



Valves

(Needle Valve, Ball Valve, Diaphragm Valve, Gauge Valve, Check Valve, Excess Flow Valve, Relief Valve, Cylinder Valve)

Technology for a Better Future

Company Overview

Genstar Technologies Company, Inc. (GENTEC®), founded in 1969, is a global industry leader in the manufacturing of welding apparatus, pressure regulators, and gas control systems.

It is GENTEC®'s mission to provide customers with high quality, value-added products and services that surpass the strictest safety standards. All GENTEC® products are manufactured in an ISO 9001 and ISO 13485 certified facility by our experienced and dedicated workforce, using exquisite craftsmanship in conjunction with computerized automation, stringent quality control, and advanced test equipment.

Additionally, as a total system solution provider, GENTEC® offers technical support, on-site evaluation, and design / implementation. GENTEC® engineers examine all customer requirements in order to develop and recommend the best customer specific solutions.

The company takes great pride in fostering a strong relationship with each and every customer. Today, GENTEC® sells its products through a vast distribution network which extends to thousands of customers worldwide.



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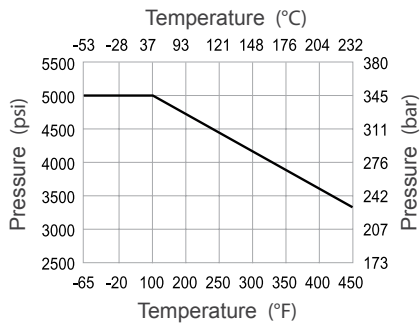
Needle Valves

NV11, NV12, NV13, NV14 SERIES NEEDLE VALVES



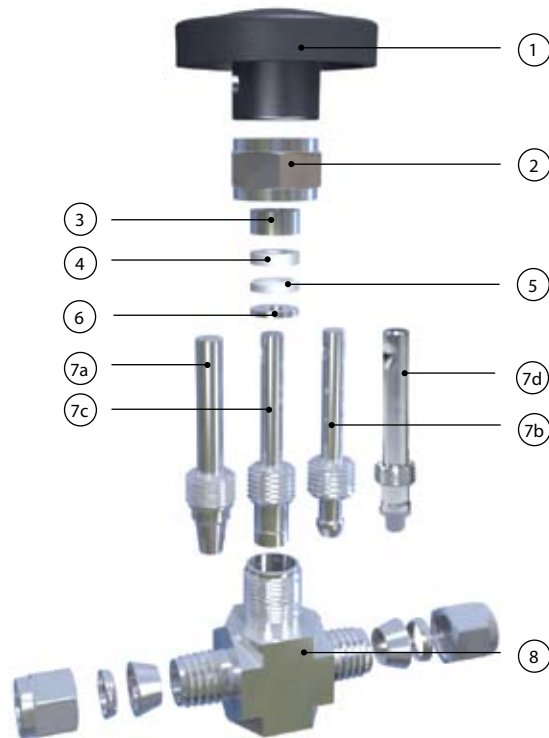
Features

- Maximum operating pressure: 5000 psi (345 bar)
- V type stem is standard; R, K, and N type stem are also available
- End connections: GENLOK and NPT
(please refer to the specification tables for available dimensions)
- Straight pattern is standard, angle pattern is also available
- Panel mounting available
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage at 1000 psi (69 bar)
Adjust packing nut when working pressure is higher than 1000 psi to prevent leakage.



Materials of Construction

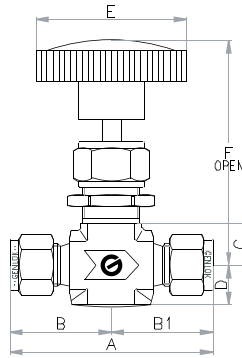
Components	Material
1 Round Handle / Bar Handle	ABS with brass inset / Aluminium
2 Packing Nut	316 SS
3 Gland	316 SS
4 Upper Packing	PTFE
5 Lower Packing	PTFE
6 Lower Gland	316 SS
7a R-TYPE Valve Stem	316 SS
7b V-TYPE Valve Stem	316 SS
7c K-TYPE Valve Stem	PCTFE
7d N-TYPE Valve Stem	PTFE
8 Body	316 SS



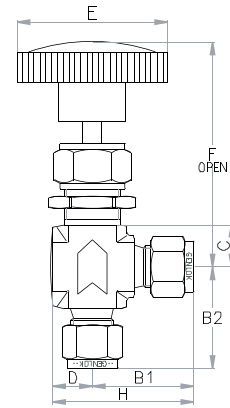
NV11, NV12, NV13, NV14 SERIES NEEDLE VALVES

Dimensions

Straight Pattern



Angle Pattern



Metric

Model	Orifice (mm)	CV	Connection Type		Dimension (mm)								Panel Mounting Hole Diameter (mm)	
			Inlet	Outlet	A	B	B1	B2	H	C	D	E		F Open
SS-NV11-TF3M	2.0	0.09	3 mm GENLOK		49.3	24.6	24.6	24.6	32.5	11.2	7.87	25.4	58.2	12.0
SS-NV12-TF6M	4.4	0.37	6 mm GENLOK		57.4	28.7	28.7	28.7	38.4	11.2	9.65	35.1	59.4	15.5
SS-NV12-TF8M	4.4	0.37	8 mm GENLOK		59.4	29.7	29.7	29.7	39.4	11.2	9.65	35.1	59.4	15.5
SS-NV12-NT4-TF6M	4.4	0.37	1/4" Male NPT	6 mm GENLOK	53.6	24.9	29.7	24.9	39.4	11.2	9.65	35.1	59.4	15.5
SS-NV13-TF10M	6.4	0.73	10 mm GENLOK		66.0	33.0	33.0	33.0	45.7	12.7	12.7	47.8	71.4	20.0
SS-NV13-TF12M	6.4	0.73	12 mm GENLOK		71.1	35.6	35.6	35.6	48.3	14.0	12.7	47.8	71.4	20.0

English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)								Panel Mounting Hole Diameter (in.)	
			Inlet	Outlet	A	B	B1	B2	H	C	D	E		F Open
SS-NV11-TF2	0.080	0.09	1/8" GENLOK		2.00	1.00	1.00	1.00	1.31	0.44	0.31	1.00	2.29	0.47
SS-NV11-NT2-TF2			1/8" Male NPT	1/8" GENLOK	1.75	0.75	1.00	0.75	1.31					
SS-NV12-TF4	0.172	0.37	1/4" GENLOK		2.31	1.16	1.16	1.16	1.51	0.56	0.38	1.38	2.34	0.61
SS-NV12-FNT2			1/8" Female NPT		1.62	0.81	0.81	0.81	1.19					
SS-NV12-NT2			1/8" Male NPT		2.00	1.00	1.00	1.00	1.19					
SS-NV12-NT4			1/4" Male NPT		2.00	1.00	1.00	1.00	1.36					
SS-NV12-NT4-TF4			1/4" Male NPT	1/4" GENLOK	2.16	1.00	1.16	1.00	1.51					
SS-NV13-TF6			3/8" GENLOK		2.60	1.30	1.30	1.30	1.79					
SS-NV13-TF8	1/2" GENLOK		2.82	1.41	1.41	1.41	1.90							
SS-NV13-FNT4	1/4" Female NPT		2.12	1.06	1.06	1.06	1.56							
SS-NV13-NT6	3/8" Male NPT		2.24	1.12	1.12	1.12	1.62							
SS-NV13-NT4-FNT4	0.250	0.73	1/4" Male NPT	1/4" Female NPT	2.18	1.12	1.06	1.12	1.56	0.75	0.50	1.96	2.81	0.79
SS-NV13-NT6-FNT6			3/8" Male NPT	3/8" Female NPT	2.22	1.12	1.10	1.12	1.60					
SS-NV13-NT4-TF6			1/4" Male NPT	3/8" GENLOK	2.42	1.12	1.30	1.12	1.79					
SS-NV13-NT6-TF6			3/8" Male NPT	3/8" GENLOK	2.42	1.12	1.30	1.12	1.79					
SS-NV13-NT6-TF8			1/2" Male NPT	1/2" GENLOK	2.53	1.12	1.41	1.12	1.90					
SS-NV14-TF2			3/4" GENLOK		3.82	1.91	1.91	1.94	2.66					
SS-NV14-FNT6	3/8" Female NPT		3.00	1.50	1.50	1.50	2.25							
SS-NV14-FNT8	1/2" Female NPT		3.00	1.50	1.50	1.50	2.25							
SS-NV14-NT8	1/2" Male NPT		3.00	1.50	1.50	1.50	2.25							
SS-NV14-NT8-FNT8	1/2" Male NPT	1/2" Female NPT	3.00	1.50	1.50	1.50	2.25							

Ordering Information

SS	- NV12	- NT4	- TF4	- V	- A	- B
Body Material: SS: 316 SS	Series: NV11 NV12 NV13 NV14	Inlet Connection*: NT4: 1/4" Male NPT	Outlet Connection*: TF4: 1/4" GENLOK	Valve stem type: V: V Type R: R Type K: K Type N: N Type	Options: A: Angle Pattern Blank: Straight Pattern	Handle Options**: Blank: Standard B: Other option

* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

** Round Handle is standard for NV11, NV12 and NV13 series. Select -B for alternative Bar handle. For NV14, Bar Handle is the standard, please select -B for alternative Round Handle.

Needle Valves

NV42, NV43 SERIES NEEDLE VALVES



Straight Pattern



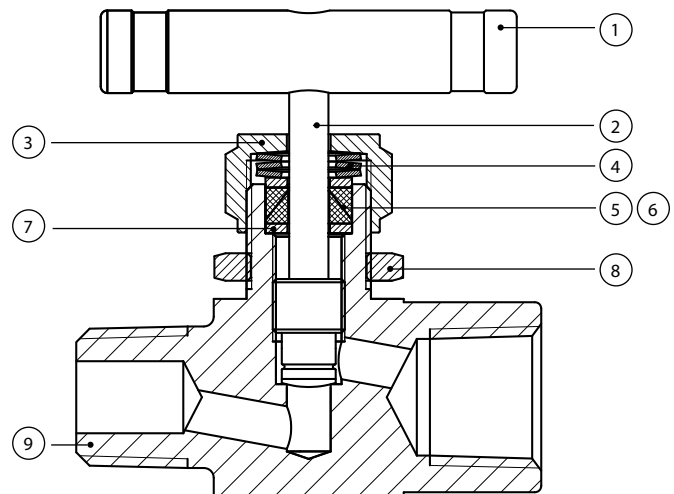
Angle Pattern

Features

- Maximum operating pressure: 6000 psi (413 bar)
- Operating temperature:
 - 65°F ~ 200°F (-53°C ~ 93°C), with PCTFE packing
 - 65°F ~ 600°F (-53°C ~ 315°C), with PEEK packing
- Nominal diameter: 3.5 mm, 6.5 mm
- Panel mounting available
- Straight pattern is standard, angle pattern is also available
- Connections: 1/4" NPT, 3/8" NPT and 1/2" NPT
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage with Nitrogen at 6000 psi
- N type stem is available for moderate flow control

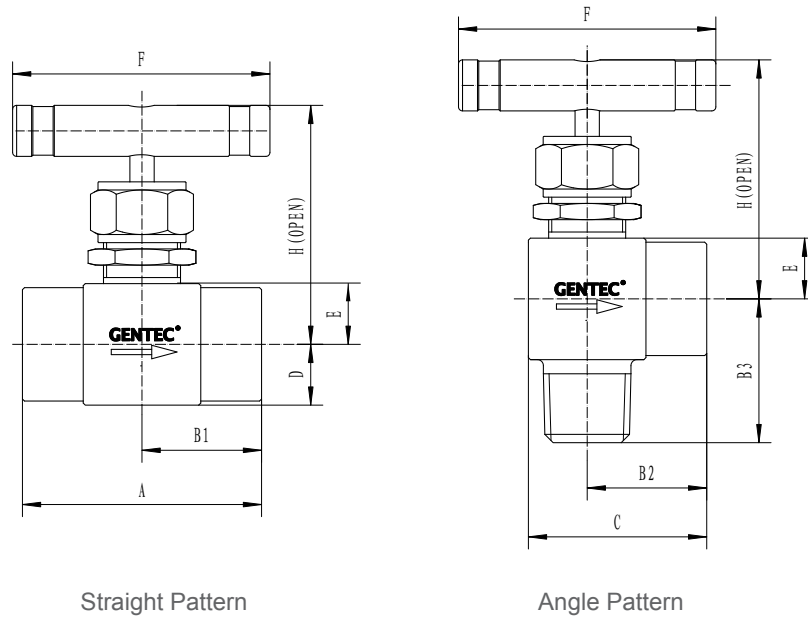
Materials of Construction

Components	Material
1 Handle	316
2 Valve Stem	PCTFE
3 Lock Nut	316
4 Disc Spring	304
5 Upper Sealing Gasket	PCTFE
6 Bottom Sealing Gasket	PCTFE
7 Packing Gasket	316
8 Mounting Nut	316
9 Body	316



NV42, NV43 SERIES NEEDLE VALVES

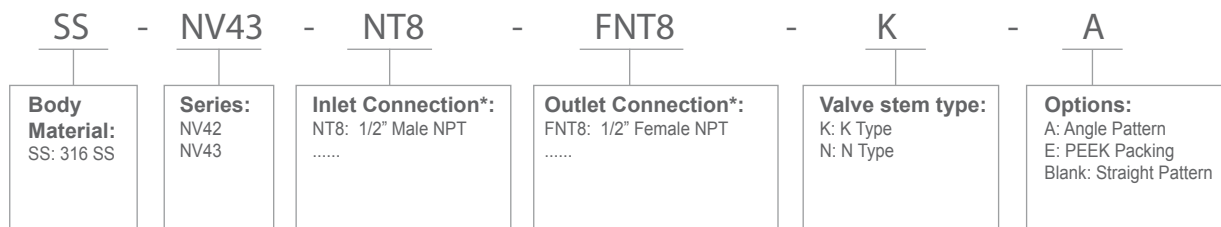
Dimensions



English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)								Panel Mounting Hole Diameter (in.)	
			Inlet	Outlet	A	B1	B2	B3	C	D	E	F		H
SS-NV42-TF4-K	0.14	0.23	1/4" GENLOK		1.95	0.98	-	-	-	0.53	0.59	2.50	2.44	0.79
SS-NV42-NT4-K			1/4" Male NPT		2.24	1.12	-	-	-					
SS-NV42-FNT4-K			1/4" Female NPT		2.24	1.12	-	-	-					
SS-NV42-NT4-FNT4-K			1/4" Male NPT	1/4" Female	2.24	1.12	-	-	-					
SS-NV42-NT6-K			3/8" Male NPT		2.32	1.16	-	-	-					
SS-NV43-FNT6-K	0.26	0.73	3/8" Female NPT		2.32	1.16	-	-	-	0.59	0.59	2.50	2.44	
SS-NV43-NT6-FNT6-K			3/8" Male NPT	3/8" Female	2.32	1.16	-	-	-					
SS-NV43-NT8-K			1/2" Male NPT		2.80	1.40	-	-	-					
SS-NV43-FNT8-K			1/2" Female NPT		2.80	1.40	-	-	-					
SS-NV43-NT8-FNT8-K			1/2" Male NPT	1/2" Female	2.80	1.40	-	-	-					
SS-NV43-NT8-FNT8-K-A			1/2" Male NPT	1/2" Female	-	-	1.40	1.40	1.97					-

Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

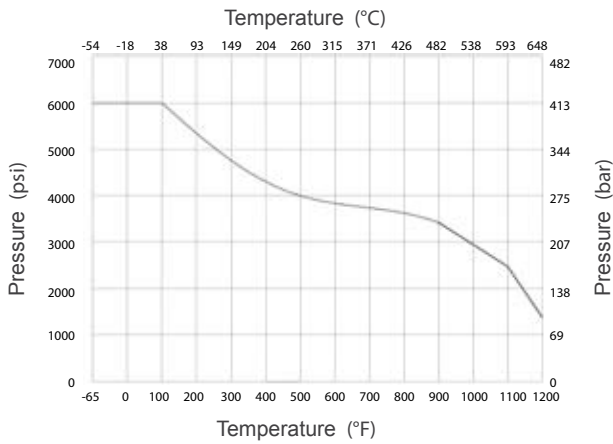
Needle Valves

NV53 SERIES NEEDLE VALVES

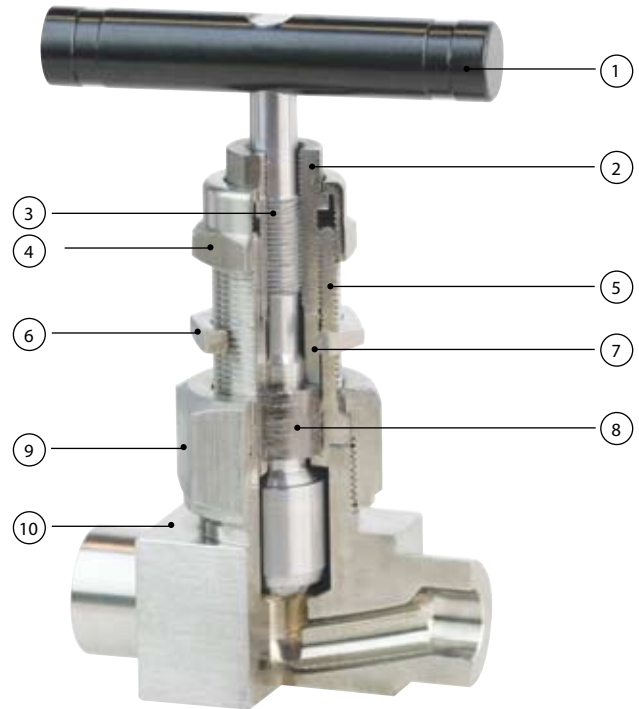


Features

- Maximum operating pressure: 6000 psi (413 bar)
- Operating temperature: -65°F ~ 1200°F (-53°C ~ 648°C)
- Nominal diameter: 11.1 mm
- Flexible graphite packing
- Panel mounting available
- End connections: socket welded, GENLOK and NPT
- Straight pattern is standard, angle pattern is also available
- Factory tested to withstand pressure and temperature of 7200 psi and 600°C respectively
- Every valve is tested for leakage with nitrogen at 6000 psi (Please provide us with specific instructions should you have specific request/requirements regarding leakage testing)



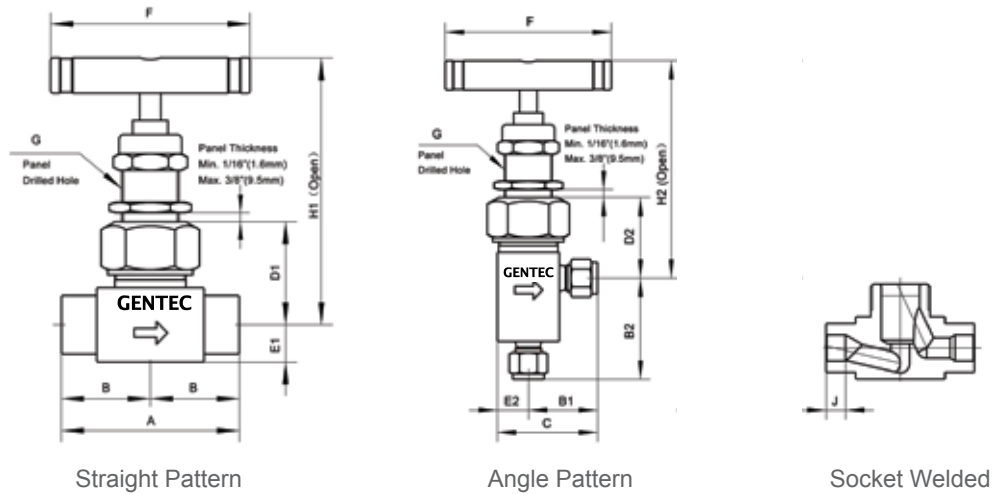
Materials of Construction



Components	Material
1 T-handle	Aluminium
2 Packing Nut	416
3 Regulating Valve Stem	316 SS
4 Lock Nut	316 SS
5 Bonnet	316 SS
6 Panel Nut	316 SS
7 Adapter	316 SS
8 Sealing Gasket	Flexible graphite
9 Joint Nut	316 SS
10 Body	316 SS

NV53 SERIES NEEDLE VALVES

Dimensions



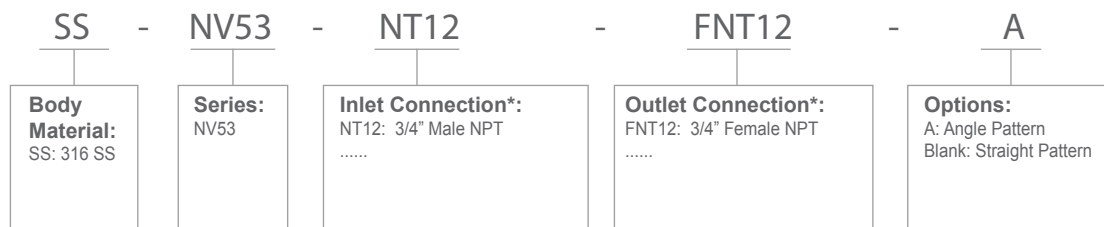
Metric

Model	CV	Connection Type		Dimension (mm)													
		Inlet	Outlet	A	B	B1	B2	C	D1	D2	E1	E2	F	G	H1	H2	J
SS-NV53-TF25M-A	1.9	25mm GENLOK		99.6	49.8	42.7	52.8	60.2	46.2	47.8	15.7	17.5	88.9	26.2	121	123	-
SS-NV53-SW14M	2.2	14mm Socket Weld		3.12	1.56	-	-	-	1.82	-	0.68	-	3.50	1.03	4.76	-	0.44
SS-NV53-SW25M	2.2	25mm Socket Weld		3.12	1.56	-	-	-	1.82	-	0.68	-	3.50	1.03	4.76	-	0.44

English Units

Model	CV	Connection Type		Dimension (in.)													
		Inlet	Outlet	A	B	B1	B2	C	D1	D2	E1	E2	F	G	H1	H2	J
SS-NV53-FNT8-A	2.4	1/2" Female NPT		3.12	1.56	1.31	1.56	2.00	1.82	2.00	0.62	0.69	3.50	1.03	4.76	4.96	-
SS-NV53-FNT12		3/4" Female NPT		3.25	1.63	-	-	-	1.91	-	0.68	-	3.50	1.03	4.88	-	-
SS-NV53-FNT16		1" Female NPT		3.62	1.81	-	-	-	2.13	-	1.00	-	3.50	1.03	5.08	-	-
SS-NV53-NT8-FNT8-A	1.9	1/2" Male NPT	1/2" Female NPT	3.12	1.56	1.31	1.56	2.00	1.82	2.00	0.62	0.69	3.50	1.03	4.76	5.08	-
SS-NV53-NT12-FNT12		3/4" Male NPT	3/4" Female NPT	3.25	1.63	-	-	-	1.91	-	0.68	-	3.50	1.03	124	-	-
SS-NV53-NT16-FNT16		1" Male NPT	1" Female NPT	3.62	1.81	-	-	-	2.13	-	1.00	-	3.50	1.03	129	-	-
SS-NV53-TF8-A	2.1	1/2" GENLOK		3.92	1.96	1.68	2.08	2.37	1.82	1.88	0.62	0.69	3.50	1.03	4.76	123	-
SS-NV53-TF12	2.4	3/4" GENLOK		3.92	1.96	1.68	2.08	2.37	1.82	1.88	0.62	0.69	3.50	1.03	4.76	123	-
SS-NV53-TF16		1" GENLOK		4.09	2.04	-	-	-	1.88	-	0.69	-	3.50	1.03	4.76	123	-
SS-NV53-SW8-A	2.2	1/2" Socket Weld		3.12	1.56	1.31	1.69	2.00	1.82	1.88	0.68	0.69	3.50	1.03	4.76	123	0.38
SS-NV53-SW12		3/4" Socket Weld		3.12	1.56	-	-	-	1.82	-	0.68	-	3.50	1.03	4.76	-	0.44

Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

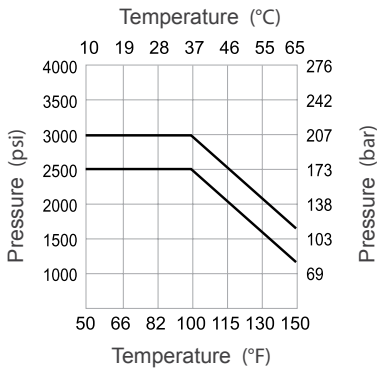
Ball Valves

■ BV13, BV14, BV15, BV16, BV18 SERIES BALL VALVES



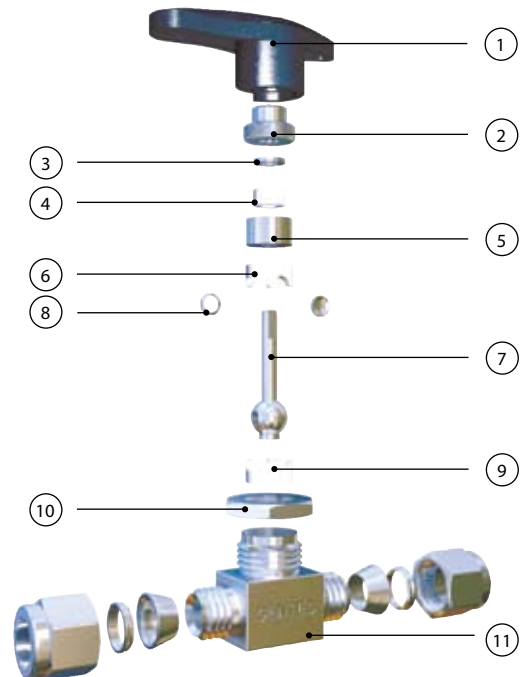
■ Features

- Maximum operating pressure: 3000 psi (207 bar)- BV15
2500 psi (172 bar)- others
- Operating temperature: 50°F ~ 150°F (10°C ~ 65°C)
- Handle indicates the flow direction
- End connections: GENLOK, NPT and FSR
(please refer to the tables on next page for the specifications)
- Straight pattern is standard, angle pattern is also available
- Panel mounting available
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage at 1000 psi
Adjust packing nut when the working pressure is higher than 1000 psi to prevent leakage.



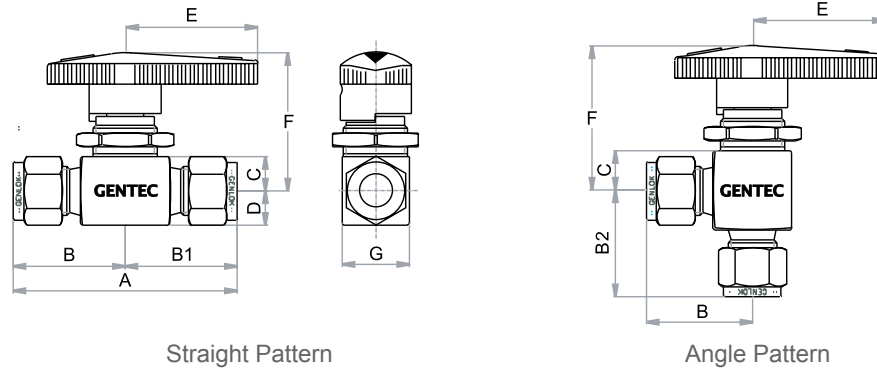
■ Materials of Construction

Components	Material
1 Handle	Nylon
2 Packing Bolt	316 SS
3 Upper Gland	316 SS
4 Bushing	PTFE
5 Lower Gland	316 SS
6 Upper Packing	PTFE
7 Ball Stem	316 SS
8 Side Rings	316 SS
9 Lower Packing	PTFE
10 Pannel Nut	316 SS
11 Body	316 SS



BV13, BV14, BV15, BV16, BV18 SERIES BALL VALVES

Dimensions



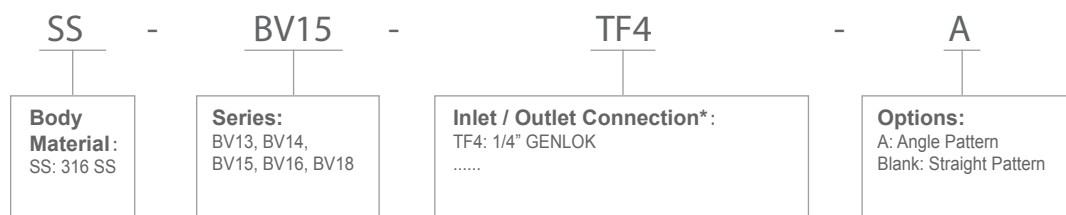
Metric

Model	Orifice (mm)	CV	Connection Type		Dimension (mm)								Panel Mounting Hole Diameter(mm)	
			Inlet	Outlet	A	B	B1	B2	C	D	E	F		G
SS-BV13-TF3M	2.4	0.2	3 mm GENLOK		51.1	25.7	25.7	24.6	8.60	7.1	28.4	34.5	14.7	15.5
SS-BV14-TF6M	3.2	0.6	6 mm GENLOK		56.1	27.9	27.9	27.2	8.60	7.1	28.4	34.5	14.7	15.5
SS-BV15-TF6M	4.8	2.4	6 mm GENLOK		60.7	30.5	30.5	29.7	11.2	9.7	38.9	39.6	19.8	20.0
SS-BV15-TF8M	4.8	1.5	8 mm GENLOK		62.5	31.2	31.2	30.5	11.2	9.7	38.9	39.6	19.8	20.0
SS-BV16-TF10M	7.1	6.0	10 mm GENLOK		78.0	38.9	38.9	36.9	14.2	14.2	50.8	52.6	28.4	28.0
SS-BV18-TF12M	9.5	12.0	12 mm GENLOK		99.6	49.8	49.8	44.2	17.5	17.5	76.2	61.7	38.1	39.5

English Units

Model	Orifice (in.)	CV	CV (Right-angle Type)	Connection Type		Dimension (in.)								Panel Mounting Hole Diameter (in.)
				Inlet	Outlet	A	B	B1	C	D	E	F	G	
SS-BV13-TF2	0.093	0.20	0.15	1/8" GENLOK		2.00	1.00	1.00	0.34	0.28	1.12	1.34	0.67	0.61
SS-BV14-FNT2	0.125	0.50	0.30	1/8" Female NPT		1.62	0.81	0.81						
SS-BV14-TF4		0.60	0.35	1/4" GENLOK		2.18	1.09	1.09	0.44	0.37	0.78			
SS-BV14-VM4		0.60	0.35	1/4" Male FSR		2.12	1.06	1.06						
SS-BV15-FNT2	0.187	1.20	0.50	1/8" Female NPT		2.00	1.00	1.00	0.44	0.37	1.53	1.53	0.78	0.79
SS-BV15-FNT4		1.20	0.75	1/4" Female NPT		2.06	1.03	1.03						
SS-BV15-NT4		1.20	0.75	1/4" Male NPT		2.00	1.00	1.00						
SS-BV15-NT4-TF4		1.60	0.75	1/4" Male NPT	1/4" GENLOK	2.19	1.00	1.19						
SS-BV15-TF4		2.40	0.90	1/4" GENLOK		2.38	1.19	1.19						
SS-BV15-TF6		2.40	0.90	3/8" GENLOK		2.56	1.28	1.28						
SS-BV15-VM4		2.40	0.90	1/4" Male FSR		2.12	1.06	1.06						
SS-BV16-FNT4		3.00	1.7	1/4" Female NPT		2.50	1.25	1.25						
SS-BV16-FNT6	0.281	3.00	1.5	3/8" Female NPT		2.50	1.25	1.25	0.56	0.56	2.00	2.06	1.12	1.10
SS-BV16-TF6		6.00	2.0	3/8" GENLOK		3.06	1.53	1.53						
SS-BV16-VM8		6.00	-	1/2" Male FSR		2.88	1.44	1.44						
SS-BV18-FNT8	0.406	6.30	3.5	1/2" Female NPT		3.12	1.56	1.56	0.69	0.69	3.00	2.44	1.50	1.56
SS-BV18-TF8		12.0	4.6	1/2" GENLOK		3.94	1.97	1.97						
SS-BV18-TF12		12.0	3.8	3/4" GENLOK		3.94	1.97	1.97						

Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

Ball Valves

■ BV33, BV34, BV35 SERIES BALL VALVES

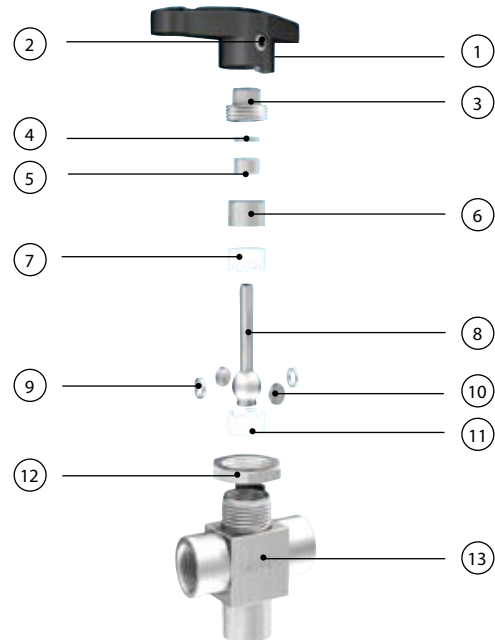


■ Features

- Switching (3-way) valve
- Maximum operating pressure: 2500 psi (172 bar)
- Operating temperature: 50°F ~ 150°F (10°C ~ 65°C)
- Handle indicates the flow direction
- End connections: GENLOK and NPT
(Gas enters from the bottom port, and exits to either the left or right port)
- Switchable flow paths
- Panel mounting available
- Top-loaded design allows in-line valve adjustment
- Bidirectional flow allows easy cleaning and purging
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage at 1000 psi
Adjust packing nut when the working pressure is higher than 1000 psi to prevent leakage.

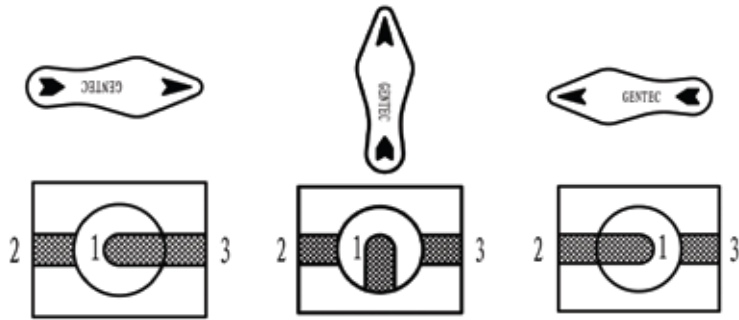
Components	Material
1 Handle	Nylon
2 Set Screw	Stainless Steel
3 Packing Bolt	316 SS
4 Upper Gland	316 SS
5 Bushing	PTFE
6 Lower Gland	316 SS
7 Upper Packing	PTFE
8 Ball Stem	316 SS
9 Side Rings	316 SS
10 Side Discs	316 SS
11 Lower Gland	PTFE
12 Pannel Nut	316 SS
13 Body	316 SS

■ Materials of Construction

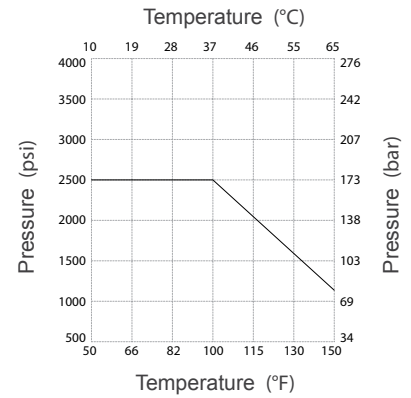


BV33, BV34, BV35 SERIES BALL VALVES

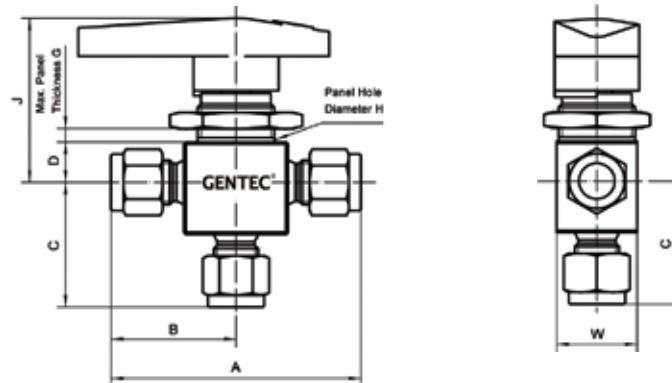
Flow Path Designator



Flow



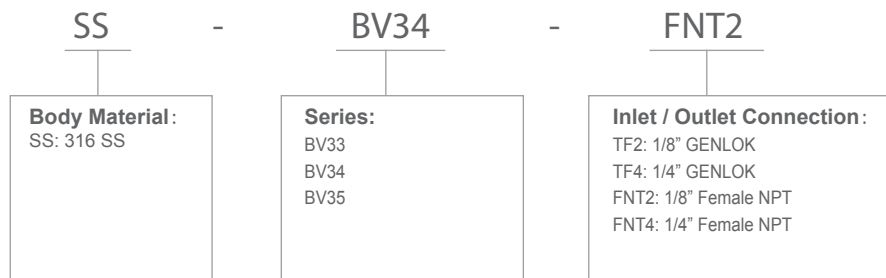
Dimensions



English Units

Model	Orifice (in.)	CV	Connection Type Inlet/Outlet	Dimension (in.)									
				A	B	C	D	F	G	H	J	w	
SS-BV33-TF2	0.093	0.15	1/8" GENLOK	2.01	1.01	0.97	0.34	0.13	1/4	19/32	1.36	0.58	
SS-BV35-TF4	0.187	0.90	1/4" GENLOK	2.39	1.20	1.17	0.44	1.53	3/16	25/32	1.56	0.78	
SS-BV34-FNT2	0.125	0.30	1/8" Female NPT	1.63	0.81	0.81	0.34	0.13	1/4	19/32	1.36	0.58	
SS-BV35-FNT4	0.187	0.75	1/4" Female NPT	2.06	1.03	1.03	0.44	1.53	3/16	25/32	1.56	0.78	

Ordering Information



■ BV42 SERIES BALL VALVES

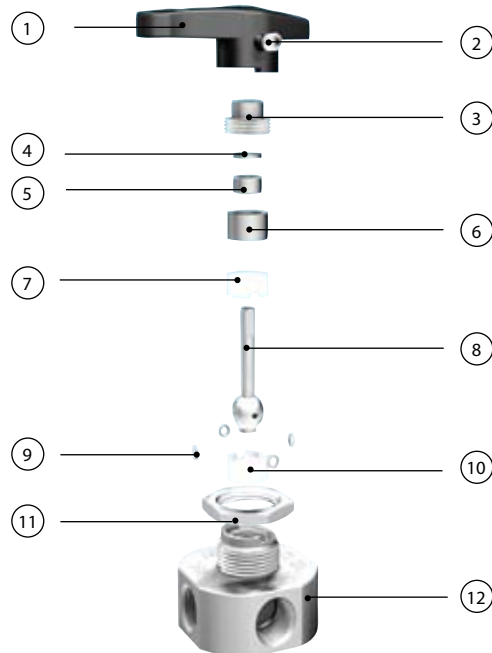


■ Features

- Crossover (4 way) valve
- Maximum operating pressure: 2500 psi (172bar)
- Operating temperature: 50°F ~ 150°F (10°C ~ 65°C)
- End connection: NPT
- Capsule packing allows crossover of two streams
- Panel mounting available
- Top-loaded design allows in-line adjustment
- Multi-directional flow allows easy cleaning and purging
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage at 1000 psi
Adjust packing nut when working pressure is higher than 1000 psi to prevent leakage.

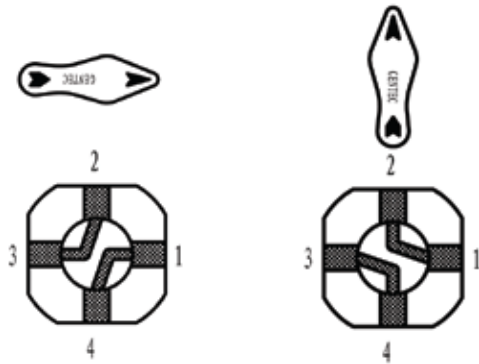
■ Materials of Construction

Components	Material
1 Handle	Nylon
2 Set Screw	Stainless steel
3 Packing Bolt	316 SS
4 Upper Giand	316 SS
5 Bushing	PTFE
6 Lower Gland	316 SS
7 Upper Packing	PTFE
8 Ball Stem	316 SS
9 Side Rings	316 SS
10 Lower Gland	PTFE
11 Pannel Nut	316 SS
12 Body	316 SS

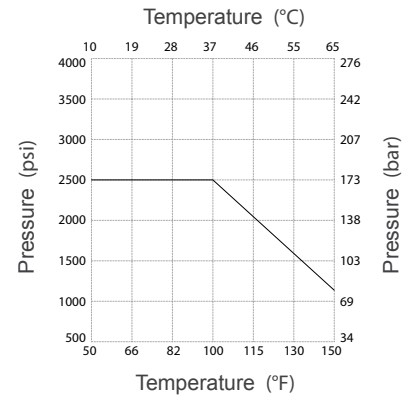


BV42 SERIES BALL VALVES

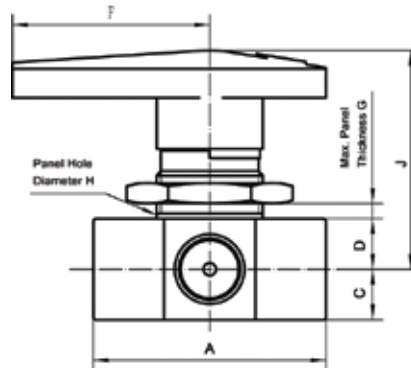
Flow Path Designator



Flow



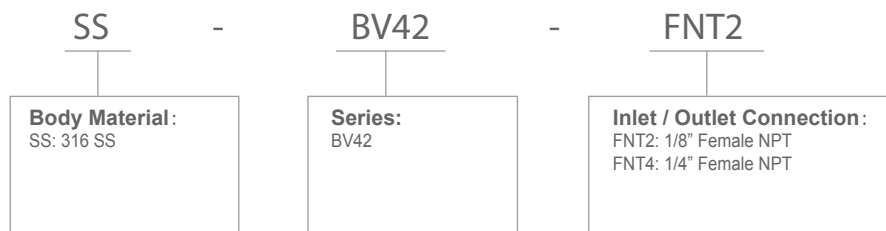
Dimensions



English Units

Model	Orifice (in.)	CV	Connection Type Inlet/Outlet	Dimension (in.)							
				A	B	C	D	F	G	H	J
SS-BV42-FNT2	0.062	0.08	1/8" Female NPT	1.55	0.78	-	0.44	1.53	3/16	29/32	1.69
SS-BV42-FNT4	0.062	0.08	1/4" Female NPT	1.81	0.91	-	0.44	1.53	3/16	29/32	1.69

Ordering Information



■ BV52 SERIES BALL VALVES

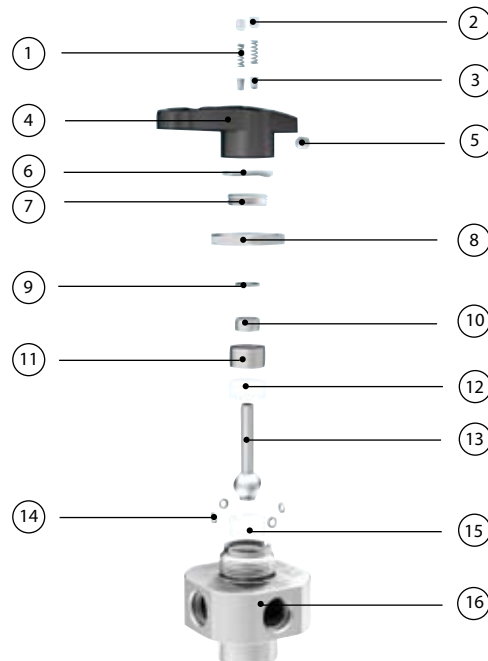


■ Features

- Switching (5 way) valve
- Maximum operating pressure: 2500 psi (172bar)
- Operating temperature: 50°F ~ 150°F (10°C ~ 65°C)
- Handle indicates flow direction
- End connection: Female NPT
- The gas enters through the bottom port and exits in one of four ports
- The spring-loaded indexing pins on the handle assures accurate alignment and maximize flow
- Panel mounting available
- Top-loaded design allows in-line valve adjustment
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage at 1000 psi
Adjust packing nut when the working pressure is higher than 1000 psi to prevent leakage.

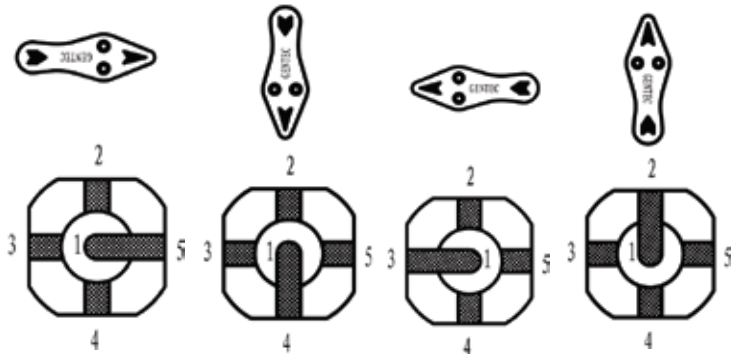
■ Materials of Construction

Components	Material
1 Set Screw	Stainless steel
2 Screw	316 SS
3 Pin	316 SS
4 Handle	Nylon
5 Set Screw	Stainless Steel
6 Gland	ST12
7 Packing Bolt	316 SS
8 Pannel Nut	316 SS
9 Upper Gland	316 SS
10 Bushing	PTFE
11 Lower Gland	316 SS
12 Upper Gland	PTFE
13 Ball Stem	316 SS
14 Side Rings	316 SS
15 Lower Gland	PTFE
16 Body	316 SS

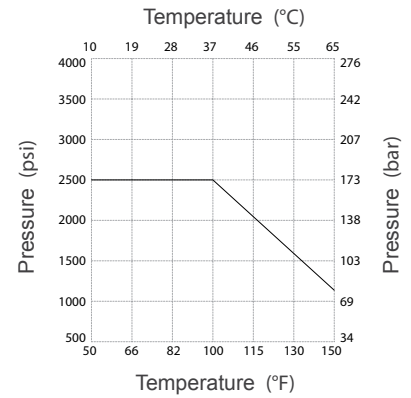


BV52 SERIES BALL VALVES

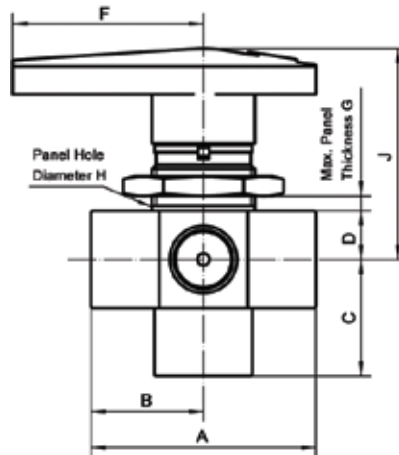
Flow Path Designator



Flow



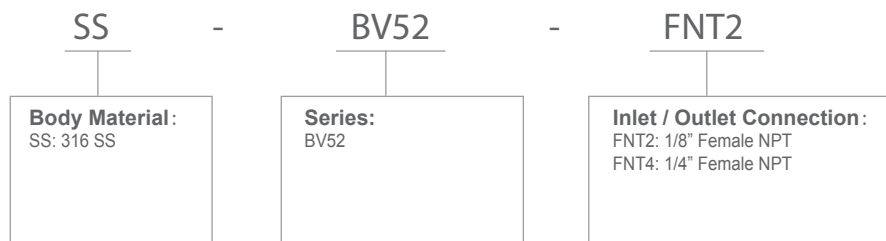
Dimensions



English Units

Model	Connection Type Inlet/Outlet	Orifice (in.)	CV	Dimension (in.)							
				A	B	C	D	F	G	H	J
SS-BV52-FNT2	1/8" Female NPT	0.062	0.07	1.55	0.78	0.88	0.44	1.53	5/32	29/32	1.69
SS-BV52-FNT4	1/4" Female NPT	0.062	0.07	1.81	0.91	0.85	0.44	1.53	5/32	29/32	1.69

Ordering Information



Ball Valves

■ BV112, BV113, BV114, BV116, BV118 SERIES BALL VALVES

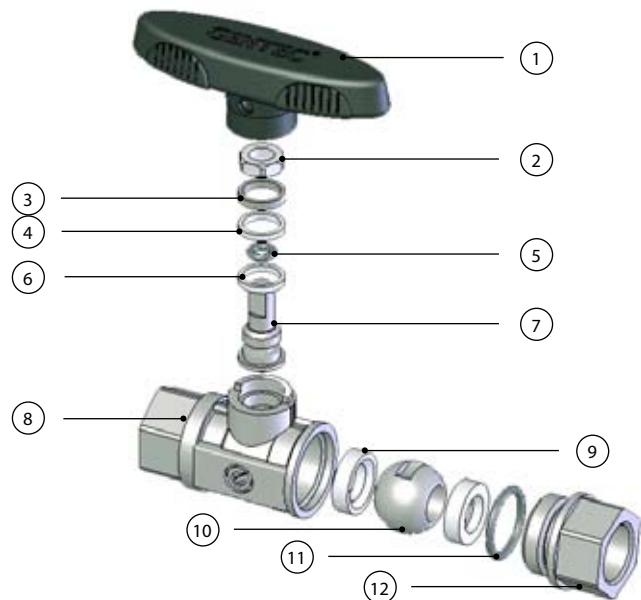


■ Features

- Maximum operating pressure: 1000 psi (69 bar)
- Operating temperature: -40°F ~ 248°F (-40°C ~ 120°C)
- End connections: GENLOK and NPT
(please refer to the tables on next page for the specifications)
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage

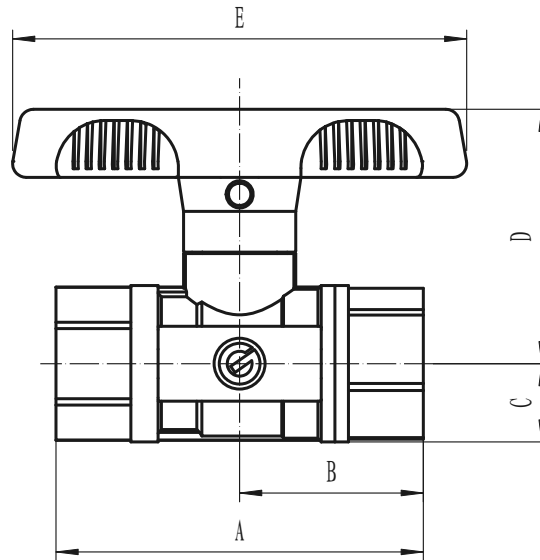
■ Materials of Construction

Components	Material
1 Handle	Nylon
2 Lock Nut	316 SS
3 Upper Gland	316 SS
4 Bushing	PTFE
5 O-ring	CR
6 Bushing	PTFE
7 Ball Stem	316 SS
8 Body	316 SS
9 Packing	PTFE
10 Ball	316 SS
11 O-ring	PTFE
12 Connector	316 SS



■ BV112, BV113, BV114, BV116, BV118 SERIES BALL VALVES

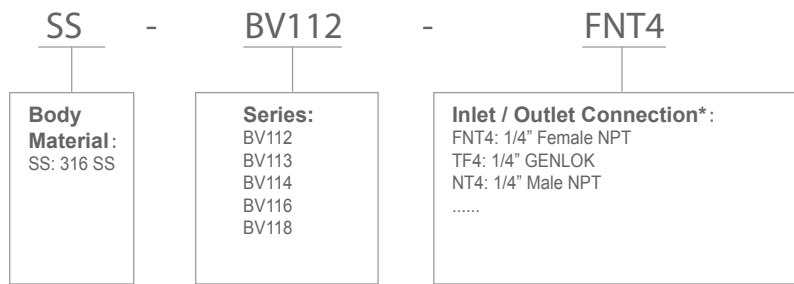
■ Dimensions



English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)				
			Inlet	Outlet	A	B	C	D	E
SS-BV112-TF4	0.20	1.3	1/4" GENLOK		3.15	1.57	0.45	1.48	2.63
SS-BV112-FNT4	0.20	1.3	1/4" Female NPT		2.13	1.06	0.45	1.48	2.63
SS-BV112-NT4	0.20	1.3	1/4" Male NPT		2.83	1.42	0.45	1.48	2.63
SS-BV113-TF6	0.28	2.6	3/8" GENLOK		3.31	1.65	0.45	1.48	2.63
SS-BV113-FNT6	0.28	2.6	3/8" Female NPT		2.13	1.06	0.45	1.48	2.63
SS-BV113-NT6	0.28	2.6	3/8" Male NPT		2.83	1.42	0.45	1.48	2.63
SS-BV114-TF8	0.41	10.5	1/2" GENLOK		4.17	2.09	0.77	2.07	3.70
SS-BV114-FNT8	0.41	10.5	1/2" Female NPT		3.31	1.65	0.77	2.07	3.70
SS-BV116-TF12	0.51	13.5	3/4" GENLOK		4.17	2.09	0.77	2.07	3.70
SS-BV116-FNT12	0.51	13.5	3/4" Female NPT		3.31	1.65	0.77	2.07	3.70
SS-BV118-TF16	0.63	18	1" GENLOK		4.25	2.13	0.77	2.07	3.70

■ Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

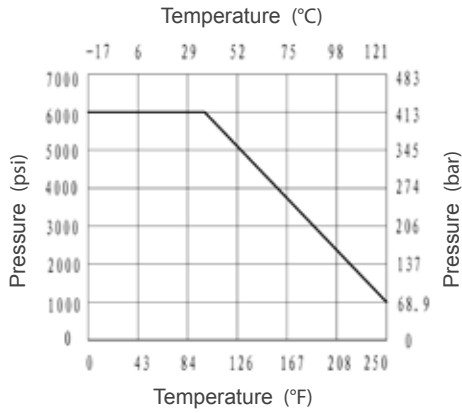
Ball Valves

■ BV615 SERIES BALL VALVES



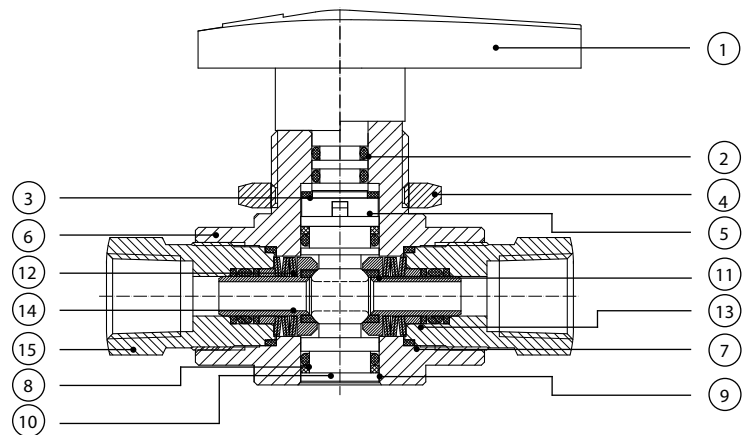
■ Features

- Maximum operating pressure: 6000 psi (415 bar)
- Operating temperature: 1.4°F ~ 250°F (-17°C ~ 121°C)
- Handle indicates flow direction
- End connections: GENLOK and Female NPT
(please refer to the specification tables for available dimensions)
- Panel mounting available
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage with Nitrogen at 6000 psi



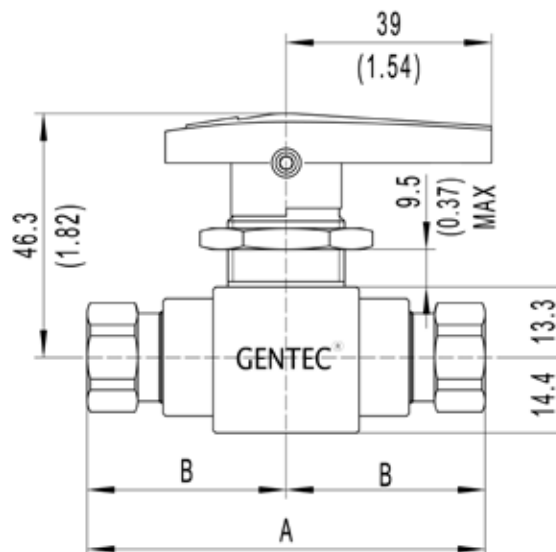
■ Materials of Construction

Components	Material
1 Handle	Nylon
2 O-ring	Fluororubber
3 Spacer	Enhanced PTFE
4 Mounting Nut	316 SS
5 Upper Valve Stem	316 SS
6 Valve Body	316 SS
7 End Screw Seal Ring	Enhanced PTFE
8 O-ring	Fluororubber
9 Stop Collar	Enhanced PTFE
10 Bottom Valve Stem	316 SS
11 Valve Base	PCTFE
12 Resilient Pad	60Si2Mn
13 Stop Collar	Enhanced PTFE
14 Valve Base Shelf	316 SS
15 End Threaded Fitting	316 SS



BV615 SERIES BALL VALVES

Dimensions



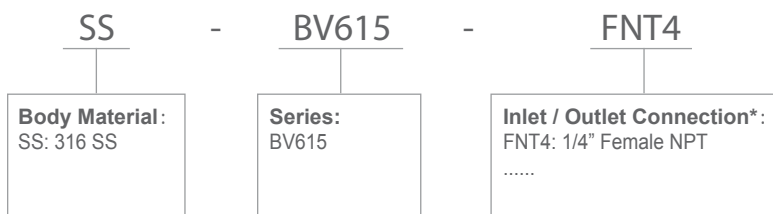
Metric

Model	Orifice (mm)	CV	Connection Type		Dimension (mm)		Panel Mounting Hole Diameter(mm)
			Inlet	Outlet	A	B	
SS-BV615-TF6M	4.8	1.6	6mm GENLOK		105	52.6	23.2
SS-BV615-TF8M	4.8	1.5	8mm GENLOK		105	52.6	23.2
SS-BV615-TF10M	4.8	1.3	10mm GENLOK		112	56.0	23.2
SS-BV615-TF12M	4.8	1.0	12mm GENLOK		117	58.5	23.2

English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)		Panel Mounting Hole Diameter (in.)
			Inlet	Outlet	A	B	
SS-BV615-FNT2	0.187	1.2	1/8" Female NPT		2.94	1.47	0.91
SS-BV615-FNT4	0.187	1.0	1/4" Female NPT		2.93	1.47	0.91
SS-BV615-TF4	0.187	1.6	1/4" GENLOK		4.14	2.07	0.91
SS-BV615-TF6	0.187	1.4	3/8" GENLOK		4.39	2.19	0.91
SS-BV615-TF8	0.187	1.0	1/2" GENLOK		4.60	2.30	0.91

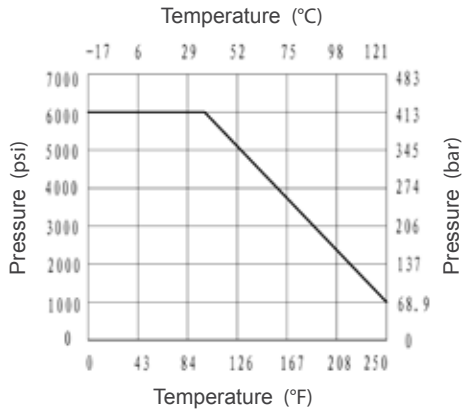
Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

Ball Valves

■ BV635 SERIES BALL VALVES

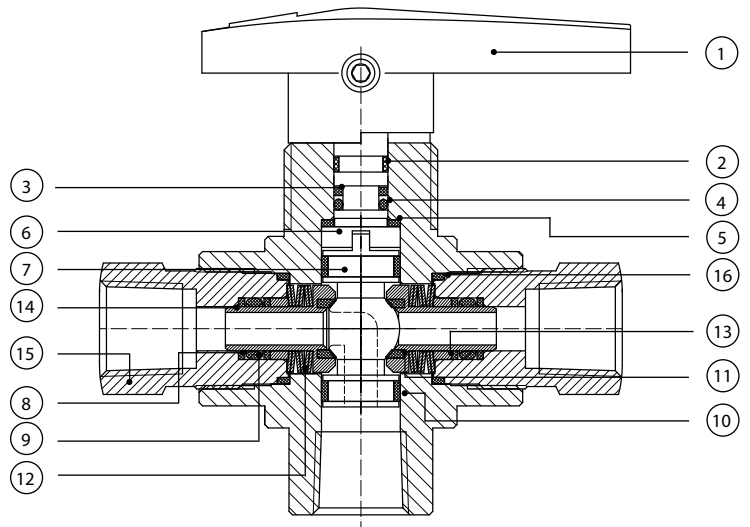


Components	Material
1 Handle	Nylon
2 slip ring	PEEK
3 Stop Collar	Enhanced PTFE
4 O-ring	Fluororubber
5 Spacer	PEEK
6 Upper Valve Stem	316 SS
7 Bottom Valve Stem	316 SS
8 Stop Collar	Enhanced PTFE
9 O-ring	Fluororubber
10 Slip Ring	PEEK
11 Valve Seat	PCTFE/PEEK
12 Resilient Pad	60Si12Mn
13 Stop Collar	316 SS
14 End Threaded Fitting	316 SS
15 Valve Seat Holder	316 SS
16 Seal Ring	PTFE

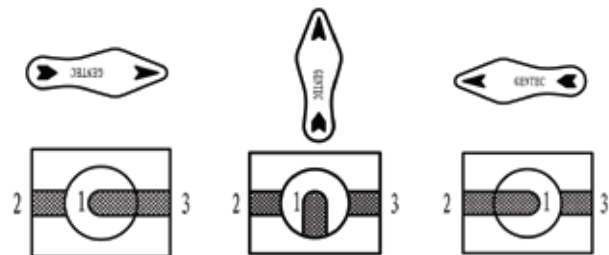
■ Features

- Maximum operating pressure: 6000 psi (415 bar)
- Operating temperature: 1.4°F ~ 250°F (-17°C ~ 121°C)
- Handle indicates flow direction
- Inlet Connection: 1/4" NPT
Outlet connections: GENLOK and NPT
(please refer to the specification tables for available dimensions)
- Panel mounting available
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Every valve is factory tested for leakage with nitrogen at 6000 psi

■ Materials of Construction

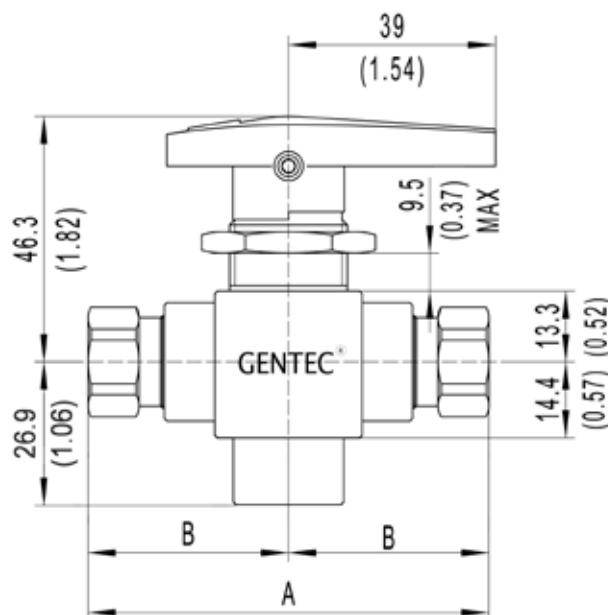


■ Flow Path Designator



BV635 SERIES BALL VALVES

Dimensions



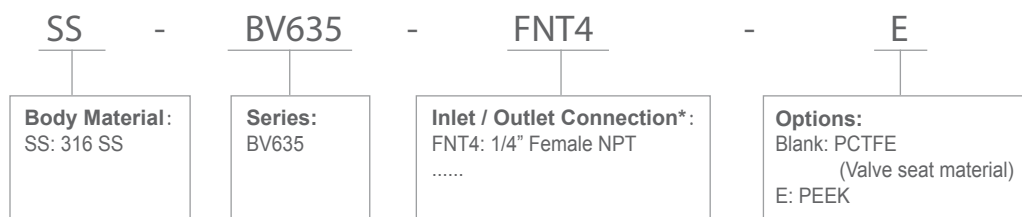
Metric

Model	Orifice (mm)	CV	Connection Type		Dimension (mm)		Panel Mounting Hole Diameter (mm)
			Inlet	Outlet	A	B	
SS-BV635-TF6M	4.8	1.6	1/4" Female NPT	6mm GENLOK	105	52.6	23.2
SS-BV635-TF8M	4.8	1.5		8mm GENLOK	105	52.6	23.2
SS-BV635-TF10M	4.8	1.3		10mm GENLOK	112	56.0	23.2
SS-BV635-TF12M	4.8	1.0		12mm GENLOK	117	58.5	23.2

English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)		Panel Mounting Hole Diameter (in.)
			Inlet	Outlet	A	B	
SS-BV635-FNT2	0.187	1.2	1/4" Female NPT	1/8" Female NPT	2.94	1.47	0.91
SS-BV635-FNT4	0.187	1.0		1/4" Female NPT	2.93	1.47	0.91
SS-BV635-TF4	0.187	1.6		1/4" GENLOK	4.14	2.07	0.91
SS-BV635-TF6	0.187	1.4		3/8" GENLOK	4.39	2.19	0.91
SS-BV635-TF8	0.187	1.0		1/2" GENLOK	4.60	2.30	0.91

Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

■ DV11 SERIES DIAPHRAGM VALVES



■ Features

- Suitable for high purity applications
- NPT connection
- Internal spring-less design
- Metal-to-metal seal minimizes particle generation and ensures purity integrity in the flow passages
- Long service life
- 100% Helium leak tested

■ Materials

- Body: Plated Brass
- Seat: PCTFE
- Diaphragm: Elgiloy®

■ Specifications

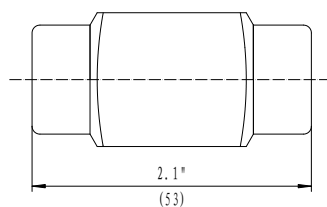
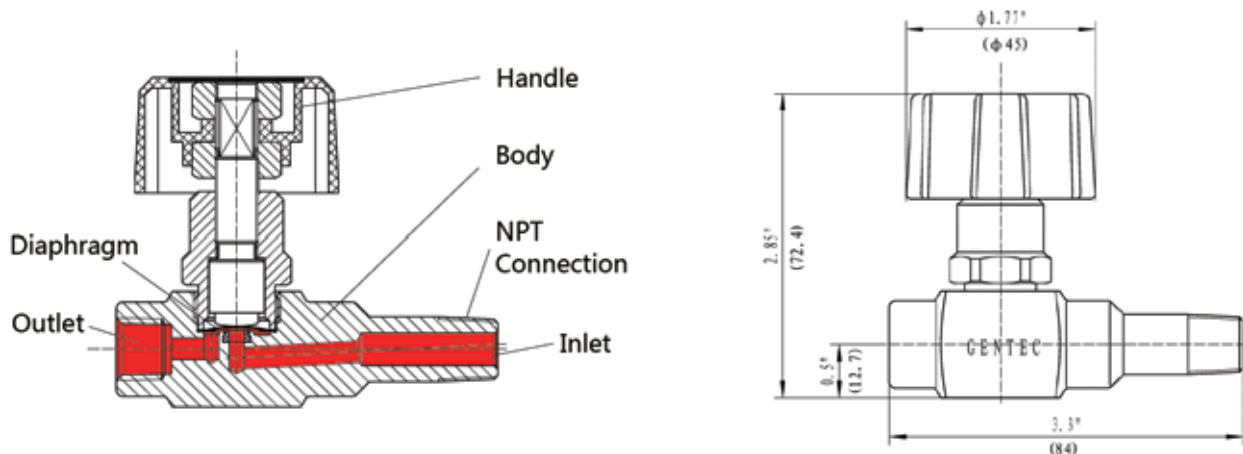
- Cv: 0.17
- Leak Rate
 - Inboard: 1×10^{-9} atm cc/sec He
 - Across Seat: 4×10^{-9} atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

■ Operating Conditions

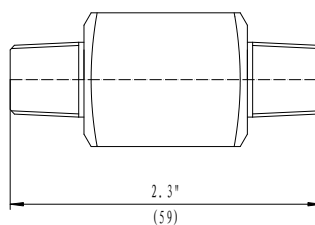
- Maximum operating pressure: 300 psi (20 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

DV11 SERIES DIAPHRAGM VALVES

Dimensions



FNT4



NT4

Ordering Information

BP	-	DV11	N	L	-	FNT4
Body Material: BP: Plated Brass		Model: DV11	Actuation: N: Manual	Working Pressure: L: 300 psi		Inlet / Outlet: NT4: 1/4" Male NPT FNT4: 1/4" Female NPT

■ DV13 SERIES DIAPHRAGM VALVES



■ Features

- Suitable for high purity applications
- NPT connection
- Internal spring-less design
- Metal-to-metal seal minimizes particle generation and ensures purity integrity in the flow passages
- Long service life
- 100% Helium leak tested

■ Materials

- Body: Brass, Plated Brass
- Seat: PCTFE
- Diaphragm: Elgiloy®

■ Specifications

- Cv: 0.17
- Leak Rate
 - Inboard: 1×10^{-9} atm cc/sec He
 - Across Seat: 4×10^{-9} atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

■ Operating Conditions

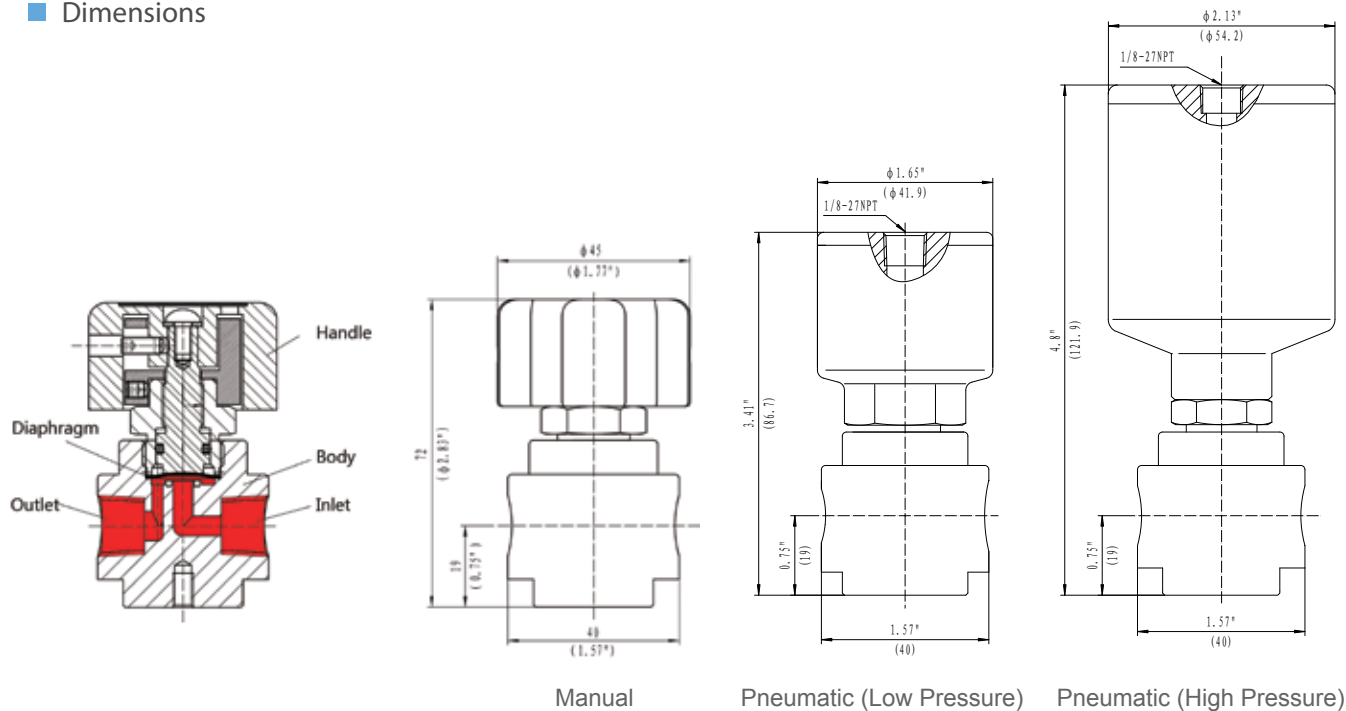
- Maximum operating pressure: 3500 psi (240 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

■ Pneumatic Actuator

- Operating pressure: 70-125 psi
- Inlet Connection: 1/8" NPT(F)
- Working Status: Normally closed

DV13 SERIES DIAPHRAGM VALVES

Dimensions



Flow Path Designator

Type	Three-way			Four-way	
Flow schematic	B	C	D	I	J
Red arrow indicates inlet, Blue arrow indicates outlet*					
Flow schematic	E	F		K	L
Red arrow indicates inlet, Blue arrow indicates outlet*					

*All schematics are from top view

Ordering Information

BP	- DV13	M	H	B	-	FNT4	- NO
Body Material: B: Brass BP: Plated Brass	Model: DV13	Actuation: M: Manual P: Pneumatic actuator (Normally closed)	Working Pressure: H: 3500 psi L: 300 psi	Flow Path: Blank: In-line Type Three-way valve B: Right inlet, left / top outlet C: Right inlet, left / bottom outlet D: Right / top inlet, left outlet E: Right inlet, top / bottom outlet F: Top / bottom inlet, left outlet Please refer to Flow Path Designator table above		Inlet / Outlet: FNT4	Options: Blank: Standard NO: Normally open (Pneumatic, Low Pressure)

Diaphragm Valves

■ DV51 SERIES DIAPHRAGM VALVES



Handle



Pneumatic (150 psi)



Handwheel handle

■ Features

- Suitable for high purity applications
- Connections: FSR, NPT and GENLOK
- Internal spring-less design
- Metal-to-metal seal minimizes particle generation and ensures purity integrity in the flow passages
- Long service life
- 100% Helium leak tested

■ Materials

- Body: 316L
- Seat: PCTFE
- Diaphragm: Elgiloy®

■ Specifications

- Cv: 0.2
- Leak Rate
 - Inboard: 1×10^{-9} atm cc/sec He
 - Across Seat: 4×10^{-9} atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

■ Operating Conditions

- Maximum operating pressure: 300 psi (20 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

■ Pneumatic Actuator

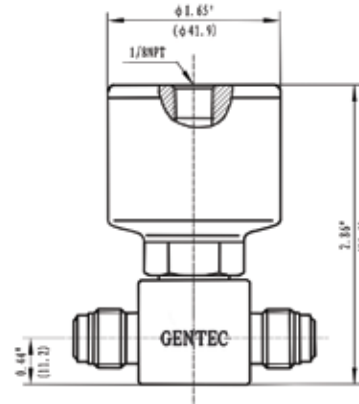
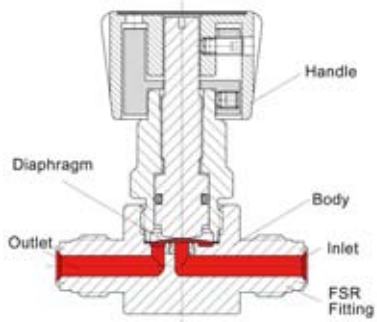
- Operating pressure: 70-125 psi (DV51PL)
60-90 psi (DV51PS)
- Inlet Connection: 1/8" NPT(F)
- Working Status: Normally closed

■ Surface Finish

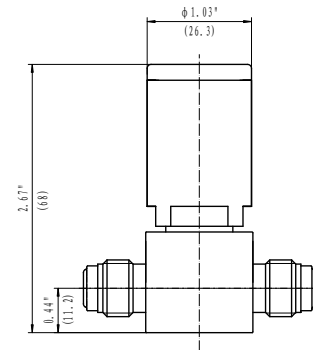
- Standard Ra: 20 μ in

DV51 SERIES DIAPHRAGM VALVES

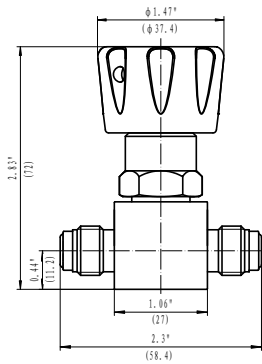
Dimensions



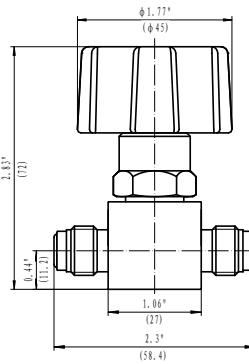
Pneumatic (300 psi)



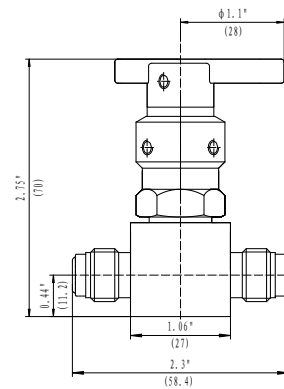
Pneumatic (150 psi)



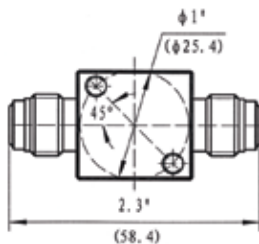
Handwheel (with status window)



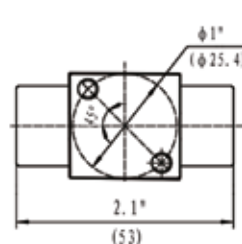
Handwheel (without status window)



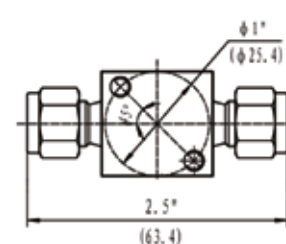
Handle (300 psi)



Face Seal Male Fittings



NPT Fittings



GENLOK Fittings

Ordering Information

SL	- DV51	M	L	- VM4 - NT4	- NO
Body Material: SL: 316L	Model: DV51	Actuation: M: Handwheel (with status window) P: Pneumatic actuator (normally closed) B: Handle N: Handwheel (without status window)	Working Pressure: L: 300 psi S: 150 psi	Inlet / Outlet: NT4 FNT4 TF4 VM4	Options: Blank: Standard NO: Normally open (Pneumatic)

■ DV53 SERIES DIAPHRAGM VALVES



■ Features

- Suitable for high purity applications
- Connections: FSR, NPT and GENLOK
- Metal-to-metal seal minimizes particle generation and ensures purity integrity in the flow passages
- Long service life
- 100% Helium leak tested

■ Materials

- Body: 316L
- Seat: PCTFE
- Diaphragm: Elgiloy®

■ Specifications

- Cv: 0.16
- Leak Rate
 - Inboard: 1×10^{-9} atm cc/sec He
 - Across Seat: 4×10^{-9} atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

■ Operating Conditions

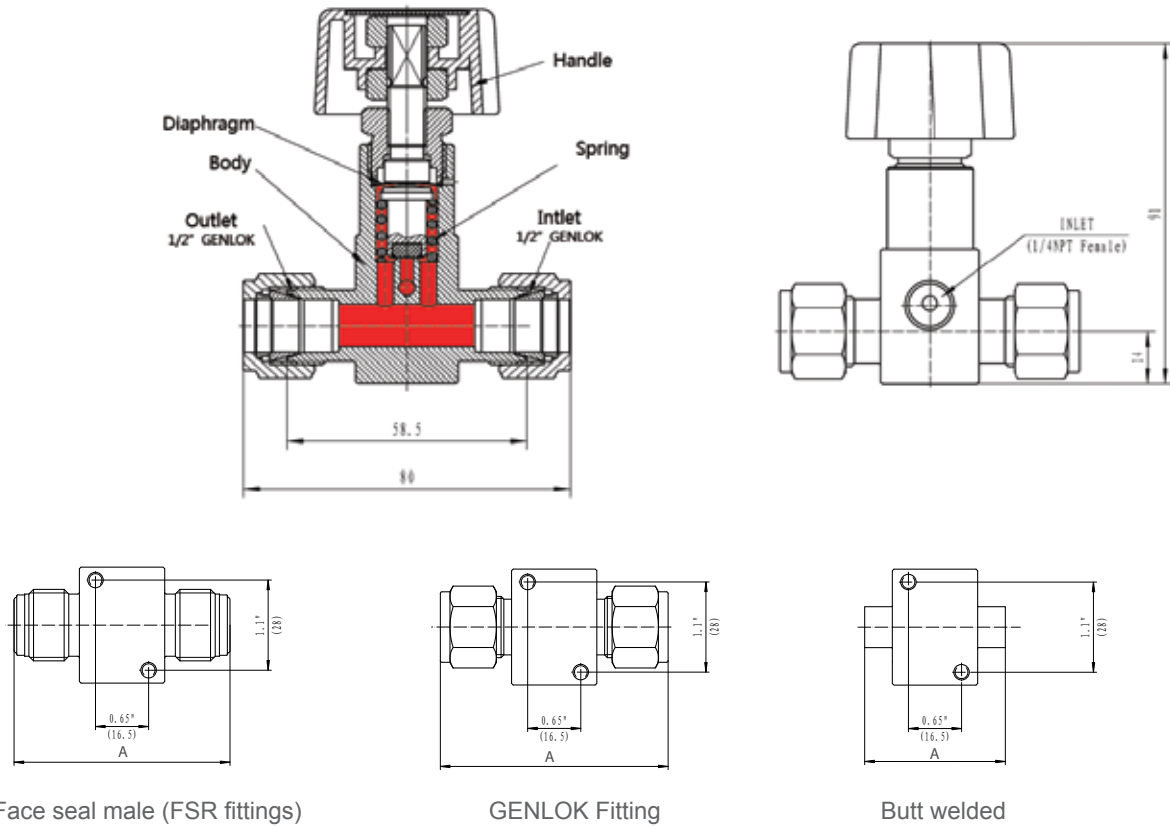
- Maximum operating pressure: 3500 psi (240 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

■ Surface Finish

- Standard Ra: 20 μ m

DV53 SERIES DIAPHRAGM VALVES

Dimensions



Flow Path Designator

Type	Three-way	Four-way
Flow schematic	E	I
Red arrow indicates inlet, Blue arrow indicates outlet*		

*All schematics are from top view

Inlet	Outlet	A (mm)
FNT4	TF6	50.3
FNT4	TF8	58.5
FNT4	TW6	58.5
FNT4	TW8	39.5
FNT4	VM8	67.1

Ordering Information

SL	-	DV53	N	H	E	-	FNT4	-	TF8
Body Material: SL: 316SL		Model: DV53	Actuation: N: Manual M: Handwheel (With display)	Working Pressure: H: 3500 psi	Flow Path: Three-way valve E: Right inlet, top / bottom outlet Four-way valve I: Two inlet / two outlet Please refer to Flow Path Designator table above		Inlet Connection: FNT4		Outlet Connection: TF6, TF8 TW6, TW8 VM8

Diaphragm Valves

■ DV54 SERIES DIAPHRAGM VALVES



Manual
(Low Pressure)



Manual
(High Pressure)

■ Surface Finish

- Standard Ra: 10-15 μin

■ Internal Volume

- 1.6 cc

■ Features

- Suitable for high purity applications
- 316L stainless steel enhances weldability and resistance to corrosion
- Both manual and pneumatic actuation are available
- Face seal fittings (FSR) or butt welded connections
- Internal spring-less design
- Metal-to-metal seal minimizes particle generation and ensures high purity in the flow passages
- Handle includes a status window to indicate open / closed position
- Long service life
- 100% Helium leak tested

■ Materials

- Body: 316L
- Seat: PCTFE*, Vespel®**
- Diaphragm: Elgiloy®

■ Specifications

- Cv: 0.3
- Leak Rate
 - Inboard: 1×10^{-9} atm cc/sec He
 - Across Seat: 4×10^{-9} atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

■ Operating Conditions

- Maximum operating pressure: 300 psi (20 bar),
3500 psi (240 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

■ Pneumatic Actuator

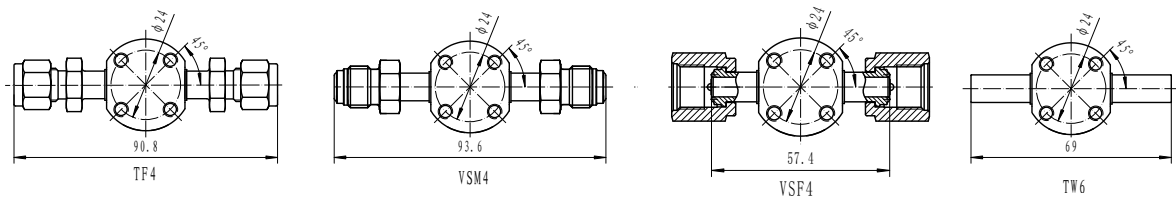
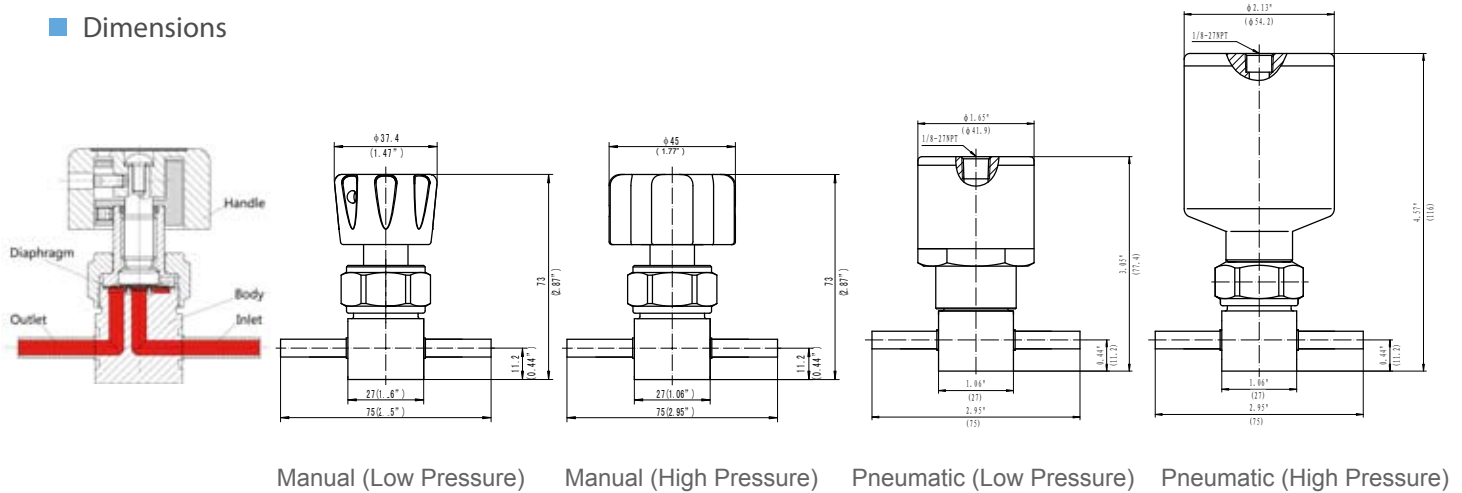
- Operating pressure: 70-125 psi
- Inlet Connection: 1/8" NPT(F)
- Working Status: Normally closed

* Standard Material

** Vespel® seat is recommended for Nitrous Oxide (N₂O) service but is not available for low pressure pneumatic actuation

DV54 SERIES DIAPHRAGM VALVES

Dimensions



Flow Path Designator

Type	Bypass	Three-way			Four-way		Rear-entry	
Flow schematic	P	B	C	D	I	J	A	T
Red arrow indicates inlet, Blue arrow indicates outlet*								
Flow schematic	Q	E	F	H	K	L	R	
Red arrow indicates inlet, Blue arrow indicates outlet*								

*All schematics are from top view

Ordering Information

SL	-	DV54	M	H	B	-	FNT4	-	NO
Body Material: SL: 136L		Model: DV54	Actuation: M: Manual P: Pneumatic Actuator (Normally closed)	Working Pressure: H: 3500 psi L: 300 psi	Flow Path: Blank: In-line Type Elbow Type P: East in / North out Q: East in / South out Three-way valve B: Right inlet, left / top outlet C: Right inlet, left / bottom outlet D: Right / top inlet, left outlet E: Right inlet, top / bottom outlet F: Top / bottom inlet, left outlet H: Left / right inlet, top outlet Please refer to Flow Path Designator table above		Inlet / Outlet*: TW4 TW6 VSM4 VSF4 TF4	Options: Blank: Standard NO: Normally open (Pneumatic, Low Pressure)	

*: For standard models, if the high pressure (inlet) connections and low pressure (outlet) connections are same, list only one..
If different, the prior represents inlet connection, and the latter represents outlet connection.

■ DV74 SERIES DIAPHRAGM VALVES



Manual
(High Pressure)



Pneumatic
(High Pressure)

■ Surface Finish

- Standard Ra(EP): 7 µm

■ Internal Volume

- 1.6 cc

■ Features

- Suitable for ultra high purity applications
- 316L stainless steel enhances weldability and resistance to corrosion
- Both manual and pneumatic actuation are available
- Face seal fittings (FSR) or butt welded connections
- Internal spring-less design
- Metal-to-metal seal minimizes particle generation and ensures high purity in the flow passages
- Handle includes a status window to indicate open / closed position
- Long service life
- 100% Helium leak tested
- Multiple flow paths available
- Electropolished

■ Materials

- Body: 316L
- Seat: PCTFE*, Vespel®**
- Diaphragm: Elgiloy®

■ Specifications

- Cv: 0.3
- Leak Rate
 - Inboard: 1×10^{-9} atm cc/sec He
 - Across Seat: 4×10^{-9} atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

■ Operating Conditions

- Maximum operating pressure: 300 psi (20 bar),
3500 psi (240 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

■ Pneumatic Actuator

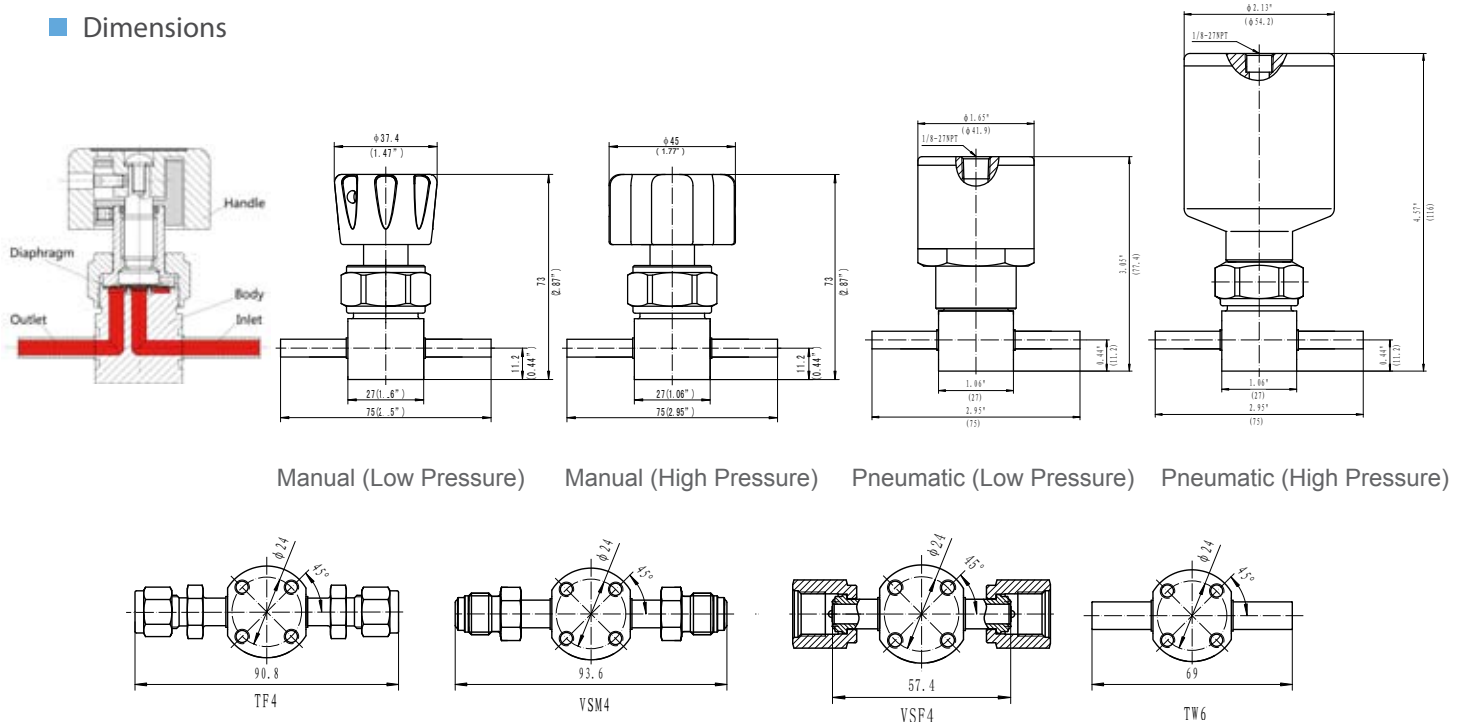
- Operating pressure: 70-125 psi
- Inlet Connection: 1/8" NPT(F)
- Working Status: Normally closed

* Standard Material

** Vespel® seat is recommended for Nitrous Oxide (N₂O) service but is not available for low pressure pneumatic actuation

DV74 SERIES DIAPHRAGM VALVES

Dimensions



Flow Path Designator

Type	Elbow	Three-way			Four-way		Rear-entry	
Flow schematic	P	B	C	D	I	J	A	T
Red arrow indicates inlet, Blue arrow indicates outlet*								
Flow schematic	Q	E	F	H	K	L	R	
Red arrow indicates inlet, Blue arrow indicates outlet*								

*All schematics are from top view

Ordering Information

SL	-	DV74	M	H	B	-	FNT4	-	NO
Body Material: SL: 136L		Model: DV74	Actuation: M: Manual P: Pneumatic Actuator (Normally closed)	Working Pressure: H: 3500 psi L: 300 psi	Flow Path: Blank: In-line Type Elbow Type P: East in / North out Q: East in / South out Three-way valve B: Right inlet, left / top outlet C: Right inlet, left / bottom outlet D: Right / top inlet, left outlet E: Right inlet, top / bottom outlet F: Top / bottom inlet, left outlet H: Left / right inlet, top outlet Please refer to Flow Path Designator table above		Inlet / Outlet*: TW4 TW6 VSM4 VSF4 TF4	Options: Blank: Standard NO: Normally open (Pneumatic, Low Pressure)	

*: For standard models, if the high pressure (inlet) connections and low pressure (outlet) connections are same, list only one..
If different, the prior represents inlet connection, and the latter represents outlet connection.



Manual

■ Features

- Suitable for general and high purity applications
- Manual or pneumatic actuation
- End connections: GENLOK , NPT , Face seal fittings (FSR) and butt welded
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Metal-to-metal diaphragm seal minimizes particle generation
- Long service life
- 100% Helium-leak tested



Pneumatic

■ Specifications

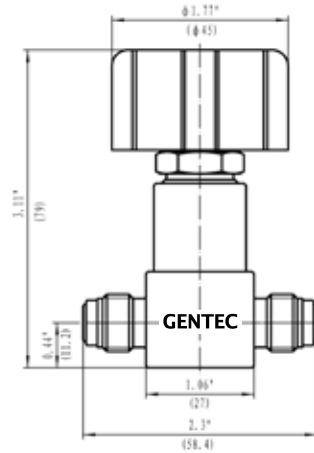
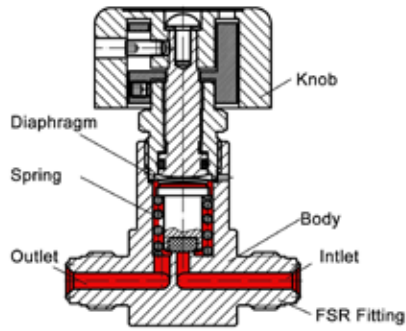
- Body: 316L stainless steel
- Seat: PCTFE*, Vespel®**
- Diaphragm: Elgiloy®
- Maximum operating pressure: 3500 psi (240 bar)
- Operating temperature: -40°F ~ 150°F (40°C ~ 65°C)
- Cv: 0.16
- Standard Ra: 15-20 µin (BA)

* Standard Material

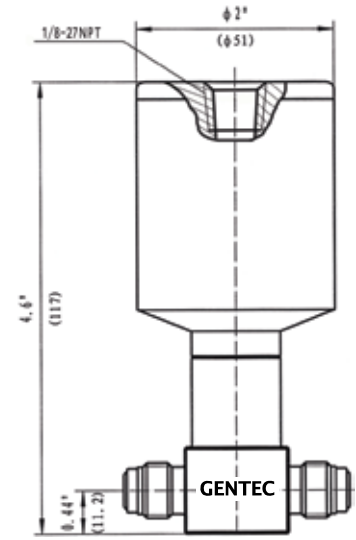
** Vespel® seat is recommended for Nitrous Oxide (N2O) service but is not available for low pressure pneumatic actuation.

DV82 SERIES DIAPHRAGM VALVES

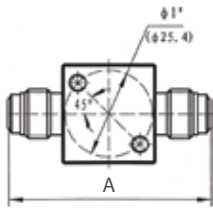
Dimensions



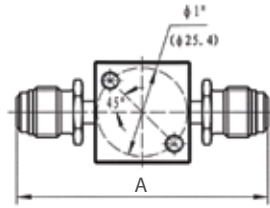
Manual



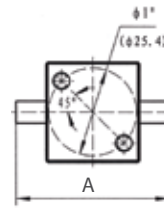
Pneumatic



Face seal male (FSR fittings)



Face seal swivel male (FSR fittings)



Butt welded

Connections*	A (mm)
VM4	58.4
VM8	67.6
VSM4	70.8
VSF4	70.6
TW4	44.2
TW8	44.2

*: Applies to both inlet & outlet connections

Ordering Information

SL	- DV82	M	H	- VM4	- K	- IS
Body Material: SL: 316 L	Model: DV82	Actuation: M: Manual P: Pneumatic	Working Pressure: H: 3500 psi	Inlet / Outlet: VM4, VM8 VSM4, VSM8 VSF4, VSF8 TW4, TW8	Valve Seat: K: PCTFE V: Vespel®	Option: IS: Electronic indicator*

*For pneumatic configuration only

Inlet & Outlet Connections		
Type	Dimensions	
VM: Face seal male (FSR fittings)	4, 8	4 = 1/4" 6 = 3/8" 8 = 1/2"
VSM: Face seal swivel male (FSR fittings)	4, 8	
VSF: Face seal swivel female (FSR fittings)	4, 8	
TW: Butt welded	4, 6, 8	

Diaphragm Valves

■ DV84 SERIES DIAPHRAGM VALVES



Manual



Pneumatic

■ Features

- Suitable for ultra high purity applications
- Both manual and pneumatic actuation are available
- End connections: Face seal fittings (FSR) and butt welded
- Internal spring-less design and metal-to-metal seal minimizes particle generation and ensures “purity integrity” in the flow passages
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Long service life
- 100% Helium-leak tested

■ Specifications

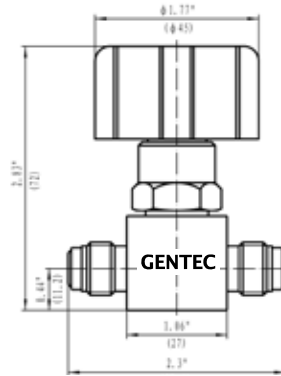
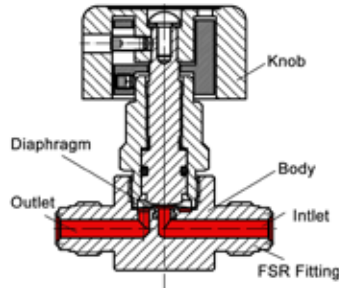
- Body: 316L stainless steel
- Seat: PCTFE*, Vespel®**
- Diaphragm: Elgiloy®
- Maximum operating pressure:
300 psi (20 bar), 3500 psi (240 bar)
- Operating temperature:
-40°F ~ 150°F (-40°C ~ 65°C)
- Cv: 0.17
- Standard Ra: 10 ~ 15 µin (BA)
Optional: 7 µin (EP)

* Standard Material

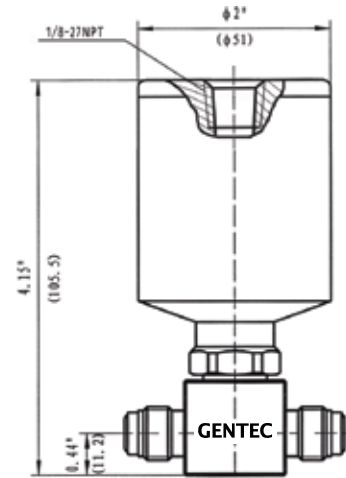
** Vespel® seat is recommended for Nitrous Oxide (N2O) service but is not available for low pressure pneumatic actuation.

DV84 SERIES DIAPHRAGM VALVES

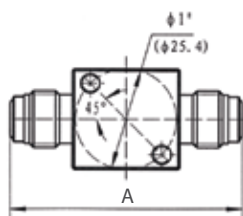
Dimensions



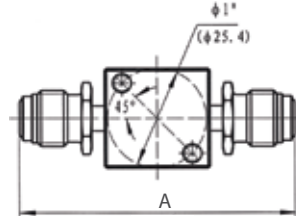
Manual



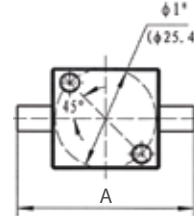
Pneumatic (High Pressure)



Face seal male (FSR fittings)



Face seal swivel male (FSR fittings)



Butt welded

Connections*	A (mm)
VM4	58.4
VM8	67.6
VSM4	70.8
VSF4	70.6
TW4	44.2
TW8	44.2

*: Applies to both inlet & outlet connections

Ordering Information

SL - DV84	M	L - VM4	K	E - IS
Body Material: SL: 316 L	Model: DV84	Actuation: M: Manual P: Pneumatic (Normally closed)	Working Pressure: H: 3500 psi	Inlet / Outlet: VM4, VM8 VSM4, VSM8 VSF4, VSF8 TW4, TW8
			Valve Seat: K: PCTFE V: Vespe [®]	Options: None: 10~15 μin E: 7 μin (EP)
				Option: IS: Electronic indicator (for 3500 psi pneumatic only)

Inlet & Outlet Connections		
Type	Dimensions	
VM: Face seal male (FSR fittings)	4, 8	4 = 1/4" 6 = 3/8" 8 = 1/2"
VSM: Face seal swivel male (FSR fittings)	4, 8	
VSF: Face seal swivel female (FSR fittings)	4, 8	
TW: Butt welded	4, 6, 8	

■ DV86 SERIES DIAPHRAGM VALVES



Manual
(High Pressure)

■ Features

- Suitable for ultra high purity applications
- Both manual and pneumatic actuation are available
- End connections: Face seal fittings (FSR) and butt welded
- Internal spring-less design and metal-to-metal seal minimizes particle generation and ensures “purity integrity” in the flow passages
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Long service life
- 100% Helium-leak tested



Pneumatic
(Low Pressure)

■ Specifications

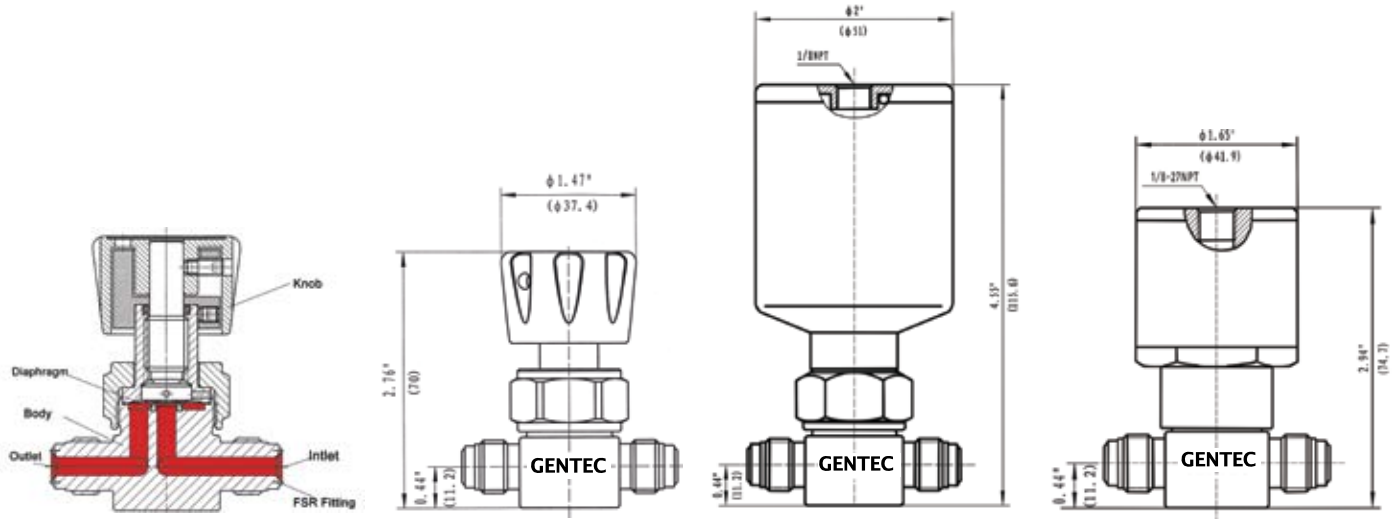
- Body: 316L stainless steel
- Seat: PCTFE*, Vespel®**
- Diaphragm: Elgiloy®
- Maximum operating pressure:
300 psi (20 bar), 3500 psi (240 bar)
- Operating temperature:
-40°F ~ 150°F (-40°C ~ 65°C)
- Cv: 0.3
- Standard Ra: 15 µin (BA)
Optional: 7 µin (EP)

* Standard Material

** Vespel® seat is recommended for Nitrous Oxide (N₂O) service but is not available for low pressure pneumatic actuation.

DV86 SERIES DIAPHRAGM VALVES

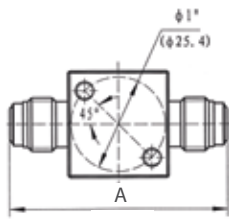
Dimensions



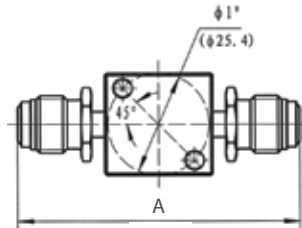
Manual (Low Pressure)

Pneumatic (High Pressure)

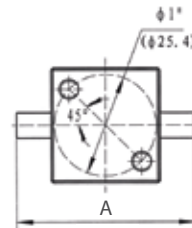
Pneumatic (Low Pressure)



Face seal male (FSR fittings)



Face seal swivel male (FSR fittings)



Butt welded

Connections*	A (mm)
VM4	58.4
VM8	67.6
VSM4	70.8
VSF4	70.6
TW4	44.2
TW8	44.2

*: Applies to both inlet & outlet connections

Ordering Information

SL - DV86	M	L - VM4 - K	E - IS
Body Material: SL: 316 L	Model: DV86	Actuation: M: Manual P: Pneumatic (Normally closed)	Working Pressure: H: 3500 psi L: 300 psi
		Inlet / Outlet: VM4, VM8 VSM4, VSM8 VSF4, VSF8 TW4, TW6, TW8	Valve Seat: K: PCTFE V: Vespel®
			Options: None: 15 µin E: 7 µin (EP)
			Option: IS: Electronic indicator (for 3500 psi pneumatic only) NO: Normally open (for 300 psi pneumatic only)

Inlet & Outlet Connections		
Type	Dimensions	
VM: Face seal male (FSR fittings)	4, 8	4 = 1/4" 6 = 3/8" 8 = 1/2"
VSM: Face seal swivel male (FSR fittings)	4, 8	
VSF: Face seal swivel female (FSR fittings)	4, 8	
TW: Butt welded	4, 6, 8	

Diaphragm Valves

■ DV88 SERIES DIAPHRAGM VALVES



■ Features

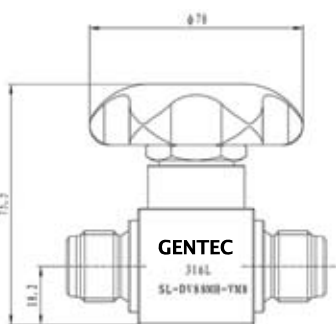
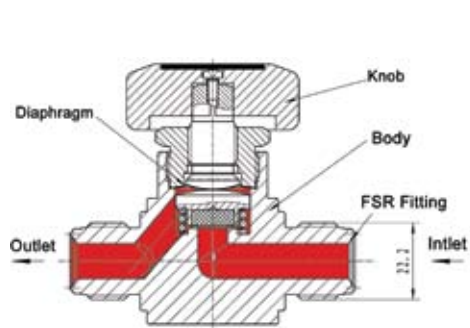
- Suitable for ultra high purity applications
- End connections include GENLOK, Face seal fittings (FSR) and butt welded
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Metal-to-metal diaphragm seal minimizes particle generation
- Long service life
- 100% Helium-leak tested

■ Specifications

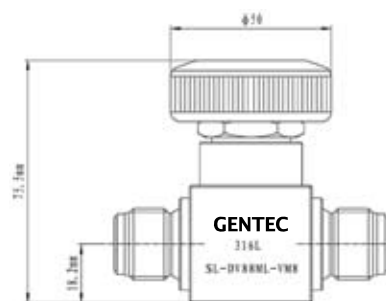
- Body: 316L stainless steel
- Seat: PCTFE
- Diaphragm: Elgiloy®
- Maximum operating pressure:
1000 psi (69 bar), 3500 psi (240 bar)
- Operating temperature:
-40°F ~ 150°F (-40°C ~ 65°C)
- Cv: 1.0 (3500 psi); 1.5 (1000 psi)
- Standard Ra: 20 µin (BA)

DV88 SERIES DIAPHRAGM VALVES

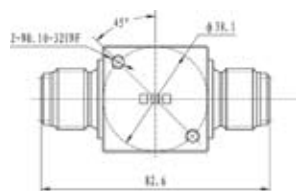
Dimensions



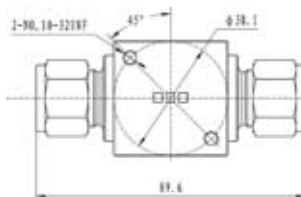
Manual (High Pressure)



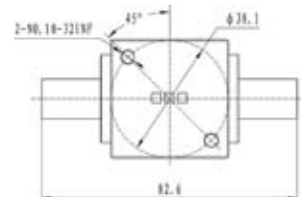
Manual (Low Pressure)



Face seal male (FSR fittings)

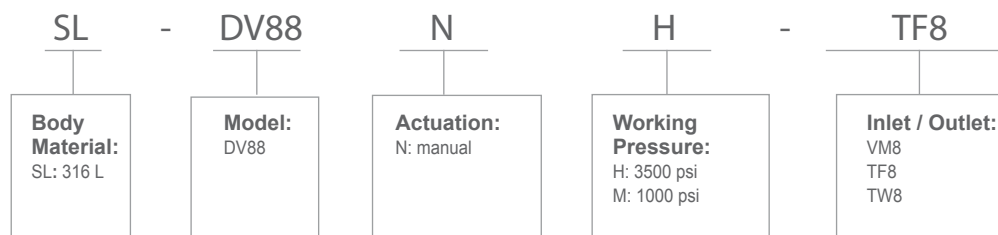


GENLOK fitting



Butt welded

Ordering Information



Inlet & Outlet Connections		
Type	Dimensions	8 = 1/2"
VM: Face seal male (FSR fittings)	8	
TF: GENLOK fitting	8	
TW: Butt welded	8	

Diaphragm Valves

■ DV90 SERIES DIAPHRAGM VALVES



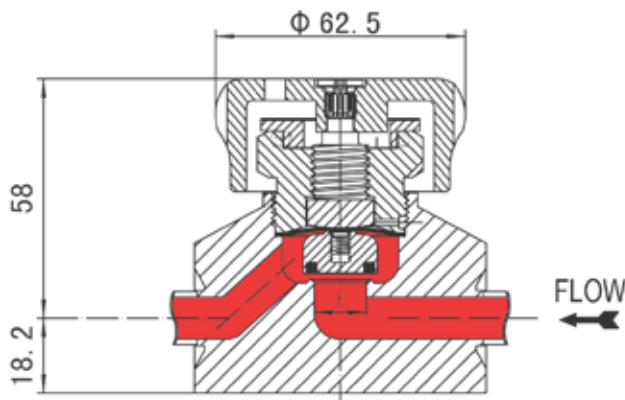
■ Features

- Suitable for high ultra purity applications
- End connection: Face seal fittings (FSR) and butt welded
- Internal spring-less design and metal-to-metal seal minimizes particle generation and ensures high purity in the flow passages
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively
- Long Service life
- 100% Helium-leak tested

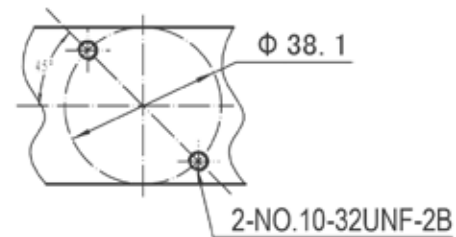
■ Specifications

- Body: 316L stainless steel
- Seat: PCTFE
- Diaphragm: Elgiloy®
- Maximum Operating Pressure: 300 psi (20.7 bar)
- Temperature: -40°F ~ 150°F (-40°C ~ 65°C)
- Cv: 2.8
- Standard Ra: 20 µin (BA)
Optional: 7 µin (EP)

■ Dimensions

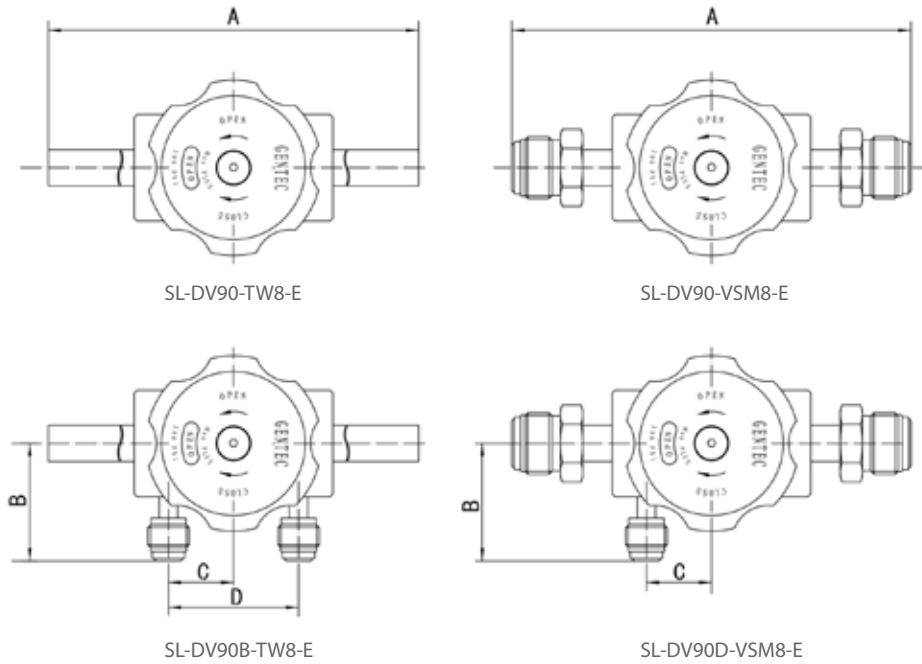


Rear Surface Mount



DV90 SERIES DIAPHRAGM VALVES

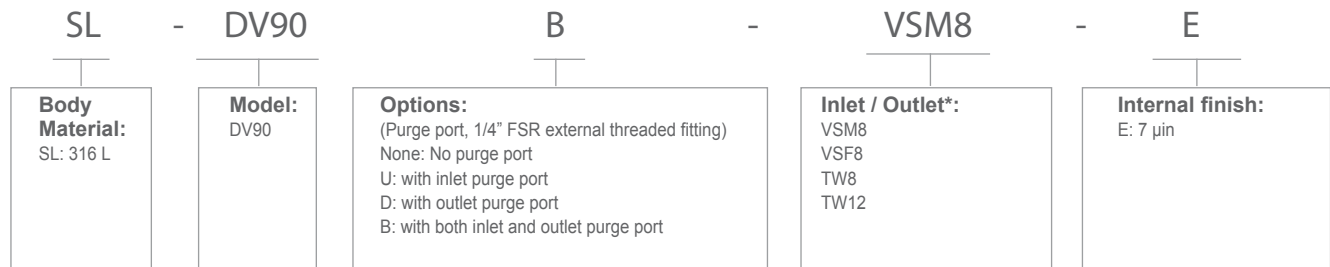
Dimensions



English Units

Model	Inlet / Outlet Connection Type	Hole dia. (in.)	CV	Dimension (in.)			
				A	B	C	D
SL-DV90B-VSM8-E	1/2" Face seal swivel male (FSR fittings)	0.50	2.8	5.61	1.67	0.92	1.83
SL-DV90-VSM8-E	1/2" Face seal swivel male (FSR fittings)		2.8	5.61	/	/	/
SL-DV90B-VSF8-E	1/2" Face seal swivel female (FSR fittings)		2.8	5.61	1.67	0.92	1.83
SL-DV90-VSF8-E	1/2" Face seal swivel female (FSR fittings)		2.8	5.61	/	/	/
SL-DV90B-TW8-E	1/2" Butt-welded		2.8	8.78	1.67	0.92	1.83
SL-DV90-TW8-E	1/2" Butt-welded		2.8	8.78	/	/	/
SL-DV90B-TW12-E	3/4" Butt-welded		2.8	8.78	1.67	0.92	1.83
SL-DV90-TW12-E	3/4" Butt-welded		2.8	8.78	/	/	/

Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

Inlet & Outlet Connections		
Type	Dimensions	8 = 1/2" 12 = 3/4"
VSM: Face seal swivel male (FSR fittings)	8	
VSF: Face seal swivel female (FSR fittings)	8	
TW: Butt welded	8, 12	

Gauge Valves

■ GV1 SERIES GAUGE VALVES



■ Features

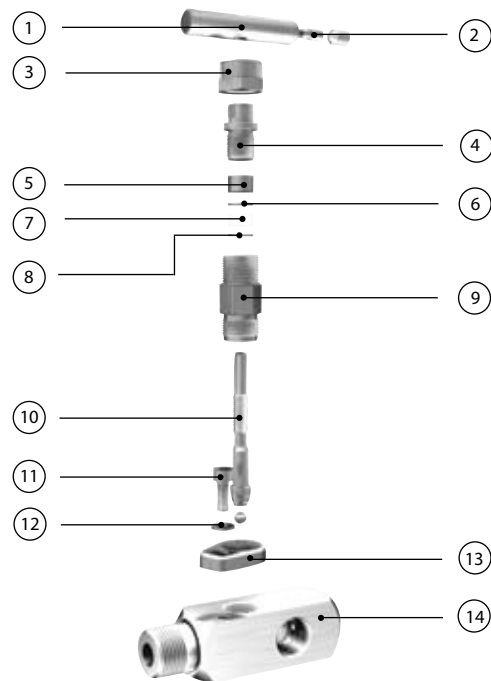
- Compact construction
- Non-rotating ball tip design
- Multi-port allows versatile positioning of gauges and pressure switches
- Inlet Connection: 1/2" or 3/4" NPT
Outlet connection: 1/2" Female NPT
- Bonnet Lock Pin helps prevent accidental separation of bonnet from the body
- Maximum operating pressure: 6000 psi (414 bar)
- Leakage across seat: < 0.1 std cm³/min
- Operating temperature: -63°F ~ 450°F (-53°C ~ 232°C)
- Cleaned and degreased for oxygen service according to CGA G-4.1 and ASTM G93 Class C, respectively

Caution:

Do not mix or interchange valve components with those of other manufacturers.

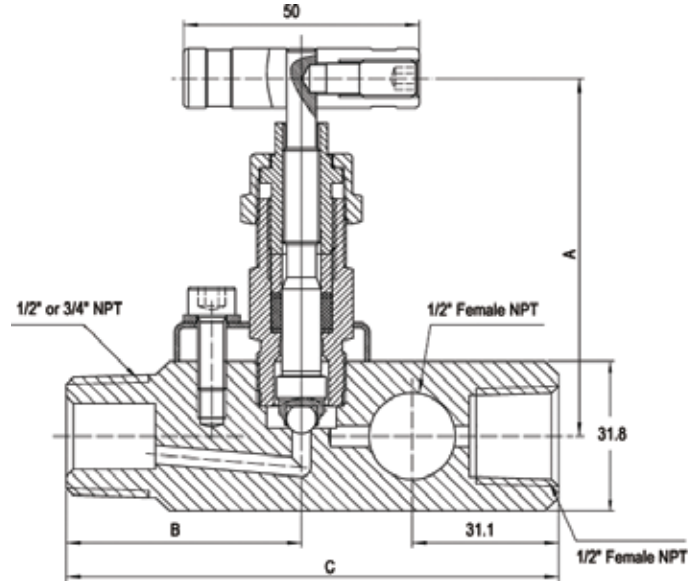
■ Materials of Construction

Components	Material
1 Handle	316 SS
2 Handle Pin	316 SS
3 Lock Nut	316 SS
4 Packing Bolt	416
5 Packing Ring	316 SS
6 Packing Supports	Reinforced PTFE
7 Packing	PTFE
8 Packing Supports	316 SS
9 Bonnet	316 SS
10 Stem	316 SS
11 Set Screw	316 SS
12 Washer	316 SS
13 Bonnet Lock Plate	316 SS
14 Body	316 SS



■ GV1 SERIES GAUGE VALVES

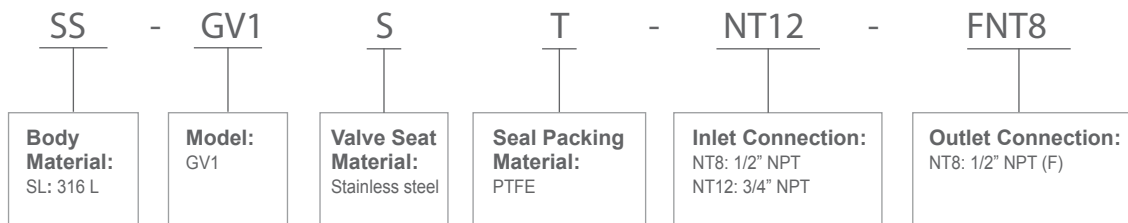
■ Dimensions



English Units

Model	Inlet / Outlet (in.)	Dimension (in.)			
		Hole dia.	A	B	C
SS-GV1ST-NT12-FNT8	3/4" NPT / 1/2" NPT(F)	0.157	3.39	2.17	4.33
SS-GV1ST-NT8-FNT8	1/2" NPT / 1/2" NPT(F)				

■ Ordering Information



Check Valves

■ CV11, CV12, CV13, CV14, CV15, CV16 SERIES CHECK VALVES



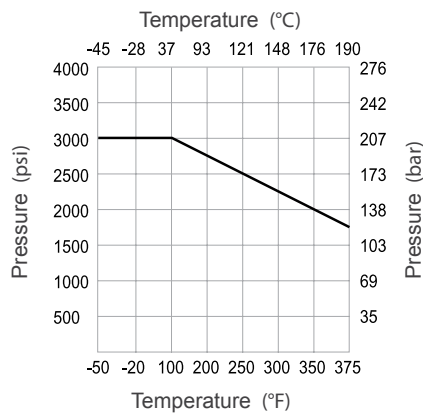
■ Features

- Maximum operating pressure: 3000 psi (207 bar)
- Connections: NPT and GENLOK
(please refer to the specification tables for available dimensions)

■ Seal Materials

- Fluororubber O-rings are standard,
other materials are listed in table below:

Seal Materials	Reference Number	Temperature Range °F (°C)
Fluororubber	-R	-10~370 (-23 ~ 190)
Buna-N	-B	-10~250 (-23 ~ 121)
EPDM	-Y	-50~300 (-45 ~ 148)
Neoprene	-N	-40~250 (-40 ~ 121)
Kalrez®	-Q	-10~375 (-23 ~ 190)



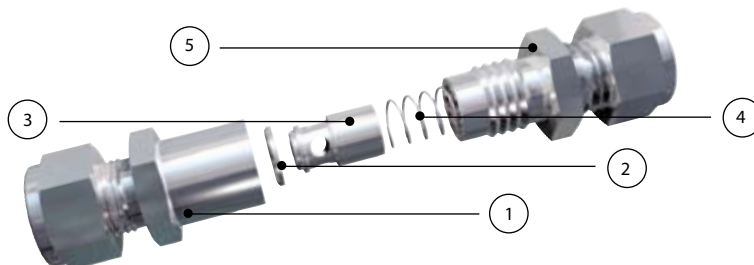
■ Cracking and Reseating Pressures

Nominal Cracking pressure psi (bar)	Cracking Pressure Ranges psi (bar)	Minimum Reseating Pressure psi (bar)
1 (0.07)	2 (0.14)	6 (0.41) back pressure
3 (0.20)	2.5~4 (0.17~0.28)	6 (0.41) back pressure
10 (0.69)	8~13 (0.55~0.90)	7 (0.48)
25 (1.72)	23~28 (1.59~1.93)	20 (1.38)

*Cracking and Reseating Pressure at 70°F (20°C), Air

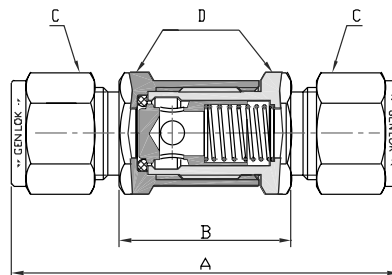
Components	Material
1 Inlet body	316 SS
2 O-ring	Fluororubber
3 Poppet	316 SS
4 Spring	316 SS
5 Outlet body	316 SS

■ Materials of Construction



CV11, CV12, CV13, CV14, CV15, CV16 SERIES CHECK VALVES

Dimensions



Metric

Model	Orifice (mm)	CV	Connection Type		Dimension (mm)			
			Inlet	Outlet	A	B	C (Hex Flat)	D (Hex Flat)
SS-CV11-TF6M	4.8	0.47	6 mm GENLOK		60.5	25.0	14.0	15.9
SS-CV12-TF10M	7.1	1.48	10 mm GENLOK		64.0	24.9	19.0	17.5
SS-CV13-TF12M	9.9	1.70	12 mm GENLOK		77.0	32.8	22.0	23.8

English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)			
			Inlet	Outlet	A	B	C (Hex Flat)	D (Hex Flat)
SS-CV11-TF2	0.19	0.16	1/8" GENLOK		2.19	0.98	7/16	5/8
SS-CV11-NT2			1/8" Male NPT		1.75		-	
SS-CV11-FNT2			1/8" Female NPT		1.84		-	
SS-CV11-TF4			1/4" GENLOK		2.36	0.98	9/16	
SS-CV11-NT4-TF4			1/4" Male NPT	1/4" GENLOK	2.22		-	
SS-CV11-NT4	1/4" Male NPT		2.10	-	-			
SS-CV12-FNT4	0.28	1.48	1/4" Female NPT		2.24	-	-	3/4
SS-CV12-TF6			3/8" GENLOK		2.58	-	11/16	
SS-CV12-NT6			3/8" Male NPT		2.19	1.07	-	
SS-CV13-FNT6	0.39	1.70	3/8" Female NPT		2.51	-	-	7/8
SS-CV13-TF8			1/2" GENLOK		3.16	-	7/8	
SS-CV13-NT8			1/2" Male NPT		2.93	1.43	-	
SS-CV14-FNT8	0.53	2.60	1/2" Female NPT		3.33	-	-	1-1/8
SS-CV14-TF10			5/8" GENLOK		3.61	1.89	1	
SS-CV15-TF12	0.63	5.20	3/4" GENLOK		4.36	2.64	1-1/8	1-1/4
SS-CV15-NT12			3/4" Male NPT		4.15		-	
SS-CV15-FNT12			3/4" Female NPT		4.06	-	-	
SS-CV16-TF16	0.71	9.00	1" GENLOK		4.77	2.69	1-1/2	1-3/8
SS-CV16-NT16			1" Male NPT		4.58		-	
SS-CV16-FNT16			1" Female NPT		4.39		-	

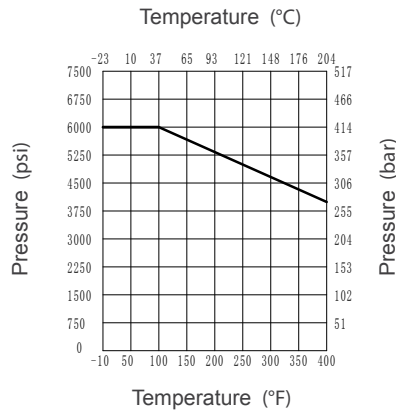
Ordering Information

SS	-	CV11	-	NT4	-	TF4	-	R	-	1
Body Material: SS: 316 SS		Series: CV11, CV12, CV13, CV14, CV15, CV16		Inlet Connection*: NT4: 1/4" Male NPT		Outlet Connection*: TF4: 1/4" GENLOK		Seal Material: R: Fluororubber B: Buna-N Y: Ethylene Prorylene N: Neoprene Q: Kalrez®		Cracking Pressure: 1: 1 psi 3: 3 psi 10: 10 psi 25: 25 psi

* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

Check Valves

■ CV42, CV43 SERIES CHECK VALVES



■ Features

- Maximum operating pressure: 6000 psi (414 bar)
 - Connections: NPT and GENLOK
- (please refer to the specification tables for available dimensions)

■ Seal Materials

- Fluororubber O-rings are standard, other materials are listed in table below:

Seal Materials	Reference Number	Temperature Rate °F (°C)
Fluororubber	-R	-10~370 (-23 ~ 190)
EPDM	-Y	-50~300 (-45 ~ 148)
Neoprene	-N	-40~250 (-40 ~ 121)

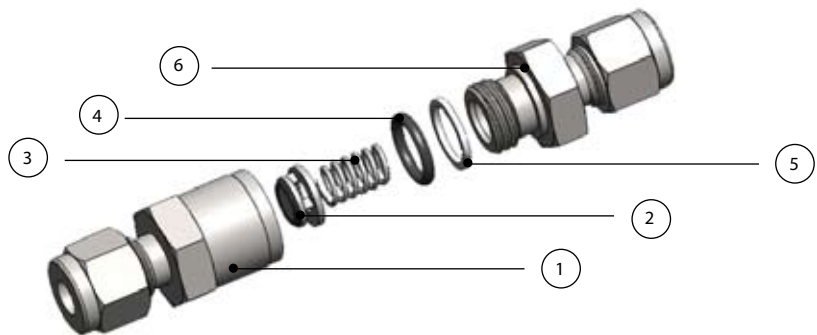
■ Cracking and Reseating Pressures

Nominal Cracking pressure psi (bar)	Cracking Pressure Ranges psi (bar)	Minimum Reseating Pressure psi (bar)
1 (0.07)	2 (0.14)	6 (0.41) back pressure
3 (0.20)	2.5~4 (0.17~0.28)	6 (0.41) back pressure
10 (0.69)	7~15 (0.48~1.00)	3 (0.20)
25 (1.72)	20~30 (1.3~2.0)	17(1.10)

*Cracking and Reseating Pressure at 70°F (20°C), Air

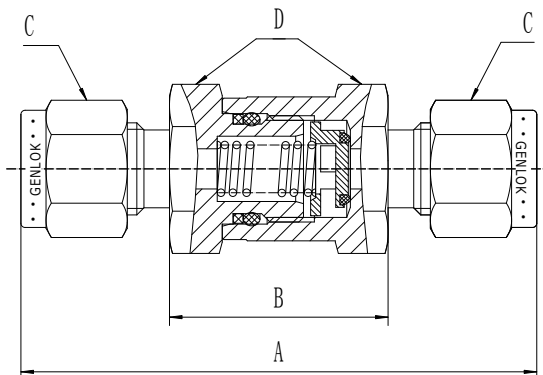
■ Materials of Construction

Components	Material
1 Inlet body	316 SS
2 Poppet set	Viton bonded 316 SS
3 Spring	316 SS
4 O-ring	Fluororubber
4 Backup ring	PTFE
6 Outlet body	316 SS



CV42, CV43 SERIES CHECK VALVES

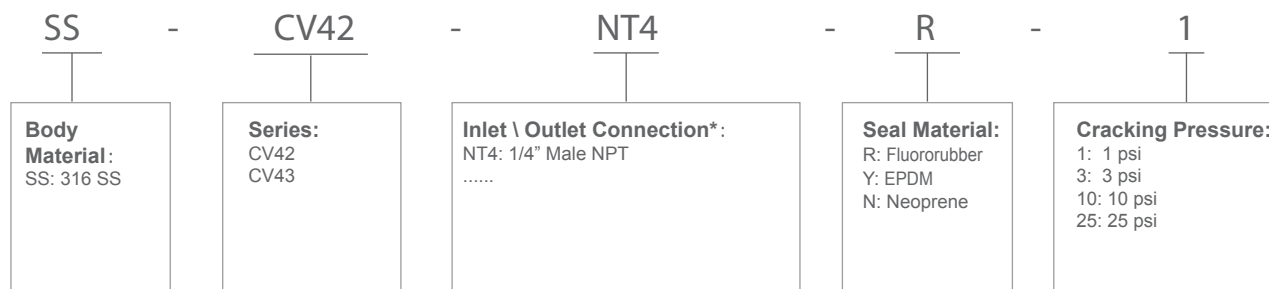
Dimensions



English Units

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)			
			Inlet	Outlet	A	B	C (Hex Flat)	D (Hex Flat)
SS-CV42-TF2	0.093	0.15	1/8"GENLOK		2.2	0.94	7/16	11/16
SS-CV42-TF4	0.19	0.47	1/4"GENLOK		2.43	1.03	9/16	11/16
SS-CV42-NT2			1/8"Male NPT		1.79	0.93	-	11/16
SS-CV42-FNT2			1/8"Female NPT		1.73	1.05	-	11/16
SS-CV42-NT4			1/4"Male NPT		2.12	1.02	-	11/16
SS-CV42-FNT4			1/4"Female NPT		1.98	1.79	-	11/16
SS-CV42-VM4			1/4" FSR		2.28	1.04	-	11/16
SS-CV43-TF6	0.33	1.8	3/8"GENLOK		2.75	1.26	11/16	1
SS-CV43-TF8			1/2"GENLOK		2.97	1.22	7/8	1
SS-CV43-FNT6			3/8" Female NPT		2.55	1.46	-	1
SS-CV43-NT6			3/8" Male NPT		2.36	1.26	-	1
SS-CV43-NT8			1/2" Female NPT		2.73	1.77	-	1
SS-CV43-FNT8			1/2" Male NPT		3.03	1.77	-	1 1/16
SS-CV43-VM8			1/2" FSR		2.74	1.02	-	1

Ordering Information



* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

Excess Flow Valves

EV12, EV13, EV14 SERIES EXCESS FLOW VALVES

Used in pipeline system to stop uncontrolled release of system media in the event of a downstream gas line rupture or disconnection, thereby saving the media and guaranteeing the system safety.



Features

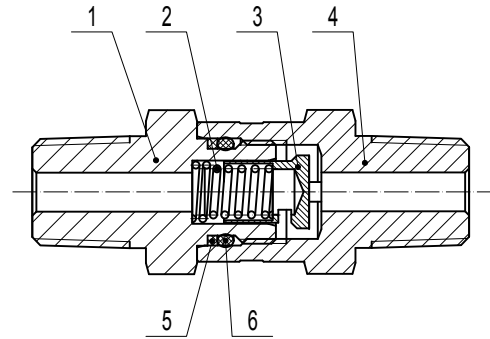
- Maximum operating pressure: 6000 psi (414 bar)
- Operating temperature: 400°F (204°C)
- End Connections: GENLOK and NPT
- Connection size: 1/8" to 1/2"
- The flow through the bleed vent is less than 1% of the flow rate in the trip range

Operating Principles

The spring-loaded poppet remains in the open position during system operation. If an excess flow occurs downstream, i.e. a pressure drop, the poppet rapidly moves to the cutoff position to block all uncontrolled flow. When the pressure is balanced once again, the poppet will automatically revert to the original (open) position.

Components	Material
1 Valve Body	316 SS
2 Spring	316 SS
3 Poppet	316 SS
4 Valve Bushing	316 SS
5 Backup ring	PTFE
6 O-ring	Viton®

Materials of Construction



Pressure-Temperature Ratings

The nominal pressure depends on the end connections

Material	316 SS
Temperature °F (°C)	Operating pressure psi (bar)
-10 (-23) ~ 100 (37)	6000 (414)
200 (93)	5160 (356)
250 (121)	4910 (339)
300 (148)	4660 (321)
400 (204)	4280 (295)

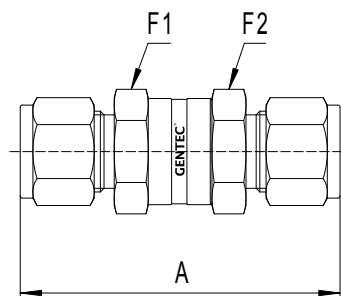
O-ring Materials

Viton O-rings are standard. For other O-ring materials, add the corresponding designator to the ordering number.

Seal Materials	Reference Number	Temperature Rate °F (°C)
Fluororubber	-R	-10~370 (-23 ~ 190)
Buna-N	-B	-10~250 (-23 ~ 121)
Neoprene	-N	-40~250 (-40 ~ 121)
Kalrez®	-Q	-10~375 (-23 ~ 190)

EV12, EV13, EV14 SERIES EXCESS FLOW VALVES

Dimensions



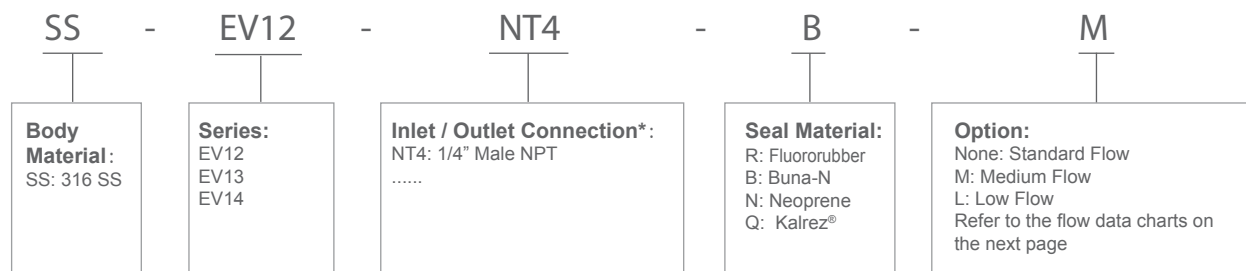
Metric

Model	Connection Type		Pressure Range psi (bar)	Dimension (mm)	
	Inlet	Outlet		A	F1/F2
SS-EV12-TF6M	6mm GENLOK		6000 (413)	61.7	11/16
SS-EV13-TF8M	8mm GENLOK		6000 (413)	71.1	1
SS-EV13-TF10M	10mm GENLOK		6000 (413)	64.8	11/16
SS-EV14-TF12M	12mm GENLOK		6000 (413)	75.2	1

English Units

Model	Connection Type		Pressure Range psi (bar)	Dimension (in.)	
	Inlet	Outlet		A	F1/F2
SS-EV12-TF4	1/4" GENLOK		6000 (413)	2.43	11/16
SS-EV12-FNT2	1/8" Female NPT		6000 (413)	1.87	11/16
SS-EV12-FNT4	1/4" Female NPT		6000 (413)	1.87	11/16
SS-EV12-NT2	1/8" Male NPT		6000 (413)	1.79	11/16
SS-EV12-NT4	1/4" Male NPT		6000 (413)	2.28	11/16
SS-EV12-VM4	1/4" FSR		6000 (413)	2.75	1
SS-EV13-TF6	3/8" GENLOK		6000 (413)	2.70	1
SS-EV13-FNT6	3/8" Female NPT		5300 (365)	2.12	11/16
SS-EV13-NT6	3/8" Male NPT		6000 (413)	2.36	1
SS-EV14-TF8	1/2" GENLOK		6000 (413)	2.97	1
SS-EV14-FNT8	1/2" Female NPT		4900 (337)	3.03	1 1/16
SS-EV14-NT8	1/2" Male NPT		6000 (413)	2.73	1
SS-EV14-VM8	1/2" FSR		4300 (296)	2.73	1

Ordering Information



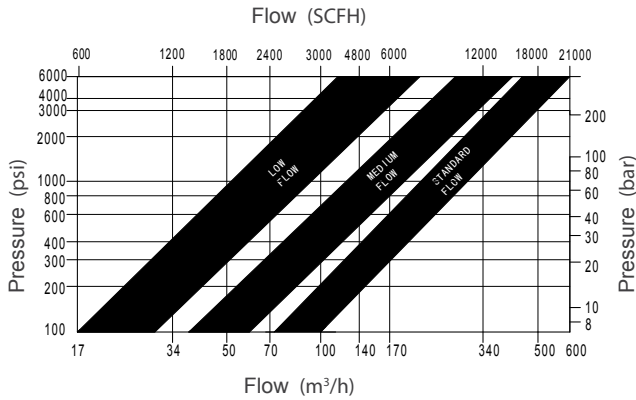
* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

Excess Flow Valves

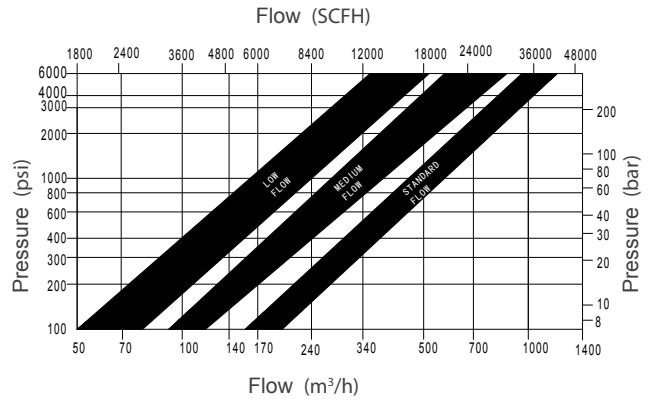
EV12, EV13, EV14 SERIES EXCESS FLOW VALVES

Flow Data at 70°F (20°C)

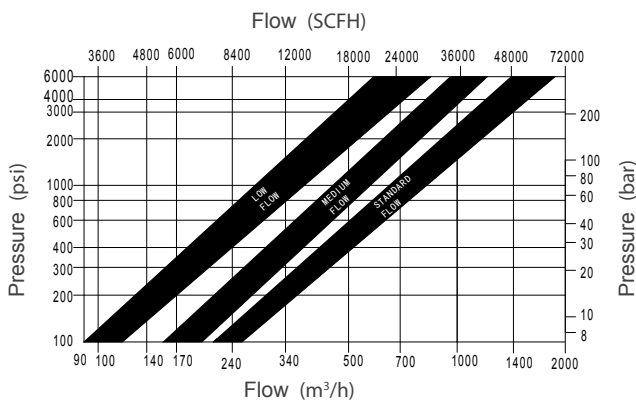
EV12 Series



EV13 Series



EV14 Series



Product Selection

Excess flow valve is used to stop uncontrolled release of flow in the event of a gas line rupture or disconnection, thereby guaranteeing the system safety. GENTEC standard excess flow valves are suitable for various applications.

For example:

- EV12 Excess Flow Valve, inlet pressure of 6MPa, Peak flow rate 50 m³/h. The intersection point is within the low flow range. Therefore select an excess flow valve with medium flow or standard flow trip range. If low flow configurations are chosen, there is the possibility that the valve will trip during high flow and affect normal operation.
- EV 14 Excess Flow Valve, inlet pressure 1.5MPa, Peak flow rate 240 m³/h. The intersection point is within the medium flow range. Therefore select an excess flow valve with standard flow. In systems that contain restriction devices—such as pressure regulator, flow control valve and reducing pipe, flow through the rupture might not be sufficient to reach the trip flow. In these cases, excess valves with medium flow and low flow trip range should be selected.
- EV 13 Excess Flow Valve, inlet pressure 2 MPa, Peak flow rate 100 m³/h. System restriction flow 300m³/h. The two intersection points are within the low flow and standard flow range. Therefore select an excess flow valve with medium flow trip range which can not only avoid nuisance tripping, but also ensure effective performance under flow restriction condition.

RV31, RV32 RELIEF VALVES

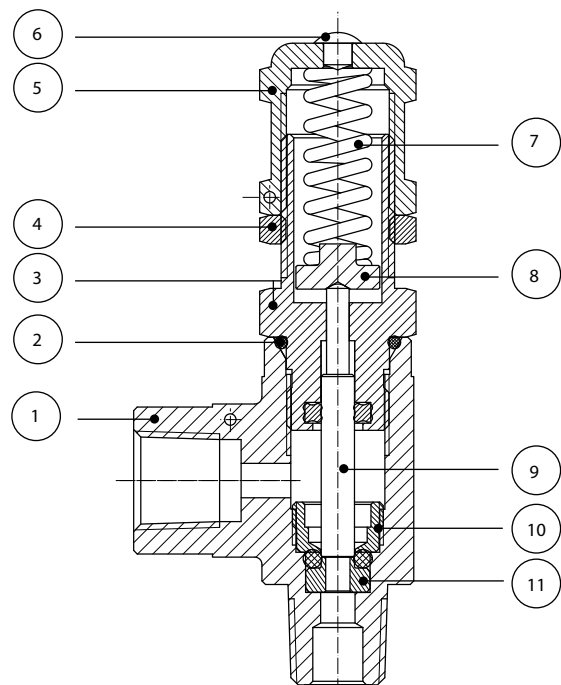


Features

- 316 stainless steel construction
- RV31 series
Nominal diameter: 3.6 mm
Pressure range: 10-6000 psi (0.69~414 bar)
- RV32 series
Nominal diameter: 6.4 mm
Pressure range: 10-1500 psi (0.69~103 bar)
- End connections: 1/4 " and 1/2" NPT thread (standard), 1/4", 3/8", 1/2", 6mm, 8mm, 10mm and 12mm GENLOK are optional
- Replaceable springs for variable pressure range
- Color coded labels to identify spring range
- Various sealing materials such as neoprene and Buna-N are available for different applications

Materials of Construction

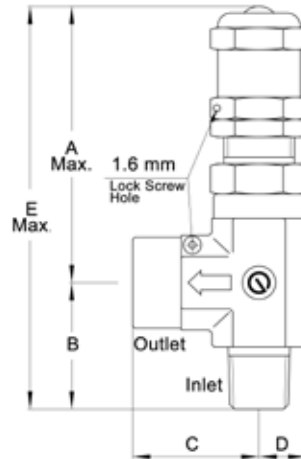
Components	Material
1 Valve body	316 SS
2 O-ring	Fluororubber
3 Bonnet	316 SS
4 Lock nut	316 SS
5 Adjusting Cap	316 SS
6 Plug	PTFE
7 Spring	Piano Wire
8 Spring Retainer	316 SS
9 Valve Stem	316 SS
10 Packing Screw	316 SS
11 Sleeve	316 SS



Relief Valves

RV31, RV32 RELIEF VALVES

Dimensions



Metric

Model	Connection Type		Dimension (mm)					
	Inlet	Outlet	Orifice	A	B	C	D	E
SS-RV31 -TF6M	6mm GENLOK		3.6	66.5	35.8	35.8	10.6	102.3
SS-RV31 -TF8M	8mm GENLOK		3.6		35.8	35.8		102.3
SS-RV32 -TF12M	12mm GENLOK		6.4	98.5	45.8	45.8	13	143.8

English Units

Model	Connection Type		Dimension (in.)					
	Inlet	Outlet	Orifice	A	B	C	D	E
SS-RV31 -TF4	1/4" GENLOK		0.14	2.62	1.40	1.40	0.42	4.02
SS-RV31 -NT4-TF4	1/4" Male NPT	1/4" GENLOK	0.14		1.12	1.40		3.74
SS-RV31 -NT4-FNT4	1/4" Male NPT	1/4" Female NPT	0.14		1.12	1.12		3.74
SS-RV31 -RT4-FRT4	1/4" Male BSPT/ ISO Tapered	1/4" Female BSPT/ ISO Tapered	0.14		1.12	1.12		3.74
SS-RV32 -NT8-TF8	1/2" Male NPT	1/2" GENLOK	0.25	3.88	1.40	1.78	0.42	5.28
SS-RV32 -NT8-FNT8	1/2" Male NPT	1/2" Female NPT	0.25		1.40	1.40		5.28

Ordering Information

SS	- RV31	R	H	- NT4	- FNT4	- XX
Body Material: SS: 316 SS	Series: RV31: 3.6 mm (Orifice) RV32: 6.4 mm (Orifice)	Seal Material: R: Fluororubber B: Buna-N rubber Y: EPDM	Pressure Range (Factory Setup): A: 10~25 (25) psi B: 25~50 (50) psi C: 50~100 (100) psi D: 100~250 (250) psi E: 250~350 (350) psi F: 350~750 (750) psi G: 750~1500 (1500) psi H: 1500~2250 (2250) psi I: 2250~3000 (3000) psi J: 3000~4000 (4000) psi K: 4000~5000 (5000) psi L: 5000~6000 (6000) psi	Inlet Connection*: NT4: 1/4" Male NPT	Outlet Connection*: FNT4: 1/4" Female NPT	Custom Pressure:

* Specifications listed in table above change to. Please refer to the chart above for the available specifications for the desired connection type.

■ V200 SERIES CYLINDER VALVES

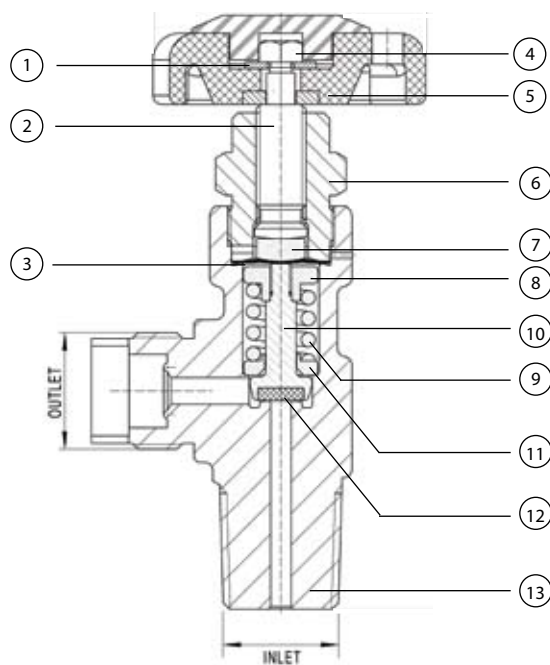


■ Features

- Maximum operating pressure: 3000 psi (207 bar)
- Internal Leakage: $< 1 \times 10^{-9}$ cc/sec He
- Operating temperature: $-4^{\circ}\text{F} \sim 158^{\circ}\text{F}$ ($-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$)
- Angle pattern is the standard
- Can be mounted directly on the cylinder
- Cv: 0.3

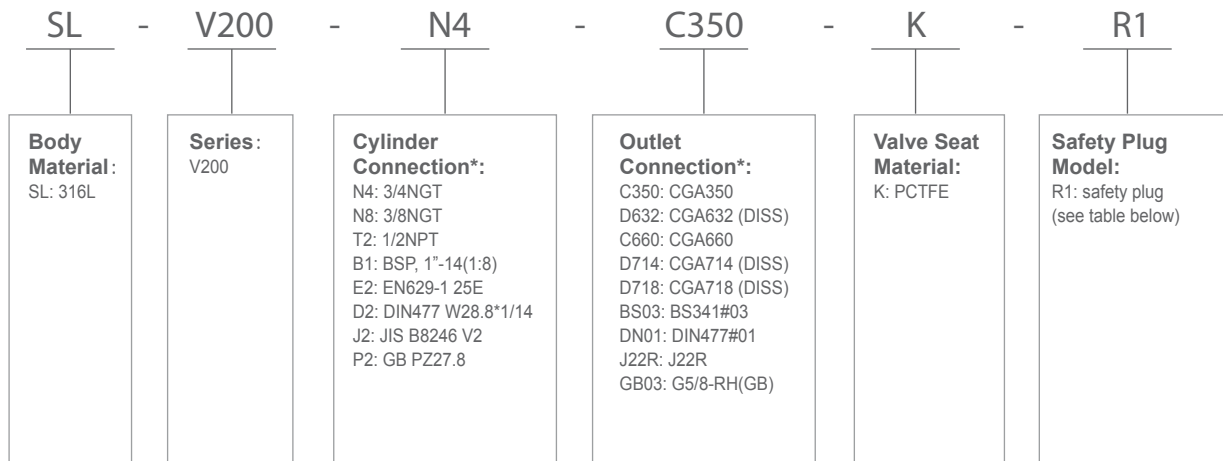
■ Materials of Construction

Components	Material
1 Gasket	304
2 Upper Valve Stem	316 SS
3 Diaphragm	316L
4 Screw	304
5 Handle	Nylon
6 Joint Nut	316 SS
7 Slip Block	316 SS
8 Upper Locating Block	316L
9 Spring	316L
10 Bottom Valve Stem	316L
11 Bottom Locating Block	316L
12 Gasket	304
13 Valve Body	316L



■ V200 SERIES CYLINDER VALVES

■ Ordering Information



* For other connections, please contact Genstar customer service.

Safety Plug Allocation Table				
Code	Remark	Features Description	Solution Temperature °F (°C)	Working Pressure psi (bar)
R1	Ni	Rupture disk type	/	2016 (139)
R2	Ni	Rupture disk type	/	2265 (156)
R3	Ni	Solution+rupture disk type	165 (74)	2016 (139)
R4	Ni	Solution+rupture disk type	165 (74)	2265 (156)
R5	Ni	Solution+rupture disk type	212 (100)	2016 (139)
R6	Ni	Solution+rupture disk type	212 (100)	2265 (156)
R7	Ni	Rupture disk type	/	1380 (95)
R10	SS	Rupture disk type	/	2016 (139)
R11	SS	Solution+rupture disk type	165 (74)	2016 (139)
R12	SS	Solution+rupture disk type	165 (74)	2400 (165)
R13	SS	Solution+rupture disk type	212 (100)	2265 (156)
R22	multicomponent alloy	Soluble washer	212 (100)	500 (35)
R23	multicomponent alloy	Fusible plug	165 (74)	500 (35)

■ V600 SERIES CYLINDER VALVES

Ultra High Purity Diaphragm Cylinder Valve is developed for the semiconductor industry. It is designed for use with ultra high purity gas cylinders to prevent gas leakage and achieve the low leakage rates demanded by high purity gas users.



V601
Pneumatic



V600
Manual

■ Features

- Manual and actuated versions are available based on a common body design
- Suitable for most special gases including variants for oxygen and highly corrosive gases such as chlorine and hydrogen chloride
- Final assembly and testing is carried out under class 10 clean room conditions
- Designed for the low leakage rates demanded by high purity gas users
- Non tied-diaphragm construction; the diaphragms act directly on the seat to close the valve, which minimizes dead space and wetted area
- Mechanically supported and retained valve seat to minimize deformation under load and seat lift under reverse flow conditions
- The diaphragm isolates the operating mechanism from the process fluids
- The one-piece, non-welded construction improves durability
- To prevent the shedding of particulate contamination, there are no sliding, rotating or rubbing components in the flow path
- Inlet and outlet port configurations are available to suit all known industry standards. The same valve family can be used for all fluids in all market areas
- For transportation the actuator can be locked closed to prevent shock induced leakage
- The outlet port is sealed and protected by a cap retained by a chain
- The valve mechanism incorporates secondary sealing for enhanced safety

■ Specification

- Working pressure: 3300 psi (230 bar)
- Suitable for spec gas applications, including toxic and corrosive gases
- Nominal Bore: 4 mm
- Operating temperature: -4°F ~ 150°F (-20°C ~ 65°C)
- Outboard (gland) Leak rate: $< 1 \times 10^{-9}$ mbar l/s (200bar He)
- Inlet/Outlet (seat) Leak rate: $< 1 \times 10^{-8}$ mbar l/s (200bar He)
- Cv: 0.3

■ V600 SERIES CYLINDER VALVES

■ Materials of Construction

- BODY - 316L stainless steel, 316L VAR stainless steel
- SEAT - PCTFE, Kynar 740, Vespel SP21 or Zytel 103 (Nylon)
- DIAPHRAGM - Elgiloy

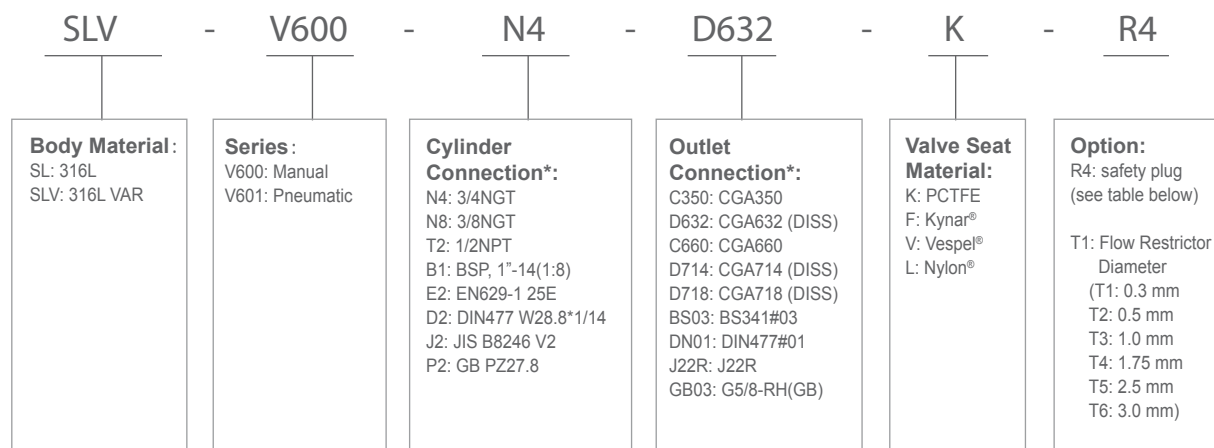
No lubrication is used in the flow passages. The seat materials are chosen for maximum compatibility, maintaining gas purity and integrity.

Please feel free to contact Genstar if you have any questions.

■ Actuator Specification

- A normally-closed actuator is available for all valves
The valve is opened by applying pressure and is closed by spring return
The valve can be locked in the closed position during for additional safety
- Pilot pressure: 70 ~ 120 psi (5 ~ 8 bar)
- Actuating medium: Air or Nitrogen
- Pilot Port: 1/8" NPT
- Materials of Construction: Stainless Steel, Nickel Aluminium Bronze and Hard Anodized Aluminium Alloy

■ Ordering Information



* For other connections, please contact Genstar customer service.

Safety Plug Allocation Table				
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R22	multicomponent alloy	Soluble washer	212 (100)	500 (35)
R23	multicomponent alloy	Fusible plug	165 (74)	500 (35)



■ Ultra High Purity

- U21, U22, U23, U53 Series Regulator
- DV51, DV54, DV74, DV82, DV84, DV86, DV88, DV90 Series Valves
- Pressure Gauges
- Face Seal Fittings
- Weld Fittings
- Vacuum Generators



■ Specialty Gas Regulators & Gauges

- R12, R21 Series Low Flow Regulators
- R15, R22 Series Medium Flow Regulators
- R23 Series High Flow Regulators
- R31 Series Dual-stage Regulators
- R44 Series High Pressure Regulators
- R66 Series Ultra High Flow Regulators
- R77 Series Back Pressure Regulators
- Pressure Gauges
- Accessories



■ Specialty Gas Control Panel

SPECIALTY GAS CONTROL PANEL

- P3200 Series Single-Bank
- P3300 Series Dual-Bank
- P3400 Series Semi-Automatic
- PD3400 Series Dual-Stage Semi-Automatic
- P3500 Series Semi-Automatic In-Line Repair
- PD3500 Series Dual-stage Semi-automatic In-line Repair

TERMINAL GAS CONTROL PANEL

- P4000, P4200, P4400, P4500 Series

GENERATOR BACK-UP CONTROL PANEL

- BS3100 Series



■ Tube Fittings

- MC, ME, MA Series
- FC, FE, FA Series
- U, UE, Series
- R, RU Series
- BU, UT, UC Series
- MBT, MRT Series
- FBT, FRT Series
- RUT Series
- P, C, N Series



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