)										
Threaded		280						•		CG-1, -4
Yoke		880							•	CG-1, -4
Carbon Dioxide and Oxygen (CO ₂ over 7%)										
Threaded		500						•		CG-1, -4
Yoke		940							•	CG-1, -4
Carbon Dioxide, Oxygen, Nitrogen										
Threaded		500						•		CG-1, -4
Yoke		973							•	CG-1, -4
Clinical Blood Gas Mixtures										
Threaded		500						•		CG-1, -4
Yoke		973							•	CG-1, -4
Gas Mixtures, Medical Flammable										
Threaded		350						•		CG-4
Yoke		981							•	CG-4
Gas Mixtures, Medical Nonflammable, Noncorrosive										
Threaded		500						•		CG-1, -4
Yoke		973							•	CG-1, -4
Gas Mixtures, Medical Nonflammable, Noncorrosive										
Threaded		580						•		CG-1, -4
Yoke		985							•	CG-1, -4
Helium and Oxygen (He not over 80%)										
Threaded		280						•		CG-1, -4
Yoke		890							•	CG-1, -4
Helium and Oxygen (He over 80%)										
Threaded		500						•		CG-1, -4
Yoke		930							•	CG-1, -4
Lung Diffusion Mixtures										
Threaded		500						•		CG-1, -4
Yoke		973							•	CG-1, -4
Nitric Oxide Mixtures										
Threaded		626								Prohibited

Cylinder Valve Selection

Medical Gas Mixtures & Pressure Relief Devices

Sherwood Cylinder Valve Selection Chart											
			FTSC Code (see p. 80)	CGA Outlet	Sherwood Valve Series (see Abbreviation Chart on p. 86)						Pressure Relief Devices (see below)
					AVB & AVBHW	AVMC & AVMCHW	AVWB	BV	GRPV	GV	
Gas Name PSI (KPa)											
Medical	Gas Mixtures	for Pressures up to 3000 (20,680)									
Nitric Oxide Mixtures and Nitrogen Dioxide Mixtures											
Threaded			625							Prohibited	
Nitrous Oxide and Oxygen (N ₂ 47.5 to 52.5%)											
Threaded			280						•	CG-1, -4	
Yoke			965						•	CG-1, -4	
Nitrogen and Oxygen (O ₂ over 23.5%)											
Threaded			280						•	CG-1, -4	
Yoke			890						•	CG-1, -4	
Oxidizing Mixtures											
Threaded			296						•	CG-1, -4	
Yoke			977						•	CG-1, -4	
Xenon and Oxygen (O ₂ over 20%)											
Threaded			280						•	CG-1, -4	
Yoke			890						•	CG-1, -4	

Nominal mixture concentration; normal mixture tolerances are allowable.

Gas mixtures labeled as drugs or medical devices and not having another connection assignment.

For specific gas assignments, see the reference connection number in CGA pamphlet V-1-1994.

Types of Pressure Relief Devices	
Type	Description
CG-1	Rupture Disc
CG-2	165° F (73.9° C) Fusible Plug for Cylinder Product Not Exceeding 500 PSI (3450 KPa)
CG-3	212° F (100° C) Fusible Plug for Cylinder Product Not Exceeding 500 PSI (3450 KPa)
CG-4	Rupture Disc with 165° F (73.9° C) Fusible Alloy Backing
CG-5	Rupture Disc with 212° F (100° C) Fusible Alloy Backing
CG-7	Pressure Relief Valve
CG-8	Rupture Disc Followed by (in series) a Pressure Relief Valve
CG-9	217° F (102.7° C) Fusible Plug for Cylinder Marked Working Pressure Not Exceeding 6000 PSI (41,400 KPa)
Prohibited	Prohibited from Using a Pressure Relief Device for This Gas by 49CFR100-199
N.R.	None Required
N.R. CG-	None Required, but if a Pressure Relief Device Is to Be Used, the CG- _ Style Is to Be Selected

Appendix

Cylinder Valve Selection

FTSC Numerical Code

FTSC Numerical Code for Gas Classification	
First Digit	Fire Potential
0	Inert
1	Support Combustion (Oxidizing)
2	Flammable: In Air at 68° F (20° C) and 1 Atmosphere (14.5 PSI)
3	Pyrophoric
4	Highly Oxidizing
5	May Decompose or Polymerize and Is Flammable
Second Digit	Toxicity
0	Life Supporting (oxygen > 19.5° F in simple asphyxiant)
1	LC50 > 5000 ppm
2	LC50 > 200 ppm and < 5000 ppm
3	LC50 > 200 ppm
Third Digit	State of Gas (in cylinder at 68° F [20° C])*
0	Non-Cryogenic Liquefied Gas (less than 500 PSI) (3450 KPa) ** (gas withdrawal)
1	Non-Cryogenic Liquefied Gas (less than 500 PSI) (3450 KPa) (gas withdrawal)
2	Liquefied Gas (liquid withdrawal)***
3	Dissolved Gas
4	Non-Liquefied Gas or Cryogenic Gas Withdrawal (less than 500 PSI) (3450 KPa)
5	Europe Only
6	Non-Liquefied Gas between 500 and 3000 PSI (3450 and 20,680 KPa)
7	Non-Liquefied Gas above 3000 PSI and below 10,000 PSI (20,680 and 68,900 KPa)
8	Cryogenic Gas (liquid withdrawal) above -400° F (-240° C)
9	Cryogenic Gas (liquid withdrawal) below -400° F (-240° C)
Fourth Digit	Corrosiveness
0	Non-Corrosive
1	Non-Halogen Forming Acid
2	Base Forming
3	Halogen Acid Forming

* The temperature of the refrigerated (cryogenic) liquids is always below 130° F (54.4° C).

** If pressure at 130° F (54.4° C) is over 600 PSI (4140 KPa), use digit 1.

***When a separate outlet for liquid withdrawal is specified.

Sherwood Valve, LLC Limited Warranty

Revised January 2013

Seller warrants to you, the first purchaser, that it will repair or replace, at its sole discretion, defects in materials or workmanship that occur and are reported to Seller, within the applicable warranty period, subject to the terms, conditions and exclusions set forth in this document. Your acceptance of delivery of the warranty product constitutes your acceptance of the terms of this limited warranty. This limited warranty gives you specific legal rights and you may have other rights which may vary from state to state.

This limited warranty is the sole and exclusive warranty from Seller and there are no express warranties which extend beyond those outlined in this limited warranty. Under the laws of certain states, there may be no implied warranties from Seller and ALL IMPLIED WARRANTIES (INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) ARE EXCLUDED AND DISCLAIMED WHERE ALLOWED BY APPLICABLE LAW. ANY IMPLIED WARRANTIES (IF APPLICABLE) ARE LIMITED TO THE SCOPE AND MINIMUM PERIOD OF TIME ALLOWED UNDER APPLICABLE LAW.

Coverage Under This Limited Warranty:

The limited warranty period runs for one (1) year from the date the product was shipped from Seller's manufacturing plant to the first purchaser. This WARRANTY EXTENDS ONLY TO THE FIRST PURCHASER of the Seller's product and does not extend to a consumer who purchases Seller's product from a dealer or otherwise.

THIS LIMITED WARRANTY DOES NOT COVER damage caused by misuse or negligence and does not cover or apply to any product, accessory, part or attachment which is manufactured by someone other than Seller.

THE SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY AND ANY APPLICABLE IMPLIED WARRANTY IS THE REPAIR OR REPLACEMENT, AT SELLER'S SOLE OPTION, OF WARRANTED PRODUCTS AS SET FORTH HEREIN. SELLER EXCLUDES AND DISCLAIMS ANY LIABILITY FOR ANY CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE DELIVERY, USE OR FAILURE OF THE PRODUCT (INCLUDING, WITHOUT LIMITATION, LOSS OF ANY MATERIALS STORED IN PRODUCT; ANY DISRUPTION OF BUSINESS, DISRUPTION OF MANUFACTURING OR OTHER OPERATIONS; LOSS OF REVENUE OR PROFIT OR DAMAGES RESULTING FROM ANY BREACH OF ANY CONTRACT BETWEEN BUYER AND ANY THIRD PARTY), OR FROM ANY OTHER CAUSE WHATSOEVER. Any legal action alleging breach of any applicable warranty coverage must be brought within one (1) year from the date the alleged breach first occurred.

If Buyer believes that any part of Seller's product is defective, Buyer must give written notice to Seller at the address on the reverse side of this document before the expiration of the initial warranty period, giving details as to date and place of purchase, serial number and alleged defect. Seller will then give written instructions to Buyer regarding the manner in which the defective item is to be repaired or replaced. Buyer may be requested to return the item at Buyer's expense, but no return should be made until Buyer has received written instructions from Seller. Seller will then perform under this limited warranty within thirty (30) days after the defective item is returned to Seller.

This document contains the entire limited warranty provided by Seller. The Terms and Conditions contained in this limited warranty may not be modified, altered or waived by any action, inaction or representation, whether oral or in writing, except upon the express written authority of a senior management level employee of Seller. Seller does not authorize any person or persons (except a senior management level employee of Seller) to change the terms of this limited warranty. Seller reserves the right to change or improve the design or manufacture of its products without obligation to modify any product previously manufactured.

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Beyond Compressed Gas... Quality Products for Diverse Markets

***Sherwood's years of experience in
the diverse product lines of compressed
gas, medical gas, specialty gas and life
support provide us with the technical
expertise to meet your varied needs.
Sherwood is your partner for the best
quality valves, delivered on time, at the
best possible price!***





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Compressed Gas Products

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FAX: 800-416-0678

For technical information: compgas@sherwoodvalve.com

To place an order: orders@sherwoodvalve.com

www.linkedin.com/company/sherwood-valve-llc/

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