



**Technical Specifications
for Sherwood
Compressed Gas Valves**



2111 Liberty Drive
Niagara Falls
New York 14304-37444

Telephone: 716-283-1010
Fax: 716-283-5737

Toll Free: 888-50VALVE (508-2583)
Toll Free Fax: 800-416-0678



Cylinder Valve Selection Charts	i
Establishing a Leak Tight Seal	xiii
Pressure Relief Devices for Compressed Gas Cylinders	xv
Pressure Relief Device Charts	xix
"AV" Series Acetylene Valve -Wrench Operated	1
"AVB & AVMC" Series Acetylene Valves	3
"AV5160WB" Series Acetylene Valves for use in "WB" Style Cylinders	5
"BV" Series Hi/Lo Pressure Regulating Valves	7
1210 -1214 Series Chlorine Container Valves	11
"DF" Series Valves with Dual Outlets for Manifolding Applications	13
"JV" Series Industrial and Chrome Plated Cylinder Valves	17
"KVA" Series Post Type Medical Valves	21
"TVPR" Series SHERCheck® Residual Pressure/Back Check Valves	25
"TV" Series Manifold Valves	27
"TV" Series Acetylene Valves	29
"TV" Series Industrial and Chrome Plated Valves	31
"YVA" Series Line Valves	35
"YVB" Series Medical Valves	37

The **Sherwood Cylinder Valve Series Abbreviation Chart** on this page is to be used with the **Sherwood Cylinder Valve Selection Chart** beginning on the next page. The **Sherwood Cylinder Valve Selection Chart** is for reference only and lists:

- 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 that the **Sherwood Cylinder Valve Selection Chart** is a partial list extracted from the CGA V-1 and S-1.1 pamphlets. This list 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 this list and the CGA V-1 and S-1.1 pamphlets, the CGA V-1 and S-1.1 pamphlets take precedence.

IF YOU NEED ASSISTANCE, PLEASE CALL SHERWOOD CUSTOMER SERVICE AT (716) 283-1010.

SHERWOOD CYLINDER VALVE SERIES ABBREVIATION CHART	
Abbreviation	Sherwood Valve Series
AV	AV Series Acetylene Valves - Wrench Operated
AVB	"B" Style Acetylene Valves
AVMC	"MC" Style Acetylene Valves
AVWB	Acetylene Valves used in "WB" Style Cylinders
BV	BV Series Hi/Lo Pressure Regulating Valves
1210-1214	Chlorine Container Valves
DF	Cylinder Valves with Dual Outlets for Manifolding Applications
DV	Diaphragm Packless Valves - Brass
DVS3	Diaphragm Packless Valves - Stainless Steel
JV	JV Series O-ring Style Industrial and Chrome Plated Cylinder Valves
KVA	KVA Series Post Type Medical Valve
TV	TV Series Packed Style Acetylene, Industrial, and Chrome Plated Valves
TVPR	TVPR Series SHERCheck® Residual Pressure/ Back Check Valves
YVB	YVB Series Medical Cylinder Valves
PV	Propane Cylinder Valve - Please contact Sherwood Customer Service at (716) 283-1010 for a Propane Product Catalog.

SHERWOOD CYLINDER VALVE SELECTION CHART																				
GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE) 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)			
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV		
Acetylene*	5130																			
>50 cu.ft. (1.39 m3)		510	•				•													CG-3
35-75 cu.ft. (970 L-2.08 m3)		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													•					CG-1,-4
3001-5500 (20,690-37,900)		347						•			•	•	•		•	•				CG-1,-4,-5
5501-7500 (38,000-51,700)		702											•		•					CG-1,-4,-5
Allylene <i>See Methylacetylene</i>																				
Argon	1060																			
0-3000 (0-20,680)		580						•			•	•	•		•	•				CG-1,-4,-5
3001-5500 20,690-37,900)		680						•					•		•					CG-1,-4,-5
5501-7500 (38,000-51,700)		677									•	•	•		•					CG-1,-4,-5
Arsine	2300																			
		350									•	•								Prohibited
Boron Fluoride <i>See Boron Trifluoride</i>																				
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 <i>See Vinyl Bromide</i>																				
Bromomethane <i>See Methyl Bromide</i>																				
Bromotrifluoroethylene (R113B1)	3100																			
		510									•	•								CG-1
Bromotrifluoromethane (R13B1)	0100																			
		660									•	•	•		•					CG-1,-7
Butane (R600)	2100																			
Gas Withdrawal		510																		• CG-7
Liquid Withdrawal		555																		• CG-7
1-Butene	2100																			• CG-7
		510																		• CG-7
2-Butene	2100																			• CG-7
		510																		• CG-7
-Butylene <i>See 1-Butene</i>																				
-Butylene <i>See 2-Butene</i>																				
1-Butyne <i>See Ethylacetylene</i>																				
Carbon Dioxide (R744)	0110																			
Threaded		320									•	•	•		•					CG-1,-4
Yoke		940													•					CG-1
Carbonic Acid <i>See Carbon Dioxide</i>																				
Carbon Monoxide	2260																			
		350									•	•	•		•	•				

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

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.

***Pressure Relief Device Assembly.

SHERWOOD CYLINDER VALVE SELECTION CHART																		
GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)	
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV
Carbon Oxysulfide <i>See Carbonyl Sulfide</i>																		
Carbon Tetrafluoride <i>See Tetrafluoromethane</i>																		
Carbonyl Chloride <i>See Phosgene</i>																		
Carbonyl Fluoride	0213																	
Carbonyl Sulfide	2201	660																N.R. CG-4
Chlorine	4203	330																CG-2,-4
Threaded		820																CG-2
Yoke		820																CG-2
Chlorine Pentafluoride	4303																	
670		670																Prohibited
Chlorine Trifluoride	4203																	
670		670																CG-4
1-Chloro-1, 1 -difluoroethane (R142b)	2100																	
510		510																CG-2,-3,-7
Chlorodifluoromethane (R22)	0100																	
660		660																CG-1, -2,
Chloroethane <i>See Ethyl Chloride</i>	0100																	
Chloroethylene <i>See Vinyl Chloride</i>																		
Chloromethane <i>See Methyl Chloride</i>																		
Chloropentafluoroethane (R115)	0100																	
660		660																
1-Chloro-1,2,2,2- tetrafluoroethane (R124)	0100																	
660		660																
1-Chloro-2,2,2- trifluoroethane (R133a)	5200																	
660		660																
Chlorotrifluoroethylene (R1113)	0100																	
Chlorotrifluoromethane (R13)	0100																	
660		660																
Cyanogen	2200																	
660		660																
Cyanogen Chloride	0303																	
660		660																
Cyclobutane	2100																	
510		510																
Cyclopropane	2100																	
Threaded		510																
Yoke		920																
Deuterium	2160																	
350		350																
Diborane	5360																	
350		350																

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.

***Pressure Relief Device Assembly.

SHERWOOD CYLINDER VALVE SELECTION CHART																			
GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE) 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)		
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV	
Dibromodifluoroethane	1100																		N.R.
Dibromodifluoromethane (R12B2)	0100	660																	N.R.
0100		660							•	•	•	•		•					N.R.
1,2-Dibromotetrafluoroethane (R114B2)	0100																		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. CG-1
Dicyane <i>See Cyanogen</i>									•	•	•	•		•					N.R.
Diethylzinc	3300																		Prohibited
Difluorodibromoethane <i>See Dibromodifluoroethane</i>	510																		
Difluorodibromomethane <i>See Dibromodifluoroethane</i>																			
1,1-Difluoroethane (R152a)	N/A																		
		510							•										CG-2,-3,-7
1,1-Difluoroethylene (R1132a)	2110	350												•					CG-1,-4
Difluoromonochlorethane <i>See Chlorodifluoroethane</i>																			
Dinitrogen Oxide <i>See Nitrous Oxide</i>																			
Dinitrogen Tetroxide <i>See Nitrogen Dioxide</i>																			
Dinitrogen Trioxide <i>See Nitrogen Trioxide</i>																			
Diphosgene	0303	660							•	•	•								Prohibited
Epoxyethane <i>See Ethylene Oxide</i>																			
Ethane (R170)	2110	350												•	•	•			CG-1
Ethene <i>See Ethylene</i>																			
Ethylacetylene	2100	510	•						•										N.R. CG-2
Ethylamine <i>See Monoethylamine</i>																			
Ethyl Chloride (R160)	2100	300	•						•					•					N.R. CG-2
Ethylene (R1150)	2160																		
Threaded	350													•	•	•			CG-1
Yoke	900																•		CG-1

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.

***Pressure Relief Device Assembly.

SHERWOOD CYLINDER VALVE SELECTION CHART																			
GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)		
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV	
Krypton	0160																		
0-3000 (0-20,680)		580																	
3001-5500 (20,690-37,900)		680																	CG-1,-4,-5
5501-7500 (38,000-51,700)		677																	CG-1,-4,-5
Laughing Gas <i>See Nitrous Oxide</i>																			
Liquid Dioxide <i>See Nitrogen Dioxide</i>																			
Marsh Gas <i>See Methane</i>																			
Medical Gas Mixture <i>(See pg. 9)</i>																			
Methane (R50)	2160																		
0-500 (0-3450)		510																	CG-7
0-3000 (0-20,680)		350																	CG-1,-4,-5
3001-5500 (20,690-37,900)	695																		CG-1,-4,-5
5501-7500 (38,000-51,700)		703																	CG-1,-4,-5
Methanethiol <i>See Methyl Mercaptan</i>																			
Methoxyethylene <i>See Vinyl Methyl Ether</i>																			
Methylacetylene	2100																		
	510																		CG-7
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 <i>See Isobutylene</i>																			
Methyl Vinyl Ether <i>See Vinyl Methyl Ether</i>																			
Monochlorodifluoromethane <i>See Chlorodifluoromethane</i>																			
Monochloropentafluoroethane <i>See Chloropentafluoroethane</i>																			
Monochlorotetrafluoroethane <i>See Chlorotetrafluoroethane</i>																			
Monochlorotrifluoromethane <i>See Chlorotrifluoromethane</i>																			
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
3001-5500 (20,690-37,900)		680																	CG-1,-4,-5
5501-7500 (38,000-51,700)		677																	CG-1,-4,-5
Nickel Carbonyl	2300	660																	Prohibited
Nickel Tetracarbonyl <i>See Nickel Carbonyl</i>																			

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female

***Pressure Relief Device Assembly.

SHERWOOD CYLINDER VALVE SELECTION CHART																										
GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)									
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV								
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						
3001-5500 (20,690-37,900)		680								•	•	•	•		•	•				CG-1,-4,-5						
5501-7500 (38,000-51,700)		677								•	•	•	•		•	•				CG-1,-4,-5						
Nitrogen Dioxide	4301																									
		660																			Prohibited					
Nitrogen Peroxide <i>See Nitrogen Dioxide</i>																										
Nitrogen Sesquioxide <i>See Nitrogen Trioxide</i>																										
Nitrogen Tetroxide <i>See Nitrogen Dioxide</i>																										
Nitrogen Trifluoride	4140																									
		670								•		•	•								CG-3,-4,-5					
Nitrogen Trioxide		660																			N.A.					
Nitrous Oxide (R744a)	4110																				CG-3,-4,-5					
Threaded		326								•	•	•	•		•						CG-1					
Yoke		910													•						CG-1					
Octafluorocyclobutane (RC318)	0100																									
		660																			•	CG-7				
Octafluoropropane (R218)	0100																									
		660																				•	CG-1,-7			
Oxirane <i>See Ethylene Oxide</i>																										
Oxygen	4060																									
0-3000 (0-20,680)		540																				•	CG-1,-4,-5			
Threaded																										
0-3000 (0-20,680)		870																					•	CG-1,-4,-5		
Yoke																										
3001-5500 (20,690-37,900)		577																					•	CG-1,-4,-5		
5501-7500 (38,000-51,700)		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 <i>See Octafluorocyclobutane</i>																										
Perfluoroethane <i>See Hexafluoroethane</i>																										
Perfluoropropane <i>See Octafluoropropane</i>																										
Phosgene	0303																									
		660																								
Phosphine	3310																									
		350																								

© 1997 Sherwood, Taylor/Wharton Gas Equipment Division of Harsco Corp. I-CG02C97

 ** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.
 ***Pressure Relief Device Assembly.

SHERWOOD CYLINDER VALVE SELECTION CHART																														
GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE) 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)													
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV												
Propane (R290)	2100																													
Gas Withdrawal		510,810																	•	CG-7										
Liquid Withdrawal		555																		•	CG-7									
Propene <i>See Propylene</i>																														
Propylene (R1270)	2100																				•	CG-7								
Propyne <i>See Methylacetylene</i>		510																												
Silane	3160																													
0-3000 (0-20,680)		350																				•	CG-4							
Silicon Tetrahydride <i>See Silane</i>																														
Sulfur Dioxide (R764)	0201																													
Sulfur Hexafluoride	0100	660																					•	CG-2						
		590																						•	CG-1,-5					
Sulfur Tetrafluoride		0303																							•	CG-1,-5				
		330																							•	Prohibited				
Sulfuryl Fluoride		0200																								•	CG-2			
		660																								•	CG-2			
1,1,1,2-Tetrafluoroethane (R134a)	0100																													
		167																									•	CG-1		
Tetrafluoroethylene (R1114)	5110																										•	CG-1,-4		
		350																									•	CG-1,-4		
Tetrafluoromethane (R14)	0160																										•	CG-1,-4,-5		
		580																									•	CG-1,-4,-5		
Tetrafluorosilane <i>See Silicon Tetrafluoride</i>																														
Trichlorofluoromethane (R11)	0100																													
		660																										•	N.R.	
1,1,1-Trichlorotrifluoroethane	0100																											•	N.R.	
		660																										•	N.R.	
1,1,2-Trichlorotrifluoroethane (R113)	01001																											•	N.R.	
		660																										•	N.R.	
Triethylaluminum	3300																											•	N.R.	
		510																										•	N.R.	
Trifluorobromomethane <i>See Bromotrifluoromethane</i>																														
Trifluorochloroethylene <i>See Chlorotrifluoroethylene</i>																														
Trifluoromethane (HFC-23)	0110																													
			660																										•	CG-1,-4
Trifluoromethyl Chloride <i>See Chlorotrifluoromethane</i>																														
Trifluoromethyl Iodide	0200																												•	CG-4
			660																										•	CG-4
Trifluorovinyl Bromide <i>See Bromotrifluoroethylene</i>																														
Trimethylene <i>See Cyclopropane</i>																														
Trimethylmethane <i>See Isobutane</i>																														
Tungsten Hexafluoride	0303																													
		670																											•	N.R.
Uranium Hexafluoride	0303																												•	Prohibited
		330																											•	Prohibited

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.

***Pressure Relief Device Assembly.

SHERWOOD CYLINDER VALVE SELECTION CHART

GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)		
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B		PV	
Vinyl Bromide	5100																		N.R. CG-2
Vinyl Chloride (R1140)	5100	510																	CG-2
Vinyl Fluoride (R1141)	2100	510																	CG-4
Vinylidene Fluoride <small>See 1,1-Difluoroethylene</small>		350																	
Vinyl Methyl Ether	5100																		CG-2
Xenon	0160	510																	CG-2
0-3000 (0-20,680)		580																	CG-1,-4
3001-5500 (20,690-37,900)		680																	CG-1,-4
5501-7500 (38,000-51,700)		677																	CG-1,-4

MEDICAL ① GAS MIXTURES ② ③ FOR PRESSURES UP TO 3000 (20,680)

Carbon Dioxide & Oxygen (CO2 not over 7%)																			
Threaded		280																	CG-1,-4
Yoke		880																	CG-1,-4
Carbon Dioxide & Oxygen (CO2 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 ①③ Flammable																			
Threaded		350																	CG-4
Yoke		981																	CG-4
Gas Mixtures, Medical①③④, Nonflammable, Noncorrosive																			
Threaded		500																	CG-1,-4
Yoke		973																	CG-1,-4
Gas Mixtures, Medical①③④, Nonflammable, Noncorrosive																			
Threaded		580																	CG-1,-4
Yoke		985																	CG-1,-4
Helium & Oxygen (He not over 80%)																			
Threaded		280																	CG-1,-4
Yoke		890																	CG-1,-4
Helium & 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

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.

***Pressure Relief Device Assembly.

① For a definition of the term Medical Gas see paragraph 6 page 11 of the Introduction CGA pamphlet V-1-1994. ② Nominal mixture concentration; normal mixture tolerances are allowable. ③ Gas Mixtures labeled as drugs or medical devices and not having another connection assignment.

④ For specific gas assignments see the reference connection number in CGA pamphlet V-1-1994.

SHERWOOD CYLINDER VALVE SELECTION CHART

GAS NAME PSIG (KPA)	FTSC CODE (SEE TABLE 1.0)	CGA OUTLET	SHERWOOD VALVE SERIES (SEE ABBREVIATION CHART ON PAGE 1)														PRD*** PER CGA S-1.1 (SEE TABLE 2.0)
			AV	AV B	AV MC	AV WB	BV	CV	DF **	DV	DV S3	JV	KV	TV	TV PR	YV B	

MEDICAL ② GAS MIXTURES ② ③ FOR PRESSURES UP TO 3000 (20,680)⁴

Nitric Oxide Mixtures and Nitrogen Dioxide Mixtures Threaded	625																			Prohibited
Nitrous Oxide & Oxygen (N2 47.5 to 52.5%) Threaded	280																			CG-1,-4
Nitrous Oxide & Oxygen (N2 47.5 to 52.5%) Yoke	965																			CG-1,-4
Nitrogen & Oxygen (O2 over 23.5%) Threaded	280																			CG-1,-4
Nitrogen & Oxygen (O2 over 23.5%) Yoke	890																			CG-1,-4
Oxidizing Mixtures Threaded	296																			CG-1,-4
Oxidizing Mixtures Yoke	977																			CG-1,-4
Xenon & Oxygen (O2 over 20%) Threaded	280																			CG-1,-4
Xenon & Oxygen (O2 over 20%) Yoke	890																			CG-1,-4

** DF Valves can be used with all gases, however, the outlet will always be 1/4-27NPT female.
 ***Pressure Relief Device Assembly.
 • For a definition of the term Medical Gas see paragraph 6 page 11 of the Introduction CGA pamphlet V-1-1994.
 • 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

TABLE 2.0 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 psig (3450 KPa)
CG-3	212°F (100°C) Fusible Plug for Cylinder Product not exceeding 500 psig (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 Service Pressure not exceeding 6000 psig (41400 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

TABLE 1.0 FTSC NUMERICAL CODE FOR GAS CLASSIFICATION

1ST DIGIT	FIRE POTENTIAL
0	Inert
1	Support Combustion (Oxidizing)
2	Flammable: in air at 68°F (20°F) and 1 Atmosphere (14.5 psig)
3	Pyrophoric
4	Highly Oxidizing
5	May Decompose or Polymerize and is Flammable
2ND DIGIT	TOXICITY
0	Life Supporting (Oxygen > 19.5% in Simple Asphyxiant)
1	LC50 > 5000 ppm
2	LC50 > 200 ppm and < 5000 ppm
3	LC50 > 200 ppm
3RD DIGIT	STATE OF GAS: (IN CYLINDER AT 68°F (20°F) *)
0	Non-cryogenic Liquefied Gas (Less than 500 psig) (3450 KPa) ** (Gas Withdrawal)
1	Non-cryogenic Liquefied Gas (Less than 500 psig) (3450 KPa) (Gas Withdrawal)
2	Liquefied Gas (Liquid Withdrawal)***
3	Dissolved Gas
4	Nonliquefied Gas or Cryogenic Gas Withdrawal (less than 500 psig) (3450 KPa)
5	Europe Only
6	Nonliquefied Gas between 500 and 3000 psig (3450 and 20,680 KPa)
7	Nonliquefied Gas above 3000 psig and below 10,000 psig (20,680 and 68,900 KPa)
8	Cryogenic Gas (Liquid Withdrawal) above -400°F (-240°F)
9	Cryogenic Gas (Liquid Withdrawal) below -400°F (-240°F)
4TH DIGIT	CORROSIVENESS
0	Non-corrosive
1	Non-Halogen Forming Acid
2	Base Forming
3	Halogen Acid Forming

* The temperature of the refrigerated (cryogenic) liquids are always below (-130°F (-90°F)).

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

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

Cylinder Valve Inlet Connections

This section summarizes the uniform American and Canadian standards for cylinder valve inlet connections in which a threaded joint is used to attach cylinder valves to cylinders and containers. A more complete discussion may be found in CGA V-1.*

Two basic types of threads are used: (1) straight thread and (2) tapered thread. The straight thread requires use of an O-ring or gasket to accomplish a gastight seal. This type of thread requires less installation torque than a tapered thread and is mostly used with aluminum cylinders. Common sizes currently in use are 0.750-16UNF and 1.125-12UNF. In most common use are the national gas tapered (NGT) threads with a taper rate of $\frac{3}{4}$ inch per foot. Most NGT cylinder valve inlet connections are $\frac{3}{4}$ -14NGT, where $\frac{3}{4}$ is the nominal size of the thread in inches and 14 is the number of threads per inch. Other popular sizes are $\frac{3}{8}$ -18NGT, $\frac{1}{2}$ -14 NGT, and 1-11 $\frac{1}{2}$ - NGT.

Oversized Threads

Oversize NGT threads are also available; four and seven threads oversize are the most common. The availability of oversize threads on valves prolongs the life of cylinders by compensating for the wear that occurs to cylinder threads from repeated valving operations.

Uniquely, chlorine valves have their own oversize thread series:

0 threads oversize	$[\frac{3}{4}$ -14NGT (Cl)-1]
4 threads oversize	$[\frac{3}{4}$ -14NGT (Cl)-2]
8 1/2 threads oversize	$[\frac{3}{4}$ -14NGT (Cl)-3]
14 threads oversize	$[\frac{3}{4}$ -14NGT (Cl)-4]
28 threads oversize	$[\frac{3}{4}$ -14NGT (Cl)-5]

The (Cl) designation signifies chlorine.

Establishing a Leak-Tight Seal

A leak-tight seal can be established using the "hand-tight plus three turns for wrenching" method. Hand-tight engagement occurs when the pitch diameter of the first thread on the valve engages the thread in the cylinder neck with the same pitch diameter. For any new $\frac{3}{4}$ -14NGT thread, mating hand-tight engagement occurs nominally after an engagement of 0.339 inch or, 0.339 inch x 14 threads/inch = approximately 4 $\frac{3}{4}$ threads. (To determine the hand-tight engagement dimension for other types of threads, please refer to CGA V-1-1994)

A manufacturing tolerance of plus or minus one turn is permitted on both the valve and the cylinder threads.

Therefore, hand-tight engagement can be approximately 2 $\frac{3}{4}$ to 6 $\frac{3}{4}$ threads, when oversize and undersize thread tolerance limits are taken into consideration.

Three turns are then allowed for wrenching to establish a leak-tight seal. Thus, total engaged threads can range from 5 $\frac{3}{4}$ to 9 $\frac{3}{4}$ full threads.

Since the length of full threads on a $\frac{3}{4}$ -14NGT valve is 0.7676 inch (this dimension has been obtained from CGA V-1-1994, the total number of full threads is 0.7676 inch x 14 threads/inch, or approximately 10 $\frac{3}{4}$ threads. If the thread tolerances are such that the valve threads are as large as they can be and the cylinder opening is as small as it can be, the valve enters only 2 $\frac{3}{4}$ turns for hand-tight engagement. That is, if the largest valve is installed in the smallest cylinder, there will be approximately five full threads showing after the three turns for wrenching (2 $\frac{3}{4}$ plus 3 turns for wrenching minus a total of 10 $\frac{3}{4}$ threads on valve inlet.)

Conversely, if the thread tolerances are such that the valve threads are as small as they can be and the cylinder opening is as large as it can be, the valve will enter 6 $\frac{3}{4}$ turns for hand-tight engagement. Thus, if the smallest valve is installed in the largest cylinder, there will be approximately one full thread showing, after the three turns for wrenching. While it is highly improbable that these extremes will be experienced with new parts, this illustrates why the counting of exposed threads is a poor way of ascertaining a sufficiently engaged joint.

Using a predetermined amount of torque to establish a leak-tight seal also has some drawbacks. Variations in coefficients of friction, thread damage, type of sealant used, and so on, can influence the amount of applied torque that is necessary to create a seal. For example, if the first thread on the cylinder valve is damaged, much of the torque may be used just to overcome the resistance of the damaged thread.

The "hand-tight plus 3 turns for wrenching" identified in both CGA V-1 and NBS Handbook H28, Federal Screw Thread Standards, provides a method for engaging the valve to a steel cylinder that is not affected by manufacturing tolerances on the valve and cylinder threads (for aluminum cylinders and/or straight threads, consult the manufacturer.)

However, the number of turns required to establish a hand-tight engagement will vary depending on whether the threaded joint is bare metal, whether Teflon® tape is applied to the valve, or whether a suitable luting compound is used.

One way to compensate for the above mentioned variables is to first tighten the joint without luting

compound or Teflon® tape as tight as possible with gloved hands, and count the turns needed to accomplish this. Next, apply the luting compound or Teflon® tape that is going to be used in actual valve installations and repeat the above hand-tightening procedure, again counting turns. The difference between the number of turns to accomplish a hand-tight joint with and without luting compound (or Teflon® tape) should then be added to the "3 turns for wrenching."

For example, consider the instance where 5 turns are needed to make a hand-tight engagement with bare metal. When luting compound or Teflon® tape is used for this same valve, 4 ½ turns are required to arrive at a hand-tight engagement. To establish a leak-tight seal, the valve would then be wrenched 3 ½ turns rather than 3, or engaged a total of 8 ½ turns. That is, 5 turns (bare metal hand-tight) plus 3 ½ turns (3 for wrenching plus ½ from tape). In this manner, the effect of the tape or luting compound is adequately taken into account.

Other valve installation methods are successfully used, but all of them, when properly done, end up with approximately the same number of wrenched turns.

*For further information on cylinder valve inlet connections and other thread types presently in use, that is, Special Gas Taper Threads (SGT) and National Gas Straight Threads (NGS), refer to CGA V-1, American National, Canadian, and Compressed Gas Association Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections.

Introduction

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 (49 CFR 173.34(d)), or equivalent regulations of Transport Canada.

Pressure Relief and Safety Devices

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 is described 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 pressure 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 nonreclosing 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 (1) a gasket, (2) a rupture disk, and (3) 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 radial 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 an 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 cylinder 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 the 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 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 nonreclosing 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 CC-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.

NOTE: The same precautions noted for CG-1 devices should be adhered to for CG-4 and CG-5 devices. See "Warning's" on pages 1 and 2.

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 plug device is a nonreclosing device 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 holder is suitably filled with fusible metal. The rupture disk is thus reinforced against rupturing by the fusible alloy, and the fusible alloy is reinforced against extrusion by the rupture disk.

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.

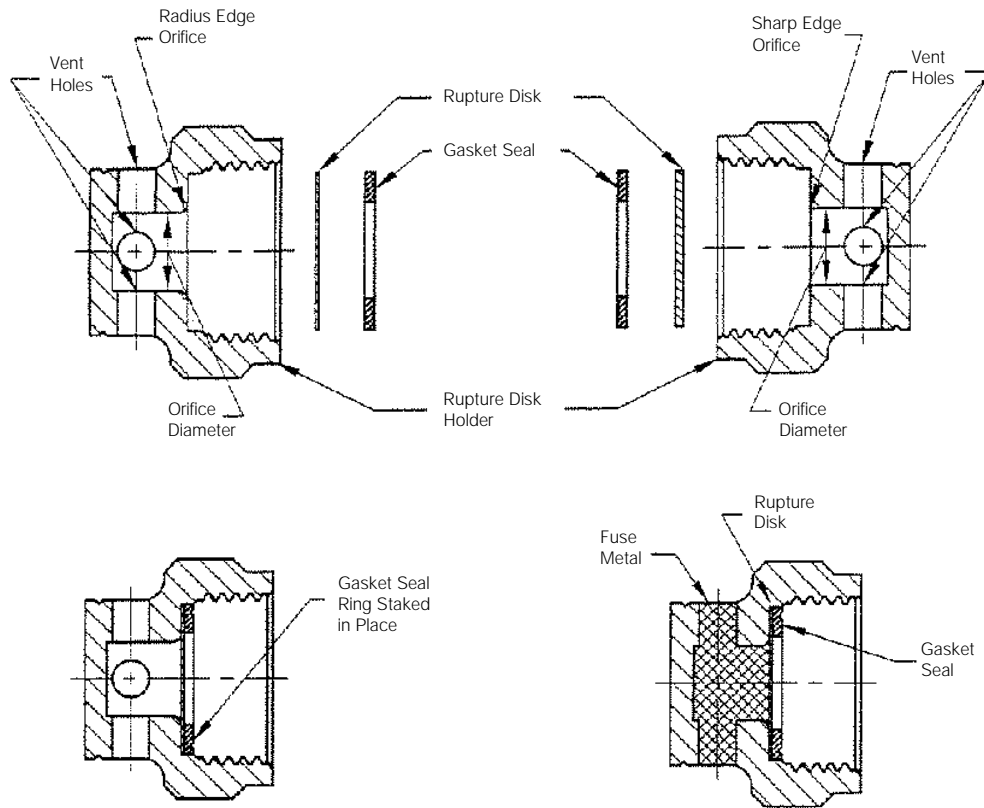
The primary advantage of using the pressure relief valve is that functioning of this type of device may not release all of the contents of the cylinder, but is designed to reseal after resealing pressure has been achieved. This characteristic, in fire conditions, will minimize feeding the fire in the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

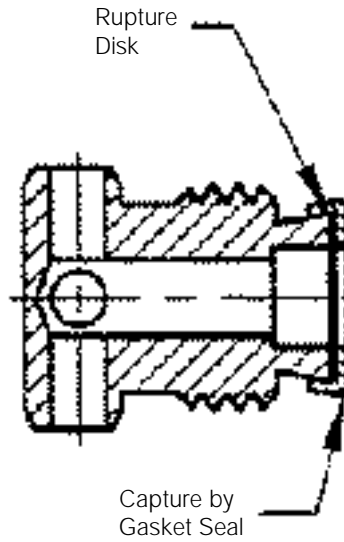
If you require any assistance in selecting a Pressure Relief or Safety device for a specific application, please call Sherwood Customer Service at (716) 283-1010 with the following information:

- The part number of the Valve Assembly being repaired, if applicable.
- Type of gas service in which cylinder will be used.
- Service or test pressure of the cylinder.



PRESSURE RELIEF DEVICE SELECTION CHART

-XX Suffix	Cylinder Service Pressure			Disc Rupture Range Psig @ 165° F		Pressure Relief Device Cap Stamping	Pressure Relief Device Replacement Part Number		
	D.O.T. Spec. 3A, 3AA, 3AL Cylinders In Psig	D.O.T. Exemption Cylinders In Psig	Foreign Cylinders In Bars	Minimum	Maximum		CG-1 Style Frangible Disc Only	CG-4 Style Frangible Disc & 165° F Fuse Metal	CG-5 Style Frangible Disc & 212° F Fuse Metal
-26	1665			2500	2775	2775	650-19F9-26	650-19SM9-26	650-19SB9-26
-28	1800			2700	3000	3000	650-19F9-28	650-19SM9-28	650-19SB9-28
-32	2015			3025	3360	3360	650-19F9-32	650-19SM9-32	650-19SB9-32
-35	2265			3400	3775	3775	650-19F9-35	650-19SM9-35	650-19SB9-35
-38	2400			3600	4000	4000	650-19F9-38	650-19SM9-38	650-19SB9-38
-39			200	3915	4350	4350	650-19F9-39	650-19SM9-39	650-19SB9-39
-43	2670			4005	4450	4450	650-19F9-43	650-19SM9-43	650-19SB9-43
-46	2900			4350	4833	4833	650-19F9-46	650-19SM9-46	650-19SB9-46
-47	2950			4425	4917	4917	650-19F9-47	650-19SM9-47	650-19SB9-47
-48	3000			4500	5000	5000	650-19F9-48	650-19SM9-48	650-19SB9-48
-50		3600		4860	5600	5600	650-19F9-50	650-19SM9-50	650-19SB9-50
-55	3500/3600			5250	5833	5833	650-19F9-55	650-19SM9-55	650-19SB9-55
-63	4000			6000	6665	6665	650-19F9-63	650-19SM9-63	650-19SB9-63
-65		4500		6750	6750	6750	650-19F9-65	650-19SM9-65	650-19SB9-65
-78	5000			7500	8333	8333	650-19F9-78	650-19SM9-78	650-19SB9-78
-85		6000		8100	9000	9000	650-19F9-85	650-19SM9-85	650-19SB9-85
-95	6000			9000	10000	10000	650-19F9-95	650-19SM9-95	650-19SB9-95



PRESSURE RELIEF DEVICE SELECTION CHART FOR POST TYPE MEDICAL VALVES

XX SUFFIX	CYLINDER SERVICE PRESSURE	DISC RUPTURE RANGE PSIG AT 160° F		RUPTURE DISC STAMPING	PRESSURE RELIEF DEVICE REPLACEMENT PART NUMBER	
		MINIMUM	MAXIMUM		CG-1 WITH NO FUSE METAL	CG-4 WITH FUSE METAL
-28	1800	2700	3000	3000	9-4000-60-28	6513MF-28
-32	2015	3025	3360	3360	9-4000-60-32	6513MF-32
-48	3000	4500	5000	5000	9-4000-60-48	6513MF-48

IMPORTANT!

This specification is intended for use with **"AV" Valve Assemblies**.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 833 PSIG Minimum
 Test: 500 PSIG

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

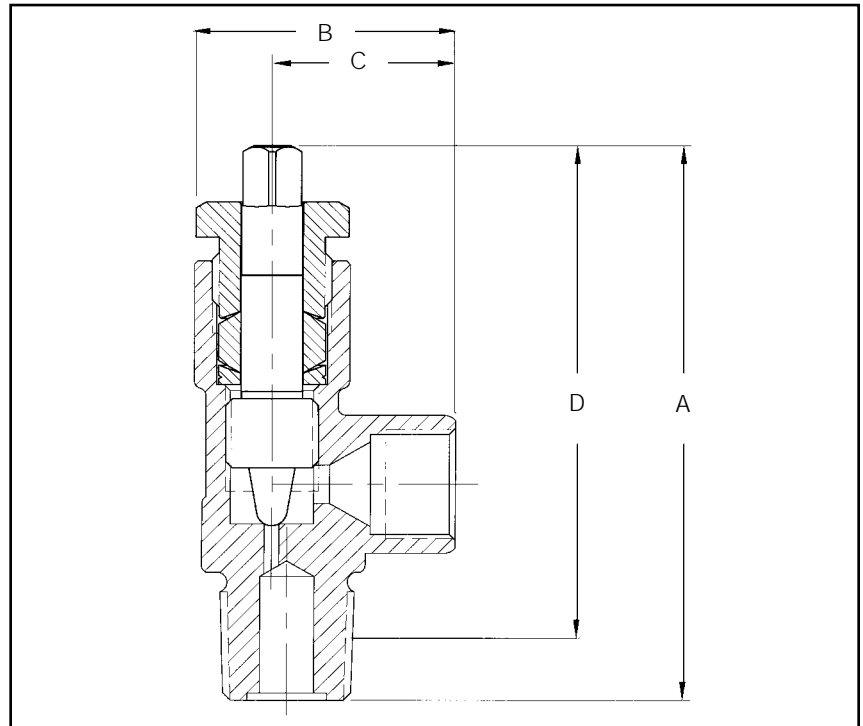
Minimum: -50 F
 Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

**CONFORMS TO ALL
 REQUIREMENTS OF:**

- MIL-DTL-2E DOD
Specification for Gas Cylinder Valves
- CGA V-9
Standard for Gas Cylinder Valves
- CGA V-1
Compressed Gas Cylinder Valve
Outlet and Inlet Connections
- CGA S - 1.1
Standard for Pressure Relief Devices



"AV" SERIES ACETYLENE VALVES
 (See Repair Section for detail parts breakdown)

MATERIALS OF CONSTRUCTION FOR "AV" SERIES ACETYLENE VALVES

PART DESCRIPTION	MATERIAL OF CONSTRUCTION
Body	Forging Brass UNS Alloy #37700
Packing	Polypropylene MIL P-21922
Packing Gland	UNS Alloy #36000 Free Machining Brass
Packing Nut	UNS Alloy #36000 Free Machining Brass
Stem	1113, 1113X, or Lead Loy Steel, Cadmium Plated

TORQUE VALUES FOR "AV" SERIES ACETYLENE VALVES

DESCRIPTION	TORQUE
Operating Torque @ 0 PSIG Inlet Pressure	4 - 6 in. lbs.
Closing Torque @ 500 PSIG Inlet Pressure	14 - 16 in. lbs.
Packing Nut Installation Torque	25 + 5 ft. lbs.
Stem installation Torque	95 + 5 in. lbs.

FLOW AND DIMENSIONS FOR "AV" SERIES ACETYLENE VALVES FOR ALL CGA OUTLETS

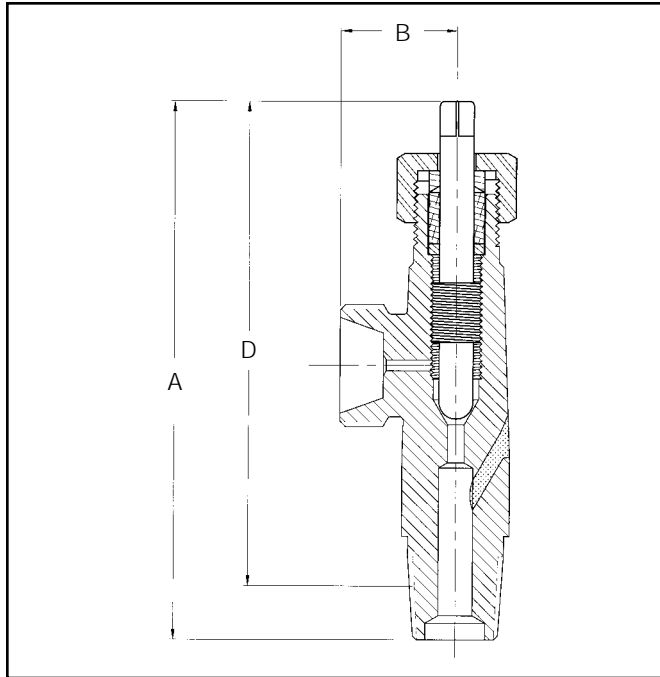
CGA Outlet Number

FLOW DATA	Seat Orifice Diameter (inches)		0.125
	Flow Constant: Cv - Full Open		0.365
	Flow CFM @ 240 PSIG Inlet		43.1
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height	(A)	4.49
	Overall Width	(B)	2.10
	Centerline to Face of Outlet	(C)	1.48
	Height of Valve Installed in Cylinder*	(D)	3.99

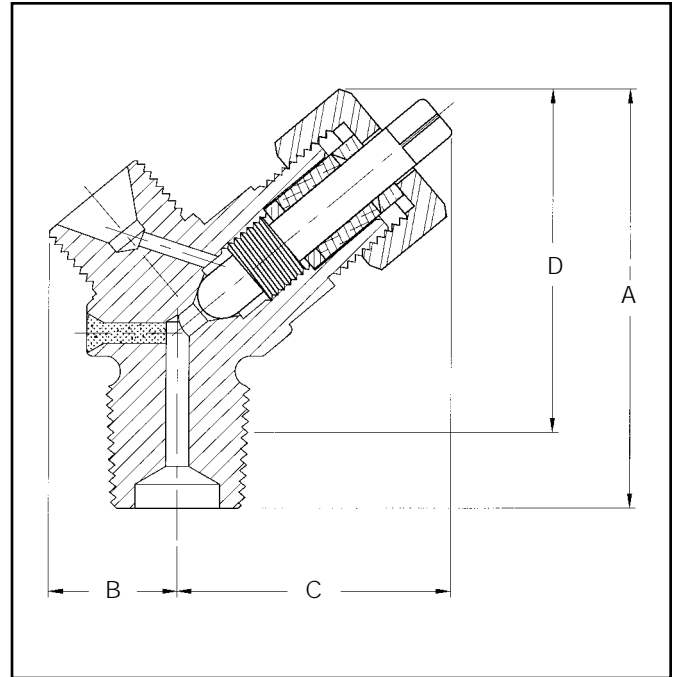
* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement.

IMPORTANT!

This specification is intended for use with "AVB & AVMC" Series Valve Assemblies.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!



"AVB" SERIES VALVES
(See Repair Section for detail parts breakdown)



"AVMC" SERIES VALVES
(See Repair Section for detail parts breakdown)

REFERENCE DATA:

Pressure

Proof: 833 PSIG Minimum
Test: 500 PSIG

Temperature - Storage

Minimum: -65 F
Maximum: 155 F

Temperature - Operating

Minimum: -50 F
Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

**CONFORMS TO ALL
REQUIREMENTS OF:**

- MIL-DTL-2E DOD
Specification for Gas Cylinder Valves
- 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

MATERIALS OF CONSTRUCTION FOR "AVB & AVMC" SERIES VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700, with 212° F Fusible Metal Integral Pressure Relief Device
Packing	Teflon®
Packing Gland	Free Machining Brass, UNS Alloy #36000
Packing Nut	Free Machining Brass, UNS Alloy #36000
Packing Washer	Free Machining Brass, UNS Alloy #36000
Retaining Ring (as required)	Stainless Steel, ASTM A564
Stem	Steel Cold Rolled AISI-1144; Bright Zinc Plated
Strainer (as required)	#60 Mesh Wire Monel Cloth

TORQUE VALUES FOR "AVB & AVMC" SERIES VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	6 to 10 in. lbs.
Closing Torque @ 500 PSIG Inlet Pressure	6 to 10 in. lbs.
Packing Nut Installation Torque	85 - 95 in. lbs.
Stem Installation Torque	45 ± 5 in. lbs.

FLOW AND DIMENSIONS FOR "AVB & AVMC" SERIES VALVES

		CGA Outlet Number	200	520
FLOW DATA	Seat Orifice Diameter (inches)		0.120	0.120
	Flow Constant: Cv - Full Open		0.140	0.150
	Flow CFM @ 240 PSIG Inlet		16.5	17.7
APPROXIMATE DIMENSIONS (INCHES)	Overall Height	(A)	2.18	3.92
	Centerline to Outside Face or Edge of Outlet	(B)	0.56	0.84
	Centerline to Edge of Stem	(C)	1.41	N/A
	Height of Valve Installed in Cylinder*	(D)	1.79	3.53

* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement.

IMPORTANT!

This specification is intended for use with "AV5160WB" Series Acetylene Valve Assemblies.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 833 PSIG Minimum
 Test: 500 PSIG

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

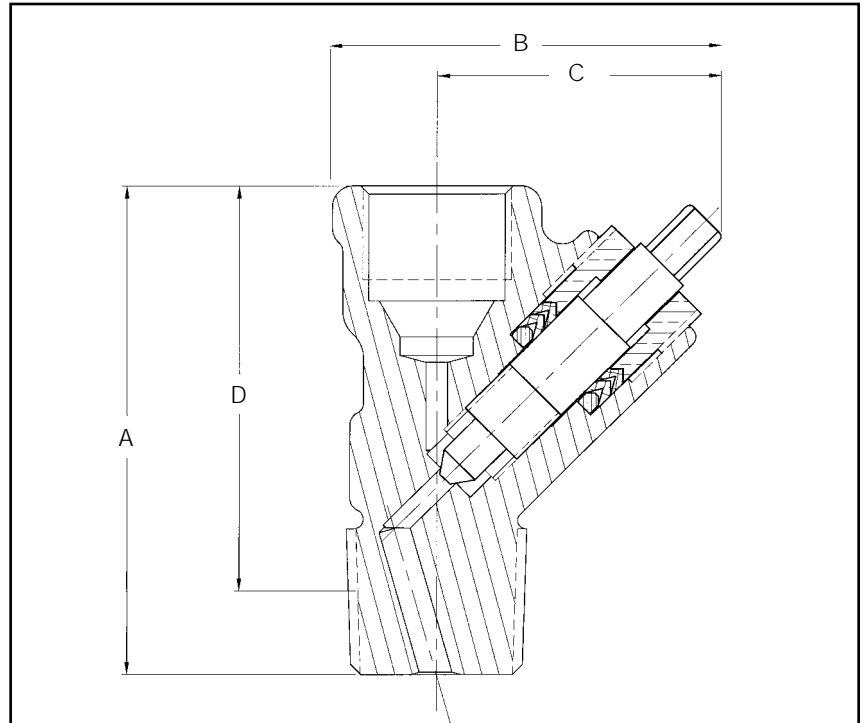
Minimum: -50 F
 Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

**CONFORMS TO ALL
 REQUIREMENTS OF:**

- MIL-DTL-2E DOD
Specification for Gas Cylinder Valves
- 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



"AV5160WB" SERIES ACETYLENE VALVES
 (See Repair Section for detail parts breakdown)

MATERIALS OF CONSTRUCTION FOR "AV5160WB" SERIES ACETYLENE VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700
Packing	Teflon®
Packing Gland	Free Machining Brass, UNS Alloy #36000
Packing Nut	Free Machining Brass, UNS Alloy #36000
Stem	Stainless Steel Type 303

TORQUE VALUES FOR "AV5160WB" SERIES ACETYLENE VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	4 - 6 in. lbs.
Closing Torque @ 200 PSIG Inlet Pressure	14 - 16 in. lbs.
Packing Nut Installation Torque	10 - 15 ft. lbs.
Stem Installation Torque	40 - 50 in. lbs.

FLOW AND DIMENSIONS FOR “AV5160WB” SERIES ACETYLENE VALVES FOR ALL CGA OUTLETS

FLOW DATA	Seat Orifice Diameter (inches)		0.125
	Flow Constant: Cv - Full Open		0.315
	Flow CFM @ 240 PSIG Inlet		37
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height	(A)	4.49
	Overall Width	(B)	2.10
	Centerline to Edge of Stem	(C)	1.47
	Height of Valve Installed in Cylinder*	(D)	3.94

* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement.

IMPORTANT!

This specification is intended for use with **"BV" Series HI/LO Valve Assemblies.**
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 20,000 PSIG Minimum
 Test: 4500 PSIG

Regulated Outlet Pressure @ 4500 PSIG
 Inlet Pressure: 700 - 1100 PSIG

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

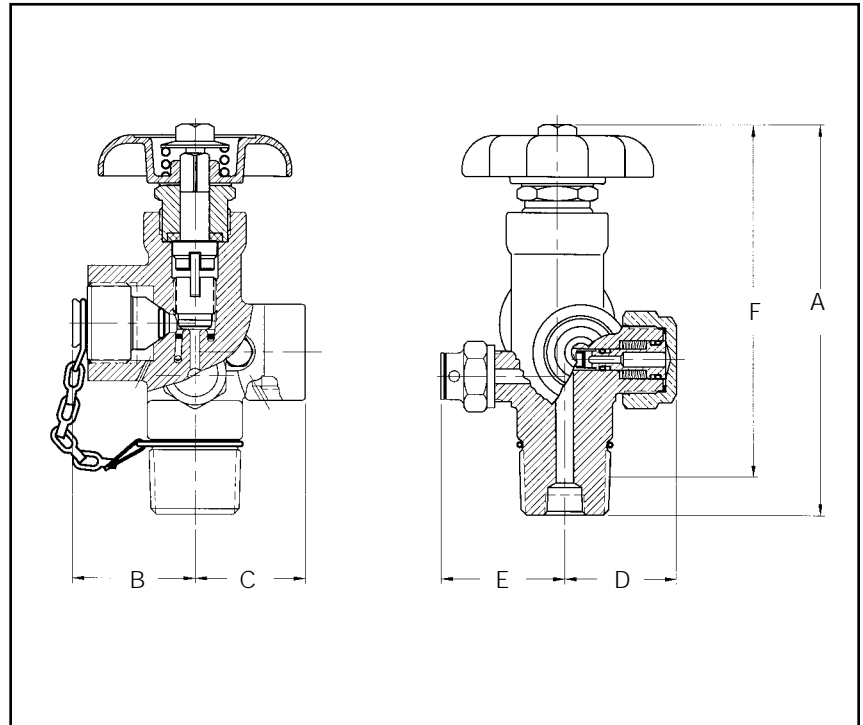
**CONFORMS TO ALL
 REQUIREMENTS OF:**

MIL-DTL-2E DOD
 Specification for Gas Cylinder Valves

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



"BV" SERIES HI/LO VALVES
 (See Repair Section for detail parts breakdown)

TORQUE VALUES FOR "BV" SERIES HI/LO VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure - Inert Gas Valves	18 in. lbs.
Operating Torque @ 0 PSIG Inlet Pressure - Oxygen Valves	10 in. lbs.
Closing Torque @ 4500 PSIG Inlet Pressure - Inert Gas Valves	35 in. lbs.
Closing Torque @ 4500 PSIG Inlet Pressure - Oxygen Valves	20 in. lbs.
Bonnet Installation Torque	75 ± 5 ft. lbs.
650-19 Series Pressure Relief Device Installation Torque	35 ± 5 ft. lbs.
4000-60-29 Pressure Relief Device Installation Torque	75 ± 5 in. lbs.
Stem Nut Installation Torque	Nut Flush with top of Stem

MATERIALS OF CONSTRUCTION FOR "BV" SERIES HI/LO VALVES

Part Description	Material of Construction
4000-60-29 Pressure Relief Device	Free Machining Brass UNS Alloy #36000 (with Nickel Alloy 201 Rupture Disc and Copper Gasket)
650-19 Series Pressure Relief Assembly Device	
Body	Free Machining Brass UNS Alloy #36000 (with 212° F or 165° F fusible metal for backed devices)
Gasket	Copper, Dead Soft
Rupture Disc	Nickel Alloy 201
Body	Forging Brass UNS Alloy #37700
Bonnet	Free Machining Brass UNS Alloy #36000
Drive Pin	Type 18-8 or 302 Stainless Steel, Passivated
Filter	Sintered Bronze
Gasket	Copper, Annealed soft
Handwheel	Aluminum per ASTM SC84B
Handwheel Nut	ANSI 1010 Steel, Plated with Organic Zinc Chromate
Handwheel Washer	Polypropylene
Lower Plug	Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
Packing	Virgin Teflon®
Regulator Cap Pin	Carbon Steel, Zinc Plated
Regulator Cap	Free Machining Brass UNS Alloy #36000
Spring	Zinc Plated, Steel Spring Wire, Hard Drawn
Tang	Type 303 or 304 Stainless Steel, Passivated
Upper Stem	Free Machining Brass UNS Alloy #36000

MATERIALS OF CONSTRUCTION FOR "BV" SERIES VALVES HI/LO PISTON ASSEMBLY

Part Description	Material of Construction
Back-up Ring	Teflon®
O-ring	Viton®
Piston	Free Machining Brass UNS Alloy #36000
Seat	Kel-f®
Shim	Free Machining Brass UNS Alloy #36000
Spring	301 Stainless Steel, Passivated

FLOW AND DIMENSIONS FOR "BV" SERIES HI/LO VALVES

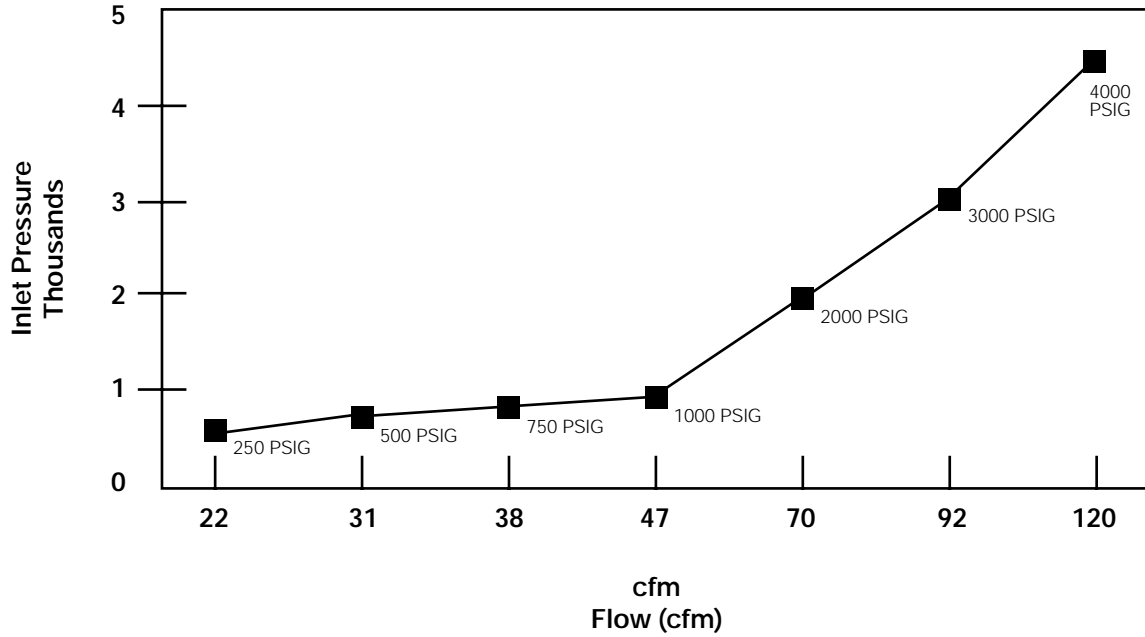
	CGA Outlet Number	701/540	680/580	347/346	680/BS341#3
FLOW DATA	Seat Orifice Diameter (inches)	0.125	0.125	0.125	0.125
	Flow Constant: Cv - Full Open, Regulated Outlet	0.105	0.105	0.105	0.105
	Flow Constant: Cv - Full Open, High Pressure Outlet	0.416	0.416	0.416	0.416
	Flow CFM @ 4500 PSIG Inlet, Regulated Outlet	See Chart on Next Page			
	Flow CFM @ 4500 PSIG Inlet, High Pressure Outlet	922	922	922	922
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height (A)	5.05	5.05	5.05	5.21
	Centerline to Face of High Pressure Outlet Plug (B)	1.60	1.58	1.60	1.58
	Centerline to Face of Regulated Outlet (C)	1.43	1.43	1.43	1.44
	Centerline to Face of Regulator Cap (D)	1.55	1.55	1.55	1.55
	Centerline to Back of Pressure Relief Device (E)	1.61	1.61	1.61	1.61
	Height of Valve Installed in Cylinder* (F)	4.55	4.55	4.55	4.71

Sherwood and the "SS" symbol

All other names are trademarks of their respective owners.

Values with tapered threaded inlets are calculated to 7/8 threads engagement.

REGULATED OUTLET FLOW CHART

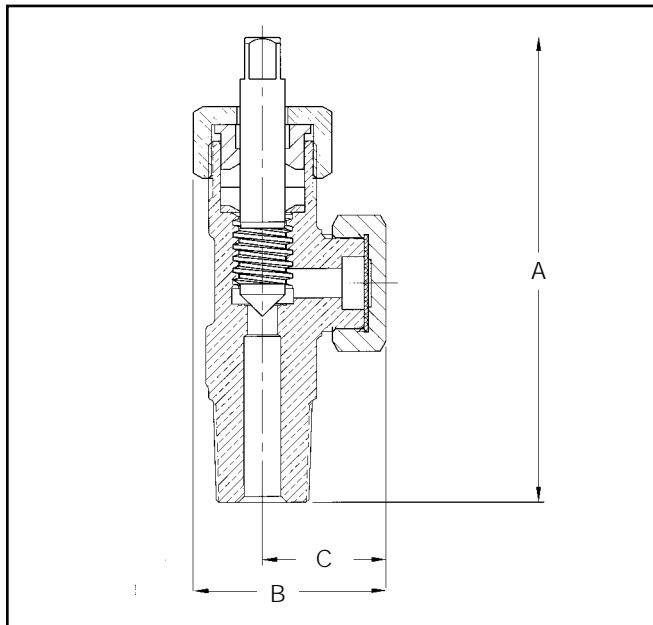


Sherwood and the "SS" symbol are trademarks of Sherwood, Harsco Corporation, Gas and Fluid Control Group
All other names are trademarks of their respective owners.
Printed in the USA

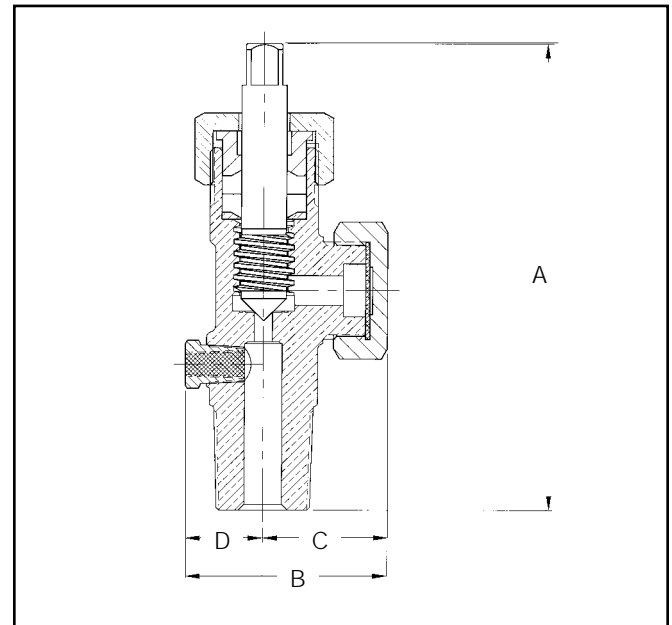
Sherwood and the "SS" symbol are trademarks of Sherwood, Harsco Corporation, Gas and Fluid Control Group
All other names are trademarks of their respective owners.
Printed in the USA

IMPORTANT!

This specification is intended for use with "1210-1214" Series Valve Assemblies.
MAKE SURE YOU ARE USING 1210 SERIES FOR CYLINDERS AND 1214 SERIES FOR TON CONTAINERS



1214 SERIES TON CONTAINER VALVES
(Refer to Repair Manual for parts breakdown)



1210 SERIES CYLINDER VALVES
(Refer to Repair Manual for parts breakdown)

DATA:

Pressure

Proof: 3000 PSIG Minimum
Test: 500 PSIG

Temperature - Storage

Minimum: -60 F
Maximum: 130 F

Temperature - Operating

Minimum: -50 F
Maximum: 120 F

Cycle Life:

Minimum: 1000 cycles when tested per CGA pamphlet V-9

CONFORMS TO:

MIL-DTL-2E DOD
Specification for Gas Cylinder Valves

CGA V-9
Standard for Compressed Gas Cylinder Valves

CGA S - 1.1
Pressure Relief Device Standards-Part 1, cylinders for compressed gas

CGA V-1
Standard for Compressed Gas Cylinder Valve
Outlet and Inlet Connections

Chlorine Institute Pamphlet 17
Plant Safety and Operational Guidelines

MATERIALS OF CONSTRUCTION FOR "1210-1214" SERIES VALVES

Part Description	Material of Construction
Body	Aluminum Silicon Bronze (CG4210)
Fusible Plug PRD	Naval Brass (C48500) with 165° F fusible metal
Outlet Cap	Brass (C36000)
Packing	Teflon® (1210x1 and 1214x1 series), Garlock 6130 (1210 and 1214 series)
Packing Collar	Naval Brass (C48500)
Packing Gland	Brass (C36000)
Packing Nut	Brass (C36000)
Stem	Monel (UNS No. 4400 or 4405)

TORQUE VALUES FOR "1210-1214" SERIES VALVES

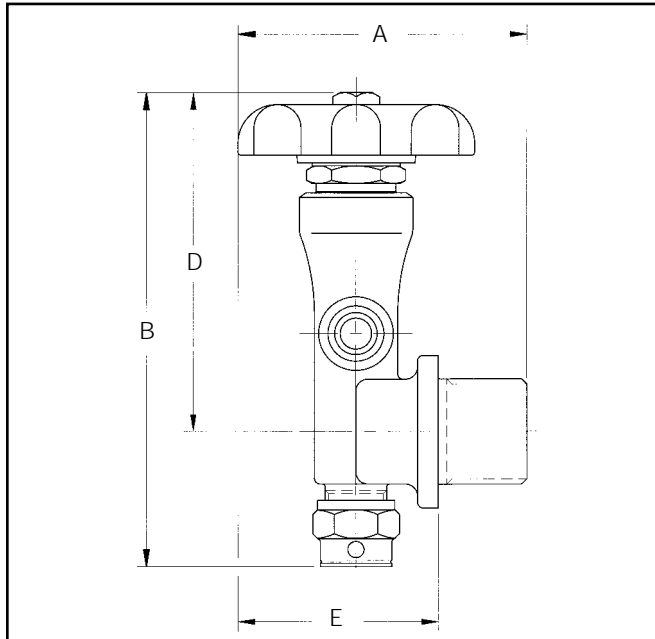
Description	Torque
Operating Torque @ 0 to 100 PSIG Inlet Pressure	30 - 35 in. lbs.
Packing Nut Installation Torque	25-30 ft. lbs.
Stem Installation Torque	40 - 50 in. lbs.

FLOW AND NOMINAL DIMENSIONS FOR "1210-1214" SERIES VALVES

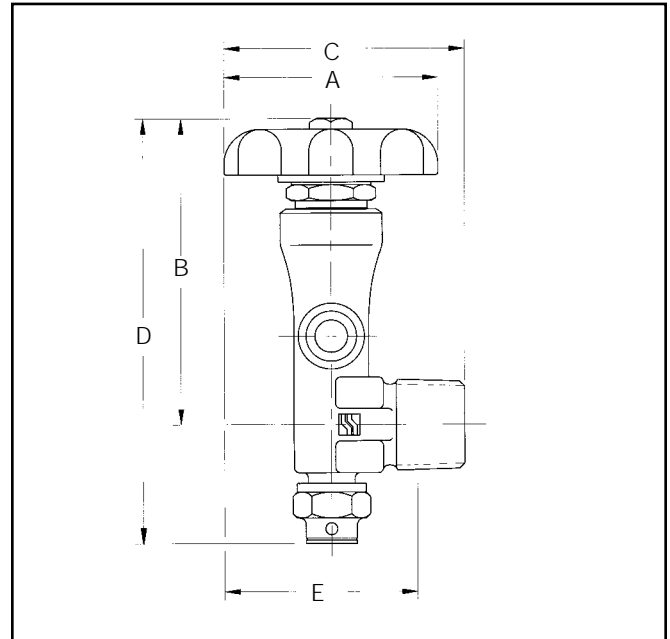
	Outlet Type		Cylinder Valve	Ton Cylinder Valve
FLOW DATA	Seat Orifice Diameter (inches)		0.187	0.312
	Flow Constant: Cv - Full Open		0.733	1.88
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height	(A)	4.90	4.90
	Overall Width	(B)	2.10	2.01
	Centerline to Face of Outlet Cap	(C)	1.29	1.29
	Centerline to Face of Pressure Relief Device	(D)	0.81	N/A

IMPORTANT!

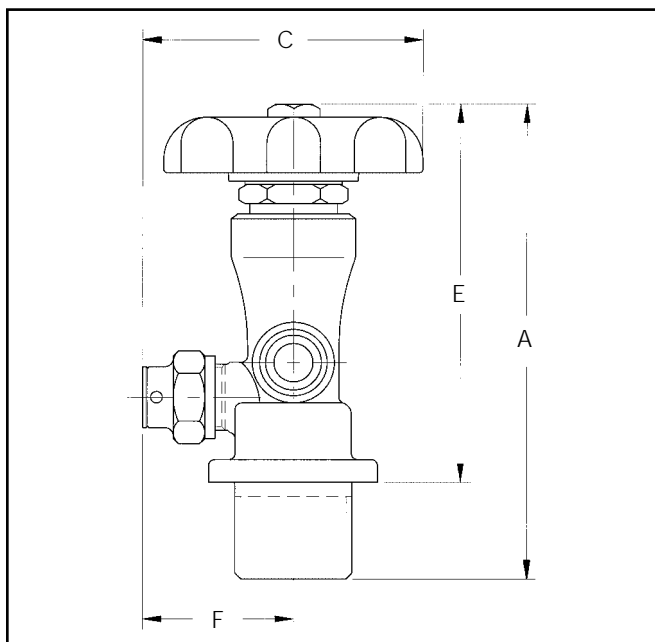
This specification is intended for use with **"DF" Series Valve Assemblies**.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!



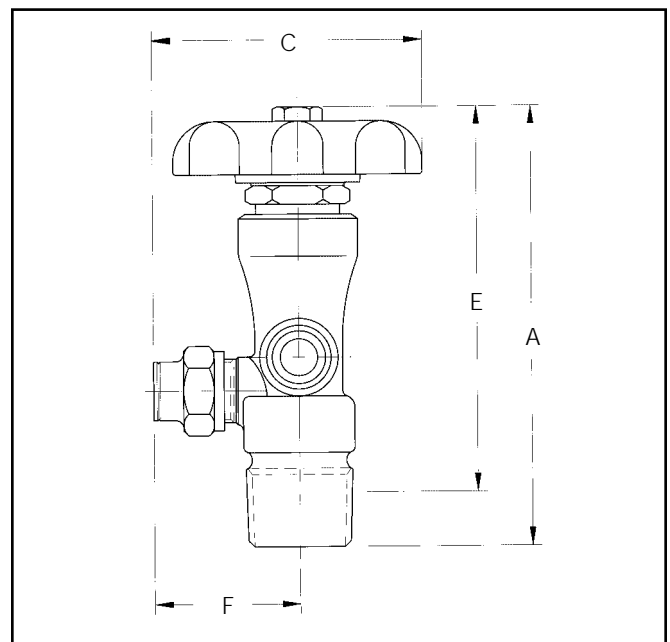
**"DF" SERIES HORIZONTAL STRAIGHT
THREADED VALVE ASSEMBLY**
(See Repair Section for detail parts breakdown)



**"DF" SERIES HORIZONTAL NGT
THREADED VALVE ASSEMBLY**
(See Repair Section for detail parts breakdown)



**"DF" SERIES UPRIGHT
STRAIGHT THREADED VALVE ASSEMBLY**
(See Repair Section for detail parts breakdown)



**"DF" SERIES UPRIGHT
NGT THREADED VALVE ASSEMBLY**
(See Repair Section for detail parts breakdown)

REFERENCE DATA:
Pressure

Proof: 20,000 PSIG
 Test: Cylinder Service Pressure
 or 3600 PSIG (whichever is less)

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life: 5,000 Minimum

**CONFORMS TO ALL
 REQUIREMENTS OF:**

MIL-DTL-2E DOD
 Specification for Gas Cylinder Valves
 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

TORQUE VALUES FOR "DF" SERIES VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	10 in. lbs.
Closing Torque @ 3600 PSIG Inlet Pressure	13 in. lbs.
Bonnet Installation Torque	45 - 55 ft. lbs.
Pressure Relief Device Installation Torque	35 ± 5 ft. lbs.
Stem Nut Installation Torque	Nut Flush with top of Stem

MATERIALS OF CONSTRUCTION FOR "DF" SERIES VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700
Bonnet	Free Machining Brass UNS Alloy #36000
Handwheel	Aluminum per ASTM SC84B
Handwheel Nut	ANSI 1010 Steel, Plated with Organic Zinc Chromate
Lower Plug	Teflon® Coated, Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Kel-f®
Packing	Virgin Teflon®
Pin	Type 18-8 or 302 Stainless Steel, Passivated
Pressure Relief Device Assembly	
Body	Free Machining Brass UNS Alloy #36000 (212° F or 165° F for backed devices)
Disc	Nickel Alloy 201
Gasket	Copper, Dead Soft
Spring	Zinc Plated, Steel Spring Wire, Hard Drawn
Tang	Type 303 or 304 Stainless Steel, Passivated
Upper Stem	Free Machining Brass UNS Alloy #36000
Washer	Polypropylene

INLET O-RING FOR STRAIGHT THREADED FOR "DF" SERIES VALVES

Size	Material	Part Number
1.125 UNF	Buna 70 Durometer	G216A

FLOW AND DIMENSIONS FOR "DF" SERIES VALVES						
Outlet Type		Horizontal		Upright		
		Straight	NGT	Straight	NGT	
FLOW DATA	Seat Orifice Diameter (inches)	0.186	0.186	0.186	0.186	
	Flow Constant: Cv - Full Open	0.823	0.823	0.670	0.670	
	Flow CFM @ 3600 PSIG Inlet	1458	1458	1187	1187	
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height (A)	3.06	2.81	4.61	4.44	
	Overall Length (B)	5.06	5.02	N/A	N/A	
	Overall Width (C)	2.50	2.50	2.71	2.71	
	Centerline to Top of Handwheel Nut (D)	3.66	3.62	N/A	N/A	
	Height of Valve Installed in Cylinder* (E)	2.12	2.25	3.67	3.89	
	Centerline to Face of Pressure Relief Device (F)	N/A	N/A	1.46	1.46	

* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement. Valves with straight threaded inlets are measured from top of the cylinder to the top of the Valve.

Sherwood and the "SS" symbol are trademarks of Sherwood, Harsco Corporation, Gas and Fluid Control Group
All other names are trademarks of their respective owners.
Printed in the USA

IMPORTANT!

This specification is intended for use with **"JV" SERIES CYLINDER VALVE ASSEMBLIES.**
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 20,000 PSIG Minimum
 Test: Cylinder Service Pressure or
 3000 PSIG (whichever is less)

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life:

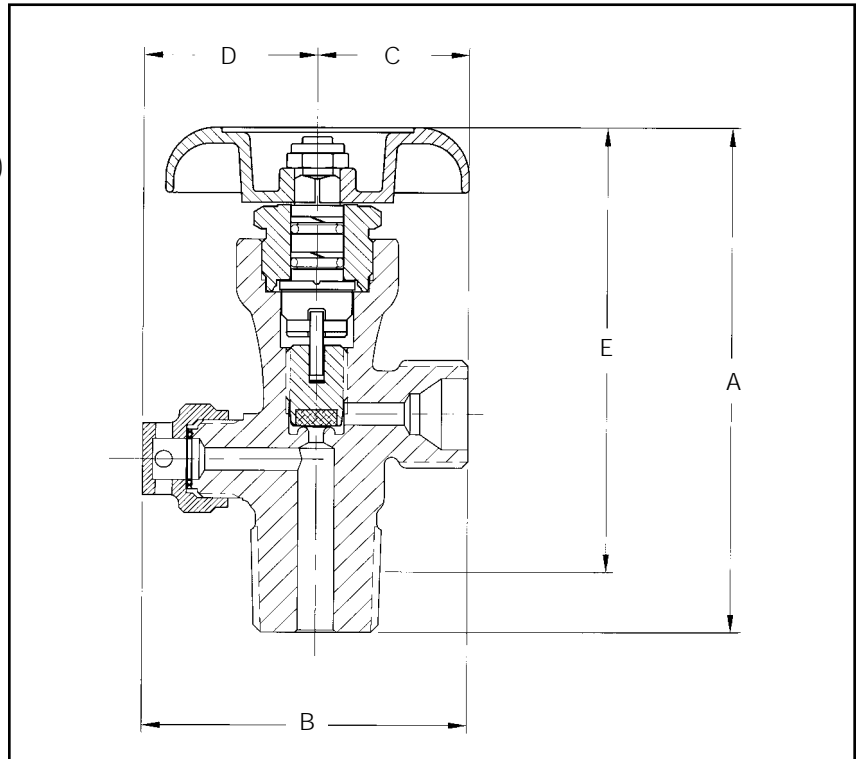
Minimum: 5000 cycles

**CONFORMS TO ALL
 REQUIREMENTS OF:**

CGA S - 1.1 Standard for Pressure
 Relief Devices

CGA V-1 Compressed Gas Cylinder
 Valve Outlet and Inlet Connections

CGA V-9 Standard for Gas Cylinder
 Valves



"JV" SERIES CYLINDER VALVES
 (See Repair Section for detail parts breakdown)

TORQUE VALUES FOR "JV" SERIES CYLINDER VALVES

DESCRIPTION	TORQUE
Operating Torque @ 0 PSIG Inlet Pressure	1 - 2 in. lbs.
Closing Torque @ 2000 PSIG Inlet Pressure	5 - 6 in. lbs.
Bonnet Installation Torque	45 - 55 ft. lbs.
Stem Nut installation Torque	35 + 5 in. lbs.

MATERIALS OF CONSTRUCTION FOR "JV" SERIES CYLINDER VALVES

PART DESCRIPTION	MATERIAL OF CONSTRUCTION
Backup Rings	15% Glass Filled Teflon®
Body	Forging Brass UNS Alloy #37700
Bonnet	Free Machining Brass UNS Alloy #36000
Handwheel	Aluminum per ASTM SC84B
Lock Nut	Carbon Steel with Nylon Insert
Lower Plug	Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
O-rings	Ethylene Propylene
Pin	Carbon Steel Zinc Plated
Pressure Relief Device Assembly	
Body	Free Machining Brass UNS Alloy #36000 (with 212° F or 165° F fusible metal for backed devices)
Rupture Disc	Nickel Alloy 201
Gasket	Copper- Dead Soft
Stem	Free Machining Brass UNS Alloy #36000
Tang	Type 303 or 304 Stainless Steel, Passivated
Washer	Delrin®



1-888-50VALVE (508-2583)

"JV" SERIES CYLINDER VALVES TECHNICAL SPECIFICATIONS

"JV" SERIES CYLINDER VALVES FLOW AND DIMENSIONS																		
CGA Outlet Number 1/8	CGA 280	CGA 296	CGA 320*	CGA 326*	CGA 346	CGA 347	CGA 350	CGA 500	CGA 540	CGA 555	CGA 577	CGA 580	CGA 590	CGA 660	CGA 677	CGA 680	1/4- NPTF	
Seat Orifice Diameter (Inches)	0.125	0.125	0.186	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.289
Flow Constant	0.386	0.386	0.690	0.406	0.386	0.406	0.386	0.386	0.386	0.386	0.386	0.386	0.406	0.406	0.365	0.396	0.386	
Cv Factor Full Open																		
Flow CFM Air @ 2000 PSIG Inlet	380	380	340	200	380	400	380	380	380	380	380	380	400	400	359	390	380	
Overall Height for 1/2", 3/4" & 1" NGT Inlets (A)	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
Overall Width (B)	2.65	2.76	2.76	2.66	2.66	2.82	2.66	2.76	2.65	2.65	2.76	2.76	2.76	2.51	2.77	2.76	2.65	2.65
Centerline To Face of Outlet (C)	1.25	1.36	1.26	1.26	1.26	1.42	1.26	1.36	1.25	1.25	1.36	1.36	1.36	1.11	1.37	1.36	1.25	1.25
Centerline To Back of PRD (D)	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Height of Valve Installed in Cylinder** (E)	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70

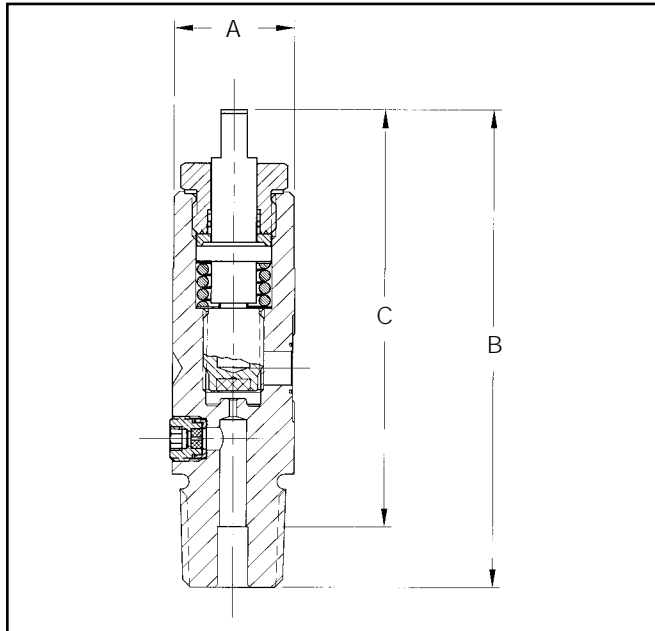
* Calculated at 1000 PSIG inlet pressure.

** Valves with tapered threaded inlets are calculated to 7/8" threads engagement. Valves with straight threaded inlets are measured from top of the cylinder to the top of the Valve.

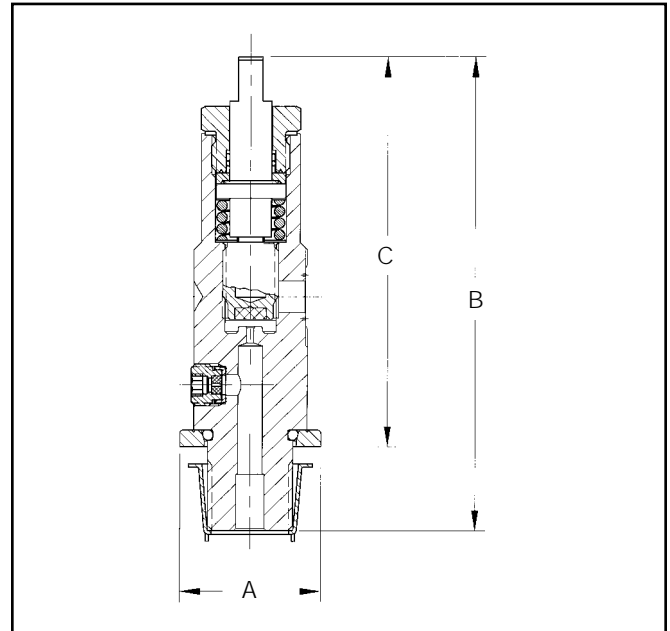
Sherwood and the "SS" symbol are trademarks of Sherwood, Harsco Corporation, Gas and Fluid Control Group
All other names are trademarks of their respective owners.
Printed in the USA

IMPORTANT!

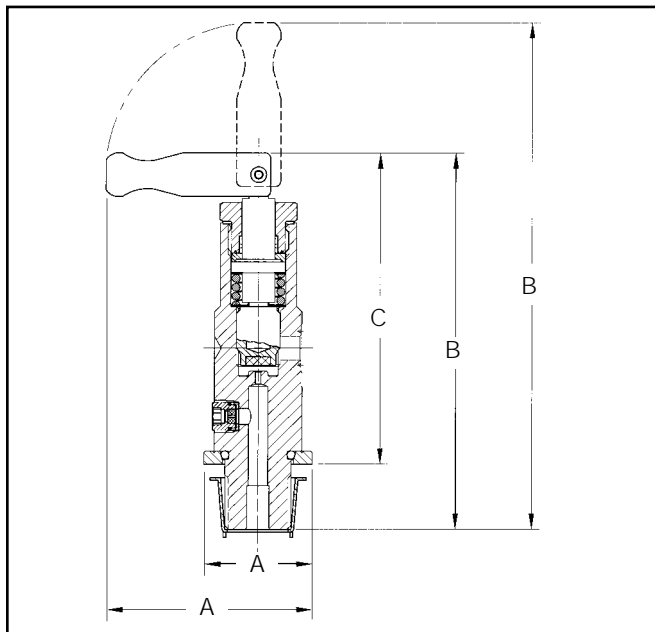
This specification is intended for use with "KVA" Series Valve Assemblies.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!



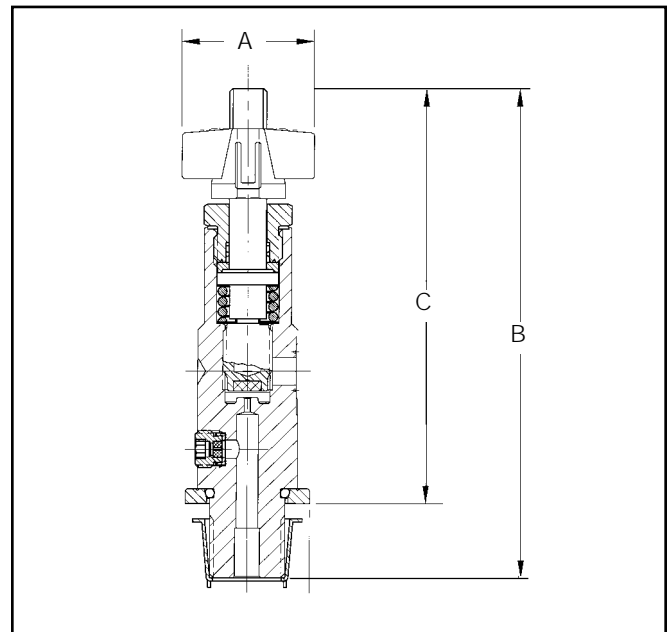
**"KVA" WRENCH OPERATED VALVES
WITH TAPERED THREAD INLET**
(See Repair Section for detail parts breakdown)



**"KVA" WRENCH OPERATED VALVES
WITH STRAIGHT THREAD INLET**
(See Repair Section for detail parts breakdown)



**"KVA" TOGGLE OPERATED VALVES
WITH STRAIGHT THREAD INLET**
(See Repair Section for detail parts breakdown)



**"KVA" KNOB OPERATED VALVES
WITH STRAIGHT THREAD INLET**
(See Repair Section for detail parts breakdown)

REFERENCE DATA:
Pressure

Proof: 12,000 PSIG Minimum
 Test: Cylinder Service Pressure
 or 3000 PSIG (whichever is less)

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life: 5000 Cycles

CONFORMS TO ALL REQUIREMENTS OF:

MIL-DTL-2E DOD
 Specification for Gas Cylinder Valves

CGA V-9
 Standard for Gas Cylinder Valves

CGA S - 1.1
 Standard for Pressure Relief Devices

CGA V-1
 Compressed Gas Cylinder Valves
 Outlet and Inlet Connections

INLET O-RING FOR STRAIGHT THREADED "KVA" SERIES VALVES

Size	Material	Part Number
750-16	Viton®	G210J
750-16	Teflon®	G210T

MATERIALS OF CONSTRUCTION FOR "KVA" SERIES VALVES

Part Description	Material of Construction
Back-up Rings	Teflon®
Body	Chrome Plated Free Machining Brass UNS Alloy #36000
Bonnet	Chrome Plated Free Machining Brass UNS Alloy #36000
Flange O-ring	Viton®
Gasket	Copper
Lower Plug	Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel® 201
Packing	Teflon®
Pressure Relief Device Assembly	
Body	Free Machining Brass UNS Alloy #36000 (212° F or 165° F for backed devices)
Disc	Nickel Alloy 201
Retainer Gasket	Nylon: Zytel 101
Flange Ring	Free Machining Brass UNS Alloy #36000
Spring	Passivated Stainless Steel, Type 302
Stem	Chrome Plated Free Machining Brass UNS Alloy #36000
Stem O-ring	Viton®
Stem Washers	Passivated Stainless Steel, Type 302
Knob (if Applicable)	Lexan®
Pin (if Applicable)	303 Stainless Steel; Passivated
Toggle (if Applicable)	Chrome Plated Free Machining Brass UNS Alloy #36000

TORQUE VALUES FOR "KVA" SERIES VALVES		
	Description	Torque
WRENCH TAPERED	Operating Torque @ 0 PSIG Inlet Pressure	3 in. lbs.
	Operating Torque @ 2000 PSIG Inlet Pressure	8 - 12 in. lbs.
WRENCH FLANGED	Operating Torque @ 0 PSIG Inlet Pressure	1 - 2 in. lbs.
	Operating Torque @ 2000 PSIG Inlet Pressure	8 - 10 in. lbs.
TOGGLE	Operating Torque @ 0 PSIG Inlet Pressure	1 - 2 in. lbs.
	Operating Torque @ 2000 PSIG Inlet Pressure	8 - 10 in. lbs.
KNOB FLANGED	Operating Torque @ 0 PSIG Inlet Pressure	1 - 2 in. lbs.
	Operating Torque @ 2000 PSIG Inlet Pressure	8 - 10 in. lbs.
Bonnet Installation Torque		25 to 30 ft. lbs.
Pressure Relief Device Installation Torque		50 to 65 in. lbs.

FLOW AND DIMENSIONS FOR "KVA" SERIES VALVES: CGA OUTLET NUMBERS 870 - 973			
FLOW DATA	Seat Orifice Diameter (inches)		0.062
	Flow Constant: Cv - Full Open		0.102
	Flow CFM @ 2000 PSIG Inlet Pressure		100
APPROXIMATE DIMENSIONS (INCHES)	Wrench Operated, Tapered Thread Inlet	(A)	0.875 x 1.00
	Wrench Operated, Straight Thread Inlet	(A)	1.24
	Toggle Operated, Straight Thread Inlet	(A)	1.24 - 2.36
	Knob Operated, Straight Thread Inlet	(A)	1.32
APPROXIMATE OVERALL HEIGHT (INCHES)	WRENCH OPERATED	For 1/2" NGT Inlets (B)	3.90
	OPERATED	For 3/4"-16 UNF Inlets (B)	4.20
	TOGGLE OPERATED	For 1/2" NGT Inlets (B)	N/A
	OPERATED	For 3/4"-16 UNF Inlets (B)	4.3 - 5.8
APPROXIMATE HEIGHT OF VALVE INSTALLED IN CYLINDER* (INCHES)	WRENCH OPERATED	For 1/2" NGT Inlets (C)	3.40
	OPERATED	For 3/4"-16 UNF Inlets (C)	3.40
	TOGGLE OPERATED	For 1/2" NGT Inlets (C)	N/A
	OPERATED	For 3/4"-16 UNF Inlets (C)	3.6 - 5.1
	KNOB OPERATED	For 1/2" NGT Inlets (C)	N/A
	OPERATED	For 3/4"-16 UNF Inlets (C)	4.20

* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement. Valves with straight threaded inlets are measured from top of the cylinder to the top of the Valve.

Sherwood and the "SS" symbol are trademarks of Sherwood, Harsco Corporation, Gas and Fluid Control Group
All other names are trademarks of their respective owners.
Printed in the USA

IMPORTANT!

This specification is intended for use with "TVPR" Series SHERCheck® Valve Assemblies.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 12,000 PSIG
 Test: Cylinder Service Pressure
 or 3000 PSIG
 (whichever is less)

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life: 5000 Minimum

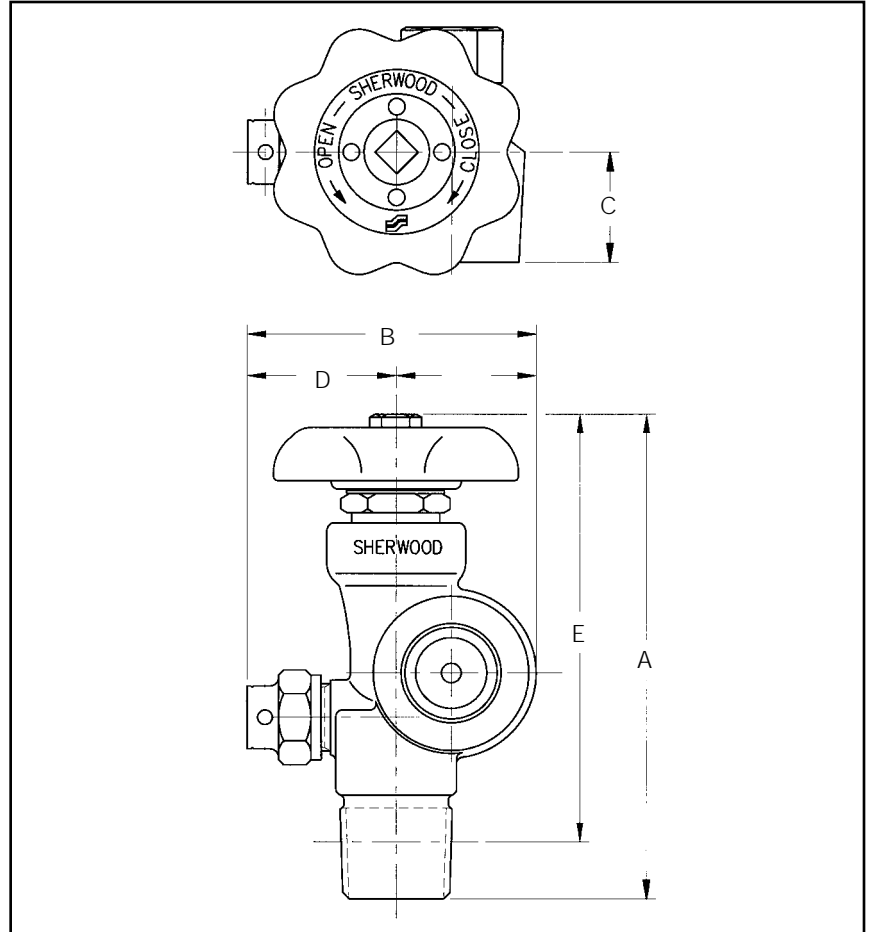
**CONFORMS TO ALL
REQUIREMENTS OF:**

MIL-DTL-2E DOD
 Specification for Gas Cylinder Valves

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



"TVPR" SERIES SHERCheck® VALVES
 (See Repair Section for detail parts breakdown)

TORQUE VALUES FOR "TVPR" SERIES SHERCheck® VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	10 in. lbs.
Closing Torque @ 2000 PSIG Inlet Pressure	13 in. lbs.
Bonnet Installation Torque	45 - 55 ft. lbs.
Pressure Relief Device Installation Torque	30 to 35 ft. lbs.
Stem Nut Installation Torque	Nut Flush with top of Stem

MATERIALS OF CONSTRUCTION FOR "TVPR" SERIES SHERCheck® VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700
Bonnet	Free Machining Brass UNS Alloy #36000
Handwheel	Aluminum per ASTM SC84B
Handwheel Spring	Zinc Plated Steel Spring Wire, Hard Drawn
Handwheel Washer	Polypropylene
Lower Plug	Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel 101 or Celanese 1000-11
Packing	Virgin Teflon
Pin	Type 18-8 or 302 Stainless Steel, Passivated
Pressure Relief Device Assembly	
Body	Free Machining Brass UNS Alloy #36000 (with 212° F or 165° F fusible metal for backed devices)
Rupture Disc	Nickel Alloy 201
Gasket	Copper, Dead Soft
Nut	ANSI 1010 Steel, Plated with Organic Zinc Chromate
Tang	Type 303 or 304 Stainless Steel, Passivated
Upper Stem	Free Machining Brass UNS Alloy #36000

**PISTON ASSEMBLY MATERIALS OF CONSTRUCTION
FOR "TVPR" SERIES SHERCheck® VALVES**

Part Description	Material of Construction
Cap	Free Machining Brass UNS Alloy #36000
Quad Ring	Buna-N
O-ring	Buna-N
Piston	Type 303 Stainless Steel, Passivated
Piston Spring	302 Stainless Steel
Washer	Free Machining Brass UNS Alloy #36000

FLOW AND DIMENSIONS FOR "TVPR" SERIES SHERCheck® VALVES

		CGA Outlet Number	350	580
FLOW DATA	Seat Orifice Diameter (inches)		0.125	0.125
	Flow Constant: Cv - Full Open		0.363	0.363
	Flow CFM @ 2000 PSIG Inlet		357	357
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height	(A)	4.70	4.70
	Overall Width	(B)	2.80	2.80
	Centerline to Face of Outlet	(C)	1.35	1.06
	Centerline to Face of Pressure Relief Device	(D)	1.45	1.45
	Height of Valve Installed in Cylinder*	(E)	4.15	4.15

* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement. Valves with straight threaded inlets are measured

IMPORTANT!

This specification is intended for use with **"TV" Series Manifold Valve Assemblies.**
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:

Pressure

Proof: 20,000 PSIG
Test: 500 PSIG

Temperature - Storage

Minimum: -65 F
Maximum: 155 F

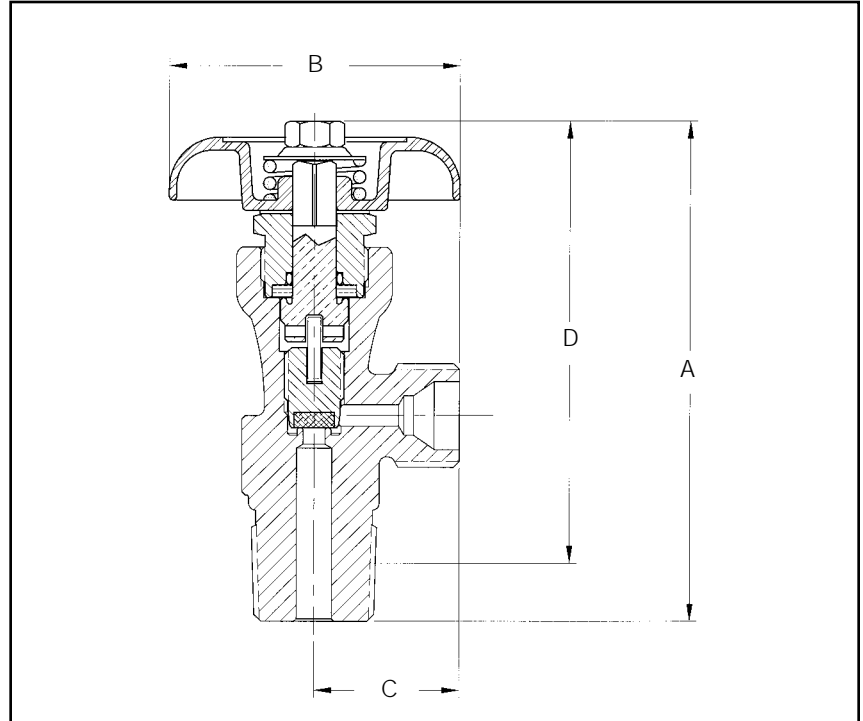
Temperature - Operating

Minimum: -50 F
Maximum: 120 F

Cycle Life: 5000 Minimum

**CONFORMS TO ALL
REQUIREMENTS OF:**

- MIL-DTL-2E DOD
Specification for Gas Cylinder Valves
- 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



"TV" SERIES MANIFOLD VALVES
(See Repair Section for detail parts breakdown)

MATERIALS OF CONSTRUCTION FOR "TV" SERIES MANIFOLD VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700/Nickel Chrome Plated when applicable
Bonnet	Free Machining Brass UNS Alloy #36000/Nickel Chrome Plated when applicable
Handwheel	Aluminum per ASTM SC84B or Lexan®
Handwheel Nut	AISI 1010 Steel, Plated with Organic Zinc Chromate
Lower Plug	Teflon® Coated, Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
O-ring	Nitrite
Packing	Virgin Teflon®
Pin	Type 18-8 or 302 Stainless Steel, Passivated
Spring	Steel Wire, Cadmium Plated
Tang	Type 303 or 304 Stainless Steel, Passivated
Upper Stem	Free Machining Brass UNS Alloy #36000
Washer	Polypropylene

TORQUE VALUES FOR "TV" SERIES MANIFOLD VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	5 - 10 in. lbs.
Closing Torque @ 250 PSIG Inlet Pressure	8 - 13 in. lbs.
Bonnet Installation Torque	45 - 55 ft. lbs.
Stem Nut Installation Torque	Nut Flush with Top of Stem

FLOW AND DIMENSIONS FOR "TV" SERIES MANIFOLD VALVES

CGA Outlet Number		320	346	350	540	580	590	680
FLOW DATA	Seat Orifice Diameter (inches)	0.187	0.187	0.187	0.187	0.187	0.187	0.187
	Flow Constant: Cv - Full Open	0.548	0.548	0.447	0.518	0.579	0.432	0.731
	Flow CFM @ 250 PSIG Inlet	67	67	55	64	71	53	90
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height (A)	4.30	4.30	4.30	4.30	4.30	4.30	4.30
	Overall Width (B)	2.50	2.50	2.50	2.50	2.61	2.61	2.61
	Centerline to Face of Outlet (C)	1.25	1.25	1.25	1.25	1.36	1.36	1.36
	Height of Valve Installed in Cylinder* (D)	3.83	3.83	3.83	3.83	3.83	3.83	3.83

* Valves with tapered threaded inlets are calculated to 7³/₄ threads engagement.

IMPORTANT!

This specification is intended for use with **"TV" Series Acetylene Valve Assemblies.**
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 20,000 PSIG
 Test: 500 PSIG (whichever is less)

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

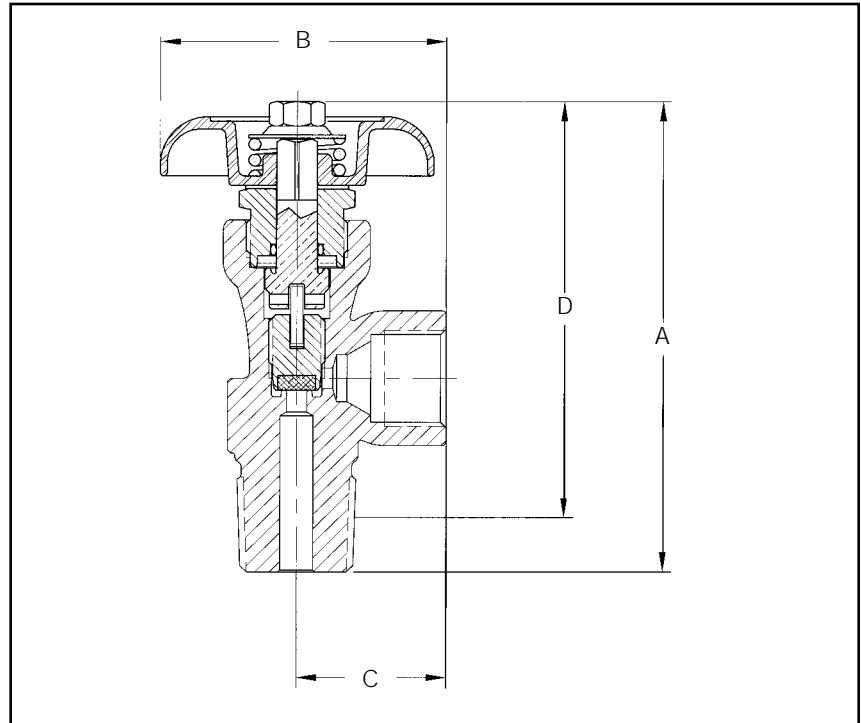
Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life: 5000 Minimum

**CONFORMS TO ALL
 REQUIREMENTS OF:**

- MIL-DTL-2E DOD
Specification for Gas Cylinder Valves
- 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



"TV" SERIES ACETYLENE VALVES
 (See Repair Section for detail parts breakdown)

MATERIALS OF CONSTRUCTION FOR "TV" SERIES ACETYLENE VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700/Nickel Chrome Plated when applicable
Bonnet	Free Machining Brass UNS Alloy #36000/Nickel Chrome Plated when applicable
Handwheel	Aluminum per ASTM SC84B
Handwheel Nut	AISI 1010 Steel, Plated with Organic Zinc Chromate
Lower Plug	Teflon® Coated, Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
O-ring	Nitrite
Packing	Virgin Teflon®
Pin	Type 18-8 or 302 Stainless Steel, Passivated
Spring	Steel Wire, Cadmium Plated
Tang	Type 303 or 304 Stainless Steel, Passivated
Upper Stem	Free Machining Brass UNS Alloy #36000
Washer	Polypropylene

TORQUE VALUES FOR "TV" SERIES ACETYLENE VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	5 - 10 in. lbs.
Closing Torque @ 240 PSIG Inlet Pressure	8 - 13 in. lbs.
Bonnet Installation Torque	45 - 55 ft. lbs.
Stem Nut Installation Torque	Nut Flush with top of Stem

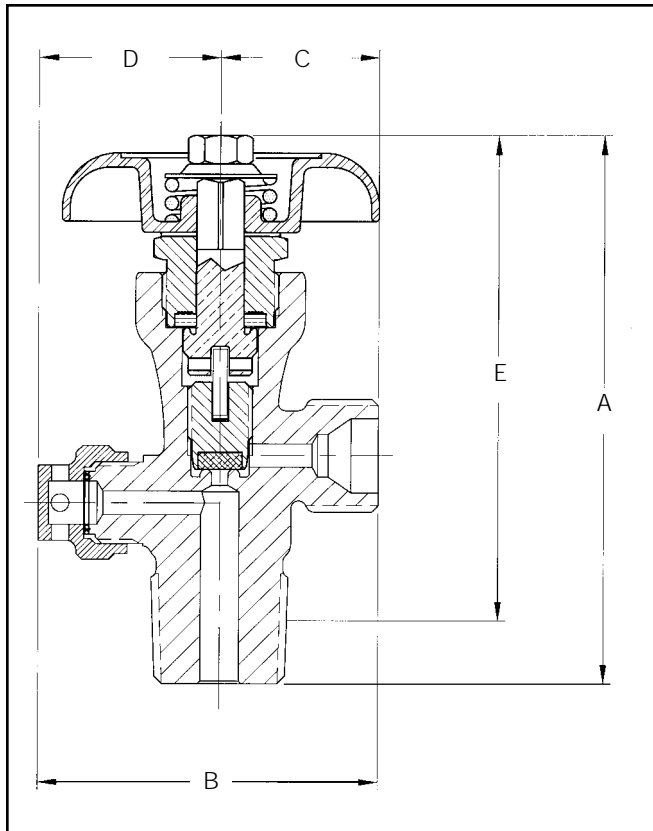
FLOW AND DIMENSIONS FOR "TV" SERIES ACETYLENE VALVES

CGA Outlet Number		300	510
FLOW DATA	Seat Orifice Diameter (inches)	0.125	0.125
	Flow Constant: Cv - Full Open	0.565	0.565
	Flow CFM @ 240 PSIG Inlet	66	66
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height (A)	4.33	4.33
	Overall Width (B)	2.50	2.61
	Centerline to Face of Outlet (C)	1.25	1.36
	Height of Valve Installed in Cylinder* (D)	3.83	3.83

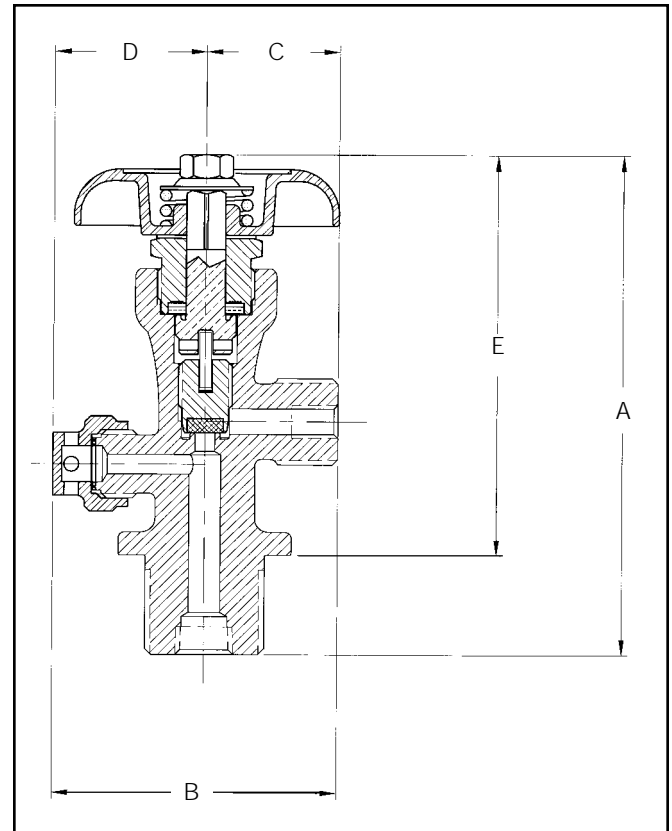
* Valves with tapered threaded inlets are calculated to 7 3/4 threads engagement.

IMPORTANT!

This specification is intended for use with **"TV" Series Industrial and Chrome Plated Valve Assemblies. MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!**



"TV" SERIES INDUSTRIAL AND CHROME PLATED VALVES WITH TAPERED THREAD INLET
(See Repair Section for detail parts breakdown)



"TV" SERIES INDUSTRIAL AND CHROME PLATED VALVES WITH STRAIGHT THREAD INLET
(See Repair Section for detail parts breakdown)

REFERENCE DATA:

Pressure

Proof: 20,000 PSIG
Test: Cylinder Service Pressure
or 3000 PSIG (whichever is less)

Temperature - Storage

Minimum: -65 F
Maximum: 155 F

Temperature - Operating

Minimum: -50 F
Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

**CONFORMS TO ALL
REQUIREMENTS OF:**

MIL-DTL-2E DOD
Specification for Gas Cylinder Valves
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

MATERIALS OF CONSTRUCTION FOR "TV" SERIES INDUSTRIAL AND CHROME PLATED VALVES

PART DESCRIPTION	MATERIAL OF CONSTRUCTION
Body	Forging Brass UNS Alloy #37700/Nickel Chrome Plated when applicable
Bonnet	Free Machining Brass UNS Alloy #36000/Nickel Chrome Plated when applicable
Handwheel	Aluminum per ASTM SC84B or Lexan®
Handwheel Nut	AISI 1010 Steel, Plated with Organic Zinc Chromate
Lower Plug	Teflon® Coated, Leaded Naval Brass, UNS Alloy #48500
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
Packing	Virgin Teflon
Pin	Type 18-8 or 302 Stainless Steel, Passivated
Pressure Relief Device Body	Free Machining Brass UNS Alloy #36000 (with 212° F or 165° F fusible metal for backed devices)
Pressure Relief Device Disc	Nickel Alloy 201 for all including fusible backed devices for natural gas service (Copper for all other fusible backed devices)
Pressure Relief Device Gasket	Copper, Dead Soft
Spring	Steel Wire, Cadmium Plated
Tang	Type 303 or 304 Stainless Steel, Passivated
Upper Stem	Free Machining Brass UNS Alloy #36000
Washer	Polypropylene

TORQUE VALUES FOR "TV" SERIES INDUSTRIAL AND CHROME PLATED VALVES

DESCRIPTION	TORQUE
Operating Torque @ 0 PSIG Inlet Pressure	5 - 10 in. lbs.
Closing Torque @ 2000 PSIG Inlet Pressure	8 - 13 in. lbs.
Bonnet Installation Torque	45 - 55 ft. lbs.
Pressure Relief Device Installation Torque	35 + 5 ft. lbs.
Stem Nut installation Torque	Nut Flush with top of Stem

INLET O-RING FOR STRAIGHT THREADED "TV" SERIES INDUSTRIAL AND CHROME PLATED VALVES

SIZE	MATERIAL	PART NUMBER
0.625 UNF	Buna	G208A
	Teflon	G208T
0.750 UNF	Buna-N	G210-9
	Teflon	G210T
1.125 UNF	Buna 70 Durometer	G216A

"TV" SERIES INDUSTRIAL AND CHROME PLATED VALVES FLOW AND DIMENSIONS

CGA Outlet Number	CGA 280	CGA 296	CGA 320*	CGA 326*	CGA 346	CGA 347	CGA 350	CGA 500	CGA 540	CGA 555	CGA 577	CGA 580	CGA 590	CGA 660	CGA 677	CGA 680	1/4 NPTF
Seat Orifice Diameter (Inches)	0.125	0.125	0.186	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.289
Flow Constant Cv Factor Full Open	0.386	0.386	0.690	0.406	0.386	0.406	0.386	0.386	0.386	0.386	0.386	0.386	0.406	0.406	0.365	0.396	0.386
Flow CFM Air @ 2000 PSIG Inlet	380	380	340	200	380	400	380	380	380	380	380	380	400	400	359	390	380
Overall Height for 1/2", 3/4" & 1" NGT Inlets	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
APPROXIMATE DIMENSIONS (INCHES)																	
Overall Height for 5/8", 3/4" & 1 1/8" UNF Inlets (A)	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70	4.70
Overall Width (B)	2.65	2.76	2.66	2.66	2.66	2.82	2.66	2.76	2.65	2.65	2.76	2.76	2.76	2.51	2.77	2.76	2.65
Centerline To Face of Outlet (C)	1.25	1.36	1.26	1.26	1.26	1.42	1.26	1.36	1.25	1.25	1.36	1.36	1.36	1.11	1.37	1.36	1.25
APPROXIMATE DIMENSIONS (INCHES) FOR INLET TYPES																	
Centerline To Back of PRD (D)	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Height of Valve Installed in Cylinder** (E)	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80

* Calculated at 1000 PSIG inlet pressure.

** Valves with tapered threaded inlets are calculated to 7/8" threads engagement. Valves with straight threaded inlets are measured from top of the cylinder to the top of the Valve.

Sherwood and the "SS" symbol are trademarks of Sherwood, Harsco Corporation, Gas and Fluid Control Group
All other names are trademarks of their respective owners.
Printed in the USA

IMPORTANT!

This specification is intended for use with **"YVA" Series Line Valve Assemblies**.
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 25,000 PSIG Minimum
 Test: System Service Pressure up to 6000 PSIG Maximum

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

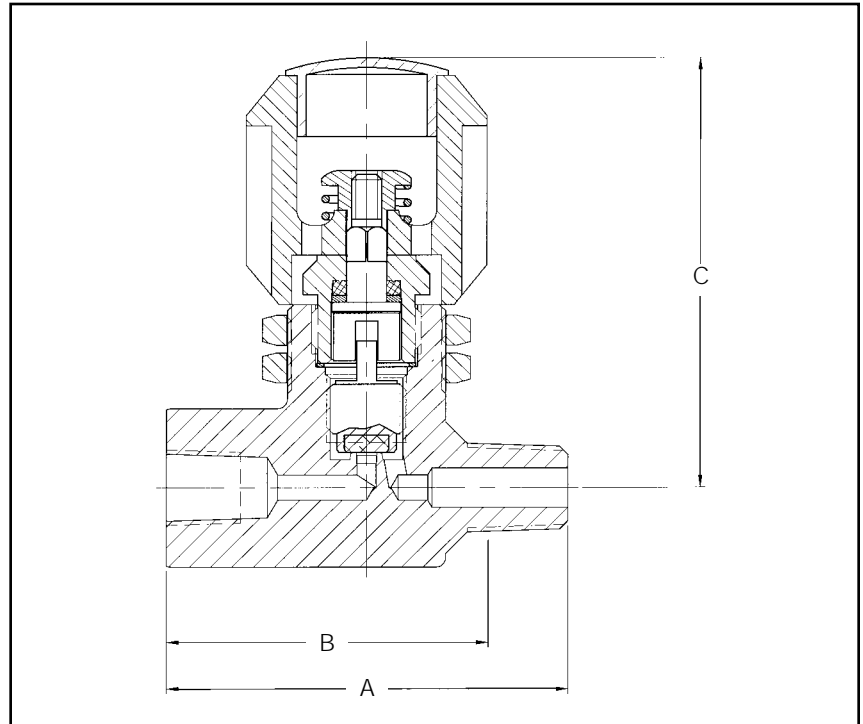
**CONFORMS TO ALL
 REQUIREMENTS OF:**

MIL-DTL-2E DOD
 Specification for Gas Cylinder Valves

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


"YVA" SERIES LINE VALVES

(See Repair Section for detail parts breakdown)

TORQUE VALUES FOR "YVA" SERIES LINE VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	1 - 2 in. lb.
Closing Torque @ 2000 PSIG Inlet Pressure	2 - 3 in. lbs.
Bonnet Installation Torque	25 to 30 ft. lbs.
Stem Nut Installation Torque	Nut Flush with top of Stem

MATERIALS OF CONSTRUCTION FOR "YVA" SERIES LINE VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700, Chrome Plated
Bonnet	Free Machining Brass, UNS ASTM B-16-53, Chrome Plated
Gasket	Copper
Handwheel	Lexan®
Handwheel Cap	Lexan®
Lower Plug	Leaded Naval Brass, UNS Alloy #C34200
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
Packing (3506-18)	Viton®
Packing (3506-7)	Virgin Teflon®
Panel Mount Nut (as required)	Free Machining Brass, UNS Alloy #36000, Chrome Plated
Spring	Type 302 Stainless Steel, Passivated
Stem	Aluminum Silicon Bronze Alloy # 708-8, Nickel Plated
Stem Nut	Free Machining Brass, UNS Alloy 36000

FLOW AND DIMENSIONS FOR "YVA" SERIES LINE VALVES: FOR ALL OUTLET TYPES

FLOW DATA	Seat Orifice Diameter (inches)		0.120
	Flow Constant: Cv - Full Open		0.284
	Flow CFM @ 2000 PSIG Inlet		280
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Length	(A)	2.50
	Length of Valve Installed in Line*	(B)	2.11
	Centerline of Inlet to Top of Handwheel	(C)	2.70

* Valves with tapered threaded inlets are calculated to 7 3/4 threads engagement.

IMPORTANT!

This specification is intended for use with **"YVB" Series Valve Assemblies.**
MAKE SURE YOU ARE USING THE CORRECT SPECIFICATION!

REFERENCE DATA:
Pressure

Proof: 12,000 PSIG Minimum
 Test: Cylinder Service Pressure
 or 3000 PSIG
 (whichever is less)

Temperature - Storage

Minimum: -65 F
 Maximum: 155 F

Temperature - Operating

Minimum: -50 F
 Maximum: 120 F

Cycle Life:

Minimum: 5000 cycles

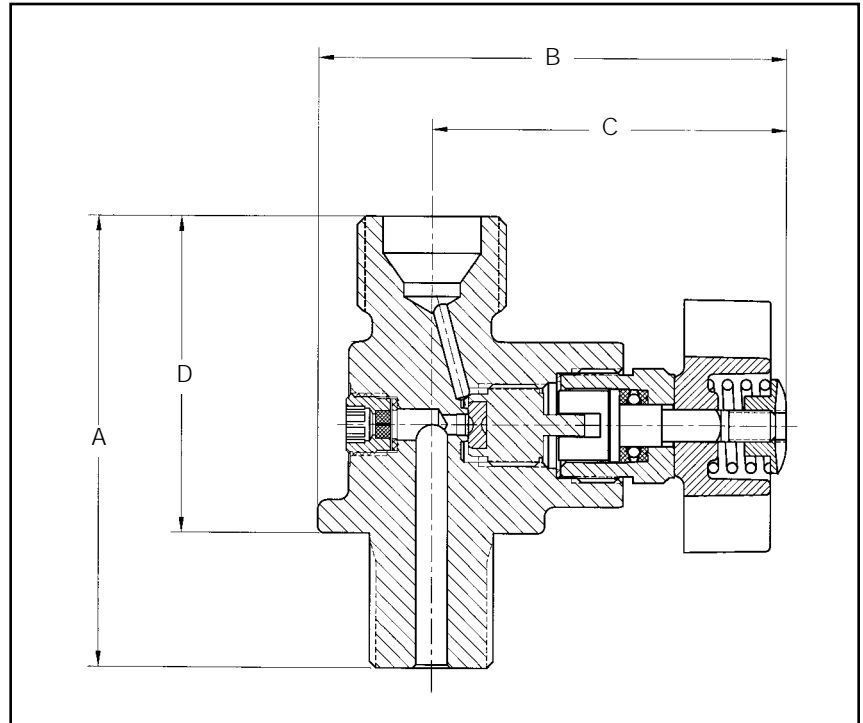
**CONFORMS TO ALL
 REQUIREMENTS OF:**

MIL-DTL-2E DOD
 Specification for Gas Cylinder Valves

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



"YVB" SERIES VALVES
 (See Repair Section for detail parts breakdown)

TORQUE VALUES FOR "YVB" SERIES VALVES

Description	Torque
Operating Torque @ 0 PSIG Inlet Pressure	1 in. lb.
Closing Torque @ 2000 PSIG Inlet Pressure	1 - 2 in. lbs.
Bonnet Installation Torque	25 to 30 ft. lbs.
Pressure Relief Device Installation Torque	50 to 65 in. lbs.
Stem Nut Installation Torque	Nut Flush with top of Stem

MATERIALS OF CONSTRUCTION FOR "YVB" SERIES VALVES

Part Description	Material of Construction
Body	Forging Brass UNS Alloy #37700, Chrome Plated
Bonnet	Free Machining Brass UNS ASTM B-16-53, Chrome Plated
Filter (as required)	Sintered Bronze - 40 micron
Filter Retainer (as required)	Free Machining Brass UNS Alloy #36000
Gasket	Copper
Handwheel	Lexan®
Lower Plug	Leaded Naval Brass, UNS Alloy #C34200
Lower Plug Seat	Nylon: Zytel® 101 or Celanese 1000-11
O-ring	Viton®
Packing	Virgin Teflon®
Pressure Relief Device Assembly	
Body	Free Machining Brass UNS Alloy #36000 (with 212° F or 165° F fusible metal for backed devices)
Rupture Disc	Nickel Alloy 201
Retainer Gasket	Nylon: Zytel® 101 or Celanese 1000-11
Spring	Type 302 Stainless Steel, Passivated
Stem	Aluminum Silicon Bronze Alloy # 708-8, Nickel Plated
Stem Nut	Free Machining Brass, UNS Alloy 36000

INLET O-RING FOR STRAIGHT THREADED "YVB" SERIES VALVES

Size	Material	Part Number
0.625 UNF	Buna	G208A
	Teflon®	G208T
0.750 UNF	Buna-N	G210A9
	Teflon®	G210T

FLOW AND DIMENSIONS FOR "YVB" SERIES VALVES: CGA OUTLET NUMBER 540

FLOW DATA	Seat Orifice Diameter (inches)	0.120
	Flow Constant: Cv - Full Open	0.102
	Flow CFM @ 2000 PSIG Inlet	100.4
APPROXIMATE DIMENSIONS (INCHES) FOR ALL INLET TYPES	Overall Height	(A) 2.71
	Overall Width	(B) 2.83
	Centerline to Face of Handwheel Nut	(C) 2.15
	Height of Valve Installed in Cylinder*	(D) 1.90

* Valves with tapered threaded inlets are calculated to 7 ¾ threads engagement. Valves with straight threaded inlets are measured from top of the cylinder to the top of the Valve.