GENTEC®



www.genstartech.com

VALVES *International Edition*

(Needle Valve, Metering Valve, Ball Valve, Bellows-Sealed Valve, Diaphragm Valve, Gauge Valve, Check Valve, Excess Flow Valve, Relief Valve)

Technology for a Better Future

API Spec Q1 Registered

OMS REGISTERED 0541

PROFILE

GENTEC® Company Overview





Company Overview

Genstar Technologies is a global leader in Gas Flow Control Systems for the industrial, specialty gas and medical sectors. We pride ourselves in our ability to provide our customers with high quality, value-added products and services that go beyond the industry standards. As a result, we have a global network of thousands of satisfied customers in over 60 countries.

Our Team

Our highly educated team of engineers, salespeople, technicians, managers, and customer service personnel are dedicated to providing you with products with the highest quality, reliability and performance. We hold the highest standards to our manufacturing processes; our total process management maximizes our production efficiency while ensuring product quality.

We work closely with all of our customers to design products specific to your needs. This includes developing new products, redesigning existing products, and customizing configuration / packaging. It is our priority to foster a strong relationship with each and every customer.

Quality Assurance

All of our products are manufactured under stringent quality control. We are ISO 9001:2001, ISO13485, and API certified. Our products meet UL, CE, SEMI, and various international standards and certifications.

Manufacturing Capabilities

The manufacturing facility is equipped with CNC machines, electro-polishing equipment, and precision automated orbital welding systems, among other features, to ensure the production of the highest quality products.

Clean Room Facilities

Our class 10/100/1000 clean rooms are designed for Ultra High Purity (UHP) products. UHP products undergo precision machining, surface finishing, electro-polishing and passivation. All UHP products are cleaned by 18MΩ DI water in a cascade ultrasonic tank. To ensure the highest UHP product quality, they are then vacuum-dried and double-bagged.

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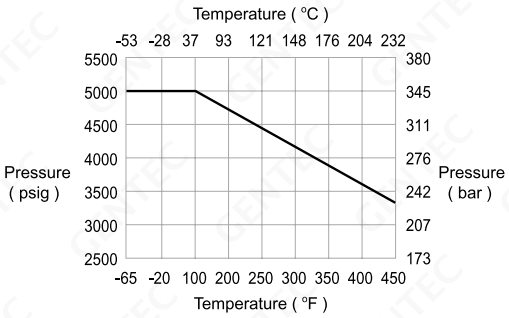
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Product Features

- Maximum operating pressure: 5000 psi (345 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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 optional
- 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.

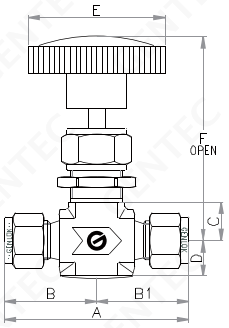


Materials of Construction

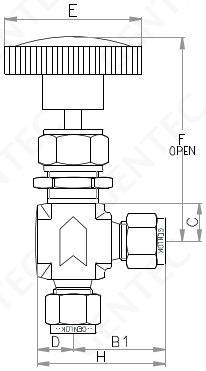
- Body: 316 SS
- Round Handle / Bar Handle: ABS with brass inset / Aluminium
- Packing: PTFE
- Valve Stem
  R-TYPE: 316 SS
  V-TYPE: 316 SS
  K-TYPE: PCTFE
  N-TYPE: PTFE

Dimensions

Straight Pattern



Angle Pattern



Fractional and Metric Tube Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)								Panel Mounting Hole Diameter (in.)
			Inlet	Outlet	A	B	B1	H	C	D	E	F Open	
SS-NV11-TF2	0.080	0.09	1/8" GENLOK		2.00	1.00	1.00	1.31	0.44	0.31	1.00	2.29	0.47
SS-NV12-TF4	0.172	0.37	1/4" GENLOK		2.31	1.16	1.16	1.51	0.44	0.38	1.38	2.34	0.61
SS-NV13-TF6	0.250	0.73	3/8" GENLOK		2.60	1.30	1.30	1.79	0.56	0.50	1.96	2.81	0.79
SS-NV13-TF8	0.250	0.73	1/2" GENLOK		2.82	1.41	1.41	1.90	0.56	0.50	1.96	2.81	0.79
SS-NV14-TF2	0.375	1.80	3/4" GENLOK		3.82	1.91	1.91	2.66	0.75	0.75	3.00	3.91	1.04
SS-NV11-TF3M	0.079	0.09	3 mm GENLOK		1.94	0.97	0.97	1.23	0.44	0.31	1.00	2.29	0.47
SS-NV12-TF6M	0.172	0.37	6 mm GENLOK		2.31	1.16	1.16	1.51	0.44	0.38	1.38	2.34	0.61
SS-NV12-TF8M	0.172	0.37	8 mm GENLOK		2.31	1.16	1.16	1.51	0.44	0.38	1.38	2.34	0.61
SS-NV13-TF10M	0.250	0.73	10 mm GENLOK		2.60	1.30	1.30	1.79	0.56	0.50	1.96	2.81	0.79
SS-NV13-TF12M	0.250	0.73	12 mm GENLOK		2.82	1.41	1.41	1.90	0.56	0.50	1.96	2.81	0.79

NPT Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)								Panel Mounting Hole Diameter (in.)
			Inlet	Outlet	A	B	B1	H	C	D	E	F Open	
SS-NV12-FNT2	0.172	0.37	1/8" Female NPT		1.62	0.81	0.81	1.19	0.44	0.38	1.38	2.34	0.61
SS-NV12-NT2	0.172	0.37	1/8" Male NPT		2.00	1.00	1.00	1.19	0.44	0.38	1.38	2.34	0.61
SS-NV12-NT4	0.172	0.37	1/4" Male NPT		2.00	1.00	1.00	1.36	0.44	0.38	1.38	2.34	0.61
SS-NV13-FNT4	0.250	0.73	1/4" Female NPT		2.12	1.06	1.06	1.56	0.56	0.50	1.96	2.81	0.79
SS-NV13-NT6	0.250	0.73	3/8" Male NPT		2.24	1.12	1.12	1.62	0.56	0.50	1.96	2.81	0.79
SS-NV14-FNT6	0.375	1.80	3/8" Female NPT		3.00	1.50	1.50	2.25	0.75	0.75	3.00	3.91	1.04
SS-NV14-FNT8	0.375	1.80	1/2" Female NPT		3.00	1.50	1.50	2.25	0.75	0.75	3.00	3.91	1.04
SS-NV14-NT8	0.375	1.80	1/2" Male NPT		3.00	1.50	1.50	2.25	0.75	0.75	3.00	3.91	1.04
SS-NV11-NT2-TF2	0.080	0.09	1/8" Male NPT	1/8" GENLOK	1.75	0.75	1.00	1.31	0.44	0.31	1.00	2.29	0.47
SS-NV12-NT4-TF4	0.172	0.37	1/4" Male NPT	1/4" GENLOK	2.16	1.00	1.16	1.51	0.44	0.38	1.38	2.34	0.61
SS-NV12-NT4-TF6M	0.172	0.37	1/4" Male NPT	6 mm GENLOK	2.16	1.00	1.16	1.51	0.44	0.38"	1.38	2.34	0.61
SS-NV13-NT4-TF6	0.250	0.73	1/4" Male NPT	3/8" GENLOK	2.42	1.12	1.30	1.79	0.56	0.50	1.96	2.81	0.79
SS-NV13-NT4-FNT4	0.250	0.73	1/4" Male NPT	1/4" Female NPT	2.18	1.12	1.06	1.56	0.56	0.50	1.96	2.81	0.79
SS-NV13-NT6-TF6	0.250	0.73	3/8" Male NPT	3/8" GENLOK	2.42	1.12	1.30	1.79	0.56	0.50	1.96	2.81	0.79
SS-NV13-NT6-FNT6	0.250	0.73	3/8" Male NPT	3/8" Female NPT	2.22	1.12	1.10	1.60	0.56	0.50	1.96	2.81	0.79
SS-NV13-NT6-TF8	0.250	0.73	1/2" Male NPT	1/2" GENLOK	2.53	1.12	1.41	1.90	0.56	0.50	1.96	2.81	0.79
SS-NV14-NT8-FNT8	0.375	1.80	1/2" Male NPT	1/2" Female NPT	3.00	1.50	1.50	2.25	0.75	0.75	3.00	3.91	1.04

Ordering Information

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

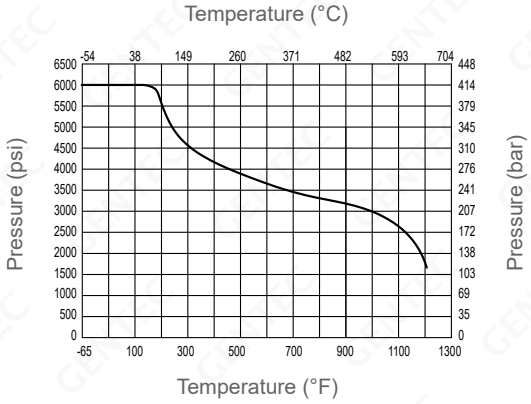
* Please refer to the chart above for the available specifications for the desired connection type.

** 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.



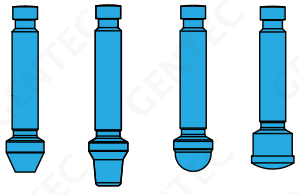
Product Features

- Maximum operating pressure: 6000 psi (410 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: -65°F ~ 1200°F (-54°C ~ 649°C)
- 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 optional
- Panel mounting available

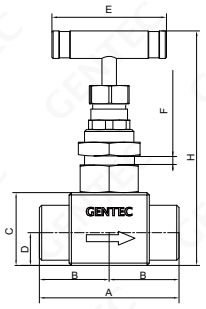


Materials of Construction

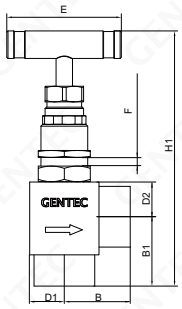
- Body: 316 SS
- Lower Valve Stem: 316 SS (V, R, B)
  316 SS + PCTFE (K)
- Packing: PTFE / PEEK / Graphite(Optional)
- Handle: 304 SS / 6061 (Optional)



Dimensions



Straight Pattern



Angle Pattern

Fractional and Metric Tube Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)											Panel Mounting Hole Diameter (in.)
			Inlet	Outlet	A	B	B1	C	D	D1	D2	E	F	H	H1	
SS-NV22-TF4	0.157	0.35	1/4" GENLOK		2.31	1.15	1.20	1.10	0.42	0.59	0.51	1.97	0.24	3.59	4.58	0.91
SS-NV22-TF6M	0.157	0.35	6 mm GENLOK		2.31	1.15	1.20	1.10	0.42	0.59	0.51	1.97	0.24	3.59	4.58	0.91
SS-NV22-TF8M	0.157	0.35	8 mm GENLOK		2.31	1.15	1.20	1.10	0.42	0.59	0.51	1.97	0.24	3.59	4.58	0.91
SS-NV23-TF6	0.252	0.85	3/8" GENLOK		2.82	1.41	1.32	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.53	0.85
SS-NV23-TF8	0.252	0.85	1/2" GENLOK		3.04	1.52	1.42	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.63	0.85
SS-NV23-TF10M	0.252	0.85	10 mm GENLOK		3.04	1.42	1.42	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.63	0.85
SS-NV23-TF12M	0.252	0.85	12 mm GENLOK		3.04	1.52	1.42	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.63	0.85
SS-NV24-TF12	0.394	2.18	3/4" GENLOK		3.94	1.97	1.61	1.89	0.87	0.79	0.79	3.50	0.28	5.20	5.87	1.08
SS-NV24-TF14M	0.394	2.18	14 mm GENLOK		3.94	1.97	1.61	1.89	0.87	0.79	0.79	3.50	0.28	5.20	5.87	1.08
SS-NV24-TF18M	0.394	2.18	18 mm GENLOK		3.94	1.97	-	1.89	0.87	-	-	3.50	0.28	5.20	-	1.08
SS-NV25-SW16	0.59	3.27	1" Tube socket weld		3.50	1.75	1.75	2.28	1.14	0.87	1.38	5.00	0.43	6.45	6.69	1.38
SS-NV25-SW25M	0.59	3.27	25mm Tube socket weld		3.50	1.75	1.75	2.28	1.14	0.87	1.38	5.00	0.43	6.45	6.69	1.38
SS-NV26-SW16	0.71	5.65	1" Tube socket weld		3.94	1.97	1.97	2.48	1.24	-	-	5.00	0.43	6.77	-	1.38
SS-NV26-SW25M	0.71	5.65	25mm Tube socket weld		3.94	1.97	1.97	2.48	1.24	-	-	5.00	0.43	6.77	-	1.38

NPT Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)											Panel Mounting Hole Diameter (in.)
			Inlet	Outlet	A	B	B1	C	D	D1	D2	E	F	H	H1	
SS-NV22-FNT2	0.157	0.35	1/8" Female NPT		1.57	0.79	0.98	1.10	0.42	0.59	0.51	1.97	0.24	3.59	4.37	0.91
SS-NV22-FNT4	0.157	0.35	1/4" Female NPT		1.97	0.98	0.98	1.10	0.42	0.59	0.51	1.97	0.24	3.59	4.37	0.91
SS-NV22-NT4	0.157	0.35	1/4" Male NPT		2.13	1.06	0.98	1.10	0.42	0.59	0.51	1.97	0.24	3.59	4.37	0.91
SS-NV22-NT6	0.157	0.35	3/8" Male NPT		2.13	1.06	0.98	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.37	0.85
SS-NV23-FNT4	0.252	0.85	1/4" Female NPT		2.40	1.20	1.12	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.41	0.85
SS-NV23-FNT6	0.252	0.85	3/8" Female NPT		2.40	1.20	1.12	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.41	0.85
SS-NV23-NT6	0.252	0.85	3/8" Male NPT		2.40	1.20	1.12	1.25	0.56	0.69	0.61	1.97	0.24	3.87	4.41	0.85
SS-NV24-FNT8	0.394	2.18	1/2" Female NPT		2.99	1.50	1.50	1.89	0.87	0.79	0.79	3.50	0.28	5.20	5.75	1.08
SS-NV24-FNT12	0.394	2.18	3/4" Female NPT		2.99	1.50	1.50	1.89	0.87	0.79	0.79	3.50	0.28	5.20	5.75	1.08
SS-NV24-NT12	0.394	2.18	3/4" Male NPT		2.99	1.50	1.50	1.89	0.87	-	-	3.50	0.28	5.20	5.75	1.08
SS-NV25-FNT12	0.59	3.27	3/4" Female NPT		3.50	1.75	1.75	2.28	1.14	0.87	1.38	5.00	0.43	6.45	6.69	1.38
SS-NV25-NT16	0.59	3.27	1" NPT		4.33	2.17	2.52	2.28	1.14	0.87	1.38	5.00	0.43	6.45	6.69	1.38
SS-NV26-FNT16	0.71	5.65	1" Female NPT		3.94	1.97	1.97	2.48	1.24	-	-	5.00	0.43	6.77	-	1.38

Ordering Information

EX: SS	- NV23	- TF4	- K	- T	-	-	-
Body Material	Series	Inlet/Outlet Connection*	Valve Stem Type	Packing	Options	Options	Options
SS: 316	**NV22**: 4mm **NV23**: 6.4mm **NV24**: 10mm **NV25**: 15mm **NV26**: 18mm	NT4: 1/4" Male NPT FNT4: 1/4" Female NPT TF4: 1/4" GENLOK TF6: 3/8" GENLOK	V: V Type R: R Type B: B Type K: K Type(NV22, NV23, NV24)	T: PTFE (-65°F ~ 450°F) P: PEEK (-65°F ~ 500°F) G: Graphite (-65°F ~ 1200°F)	A: Angle Pattern Blank: Straight Pattern	BS: Stainless Steel Handle Blank: Black Anodization Aluminum Bar	D: Degrease cleaning Blank: General cleaning P: Panel mounting

* Please refer to the chart above for the available specifications for the desired connection type.



Angle Pattern

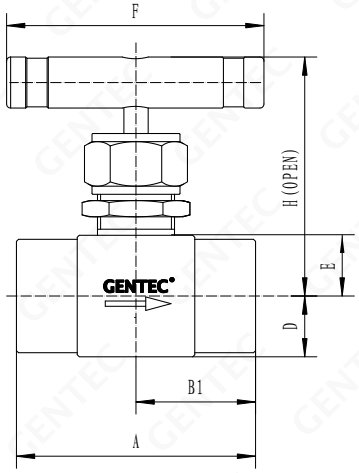
Product Features

- Maximum operating pressure: 6000 psi (413 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature:
  -65ºF ~ 200ºF (-53ºC ~ 93ºC), with PCTFE packing
  -65ºF ~ 600ºF (-53ºC ~ 315ºC), 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

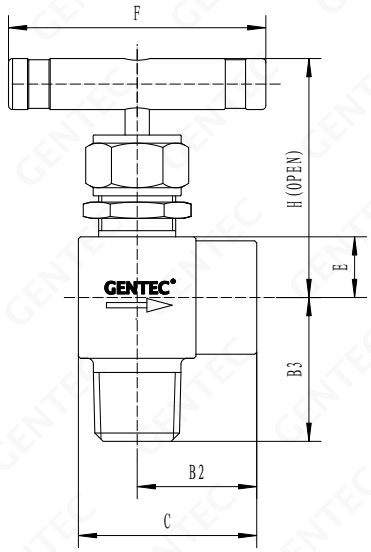
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS + PCTFE
- Sealing Gasket: PCTFE
- Handle: 316 SS

Dimensions



Straight Pattern



Angle Pattern

Fractional Tube Fittings

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	0.76

NPT Fittings

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-NT4-K	0.14	0.23	1/4" Male NPT		2.24	1.12	-	-	-	0.53	0.59	2.50	2.44	0.76
SS-NV42-FNT4-K	0.14	0.23	1/4" Female NPT		2.24	1.12	-	-	-	0.53	0.59	2.50	2.44	
SS-NV42-NT6-K	0.14	0.23	3/8" Male NPT		2.32	1.16	-	-	-	0.53	0.59	2.50	2.44	
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-NT8-K	0.26	0.73	1/2" Male NPT		2.80	1.40	-	-	-	0.59	0.59	2.50	2.44	
SS-NV43-FNT8-K	0.26	0.73	1/2" Female NPT		2.80	1.40	-	-	-	0.59	0.59	2.50	2.44	
SS-NV42-NT4-FNT4-K	0.14	0.23	1/4" Male NPT	1/4" Female NPT	2.24	1.12	-	-	-	0.53	0.59	2.50	2.44	
SS-NV43-NT6-FNT6-K	0.26	0.73	3/8" Male NPT	3/8" Female NPT	2.32	1.16	-	-	-	0.59	0.59	2.50	2.44	
SS-NV43-NT8-FNT8-K	0.26	0.73	1/2" Male NPT	1/2" Female NPT	2.80	1.40	-	-	-	0.59	0.59	2.50	2.44	
SS-NV43-NT8-FNT8-K-A	0.26	0.73	1/2" Male NPT	1/2" Female NPT	-	-	1.40	1.40	1.97	0.59	0.59	2.50	2.44	

Ordering Information

EX: SS -	NV43 -	NT8 -	FNT8 -	K -	A
Body Material	Series	Inlet Connection*	Outlet Connection*	Valve Stem Type	Options
SS: 316 SS	**NV42** **NV43**	NT8: 1/2" Male NPT	FNT8: 1/2" Female NPT	K: K Type N: N Type	A: Angle Pattern E: PEEK Packing Blank: Straight Pattern

* Please refer to the chart above for the available specifications for the desired connection type.

NV53 SERIES

High Temperature High Pressure Needle Valves



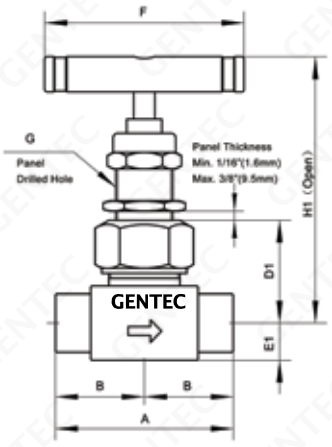
Product Features

- Maximum operating pressure: 6000 psi (413 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: -65ºF ~ 1200ºF (-53ºC ~ 648ºC)
- 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)

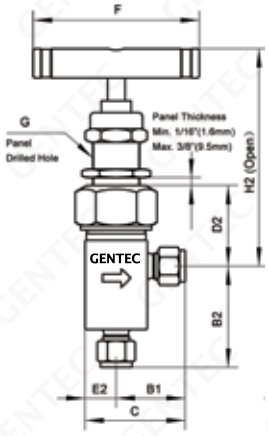
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Sealing Gasket: Flexible Graphite
- T-Handle: Aluminium

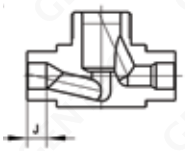
Dimensions



Straight Pattern



Angle Pattern



Socket Welded

Fractional and Metric Tube Fittings

Model	CV	Connection Type		Dimension (in.)													
		Inlet	Outlet	A	B	B1	B2	C	D1	D2	E1	E2	F	G	H1	H2	J
SS-NV53-TF8-A	2.1	1/2" GENLOK		3.92	-	1.68	2.08	2.37	1.82	1.88	0.62	0.69	3.50	1.03	4.76	4.84	-
SS-NV53-TF12	2.4	3/4" GENLOK		3.92	1.96	-	-	-	1.82	-	0.62	-	3.50	1.03	4.76	4.84	-
SS-NV53-TF16	2.4	1" GENLOK		4.09	2.04	-	-	-	1.88	-	0.69	-	3.50	1.03	4.76	4.84	-
SS-NV53-TF25M-A	1.9	25mm GENLOK		3.92	-	1.68	2.08	2.37	1.82	1.88	0.62	0.69	3.50	1.03	4.76	4.84	-

NPT and Weld Fittings

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	-	1.31	1.56	2.00	1.82	2.00	0.62	0.69	3.50	1.03	4.76	4.96	-
SS-NV53-FNT12	2.4	3/4" Female NPT		3.25	1.63	-	-	-	1.91	-	0.68	-	3.50	1.03	4.88	-	-
SS-NV53-FNT16	2.4	1" Female NPT		3.62	1.81	-	-	-	2.13	-	1.00	-	3.50	1.03	5.08	-	-
SS-NV53-SW8-A	2.2	1/2" Socket Weld		3.12	-	1.31	1.69	2.00	1.82	1.88	0.68	0.69	3.50	1.03	4.76	4.84	0.38
SS-NV53-SW12	2.2	3/4" Socket Weld		3.12	1.56	-	-	-	1.82	-	0.68	-	3.50	1.03	4.76	-	0.44
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
SS-NV53-NT8-FNT8-A	1.9	1/2" Male NPT	1/2" Female NPT	3.12	-	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	1.9	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	1.9	1" Male NPT	1" Female NPT	3.62	1.81	-	-	-	2.13	-	1.00	-	3.50	1.03	129	-	-

Ordering Information

EX: SS -	NV53 -	NT12 -	FNT12 -	A
Body Material	Series	Inlet Connection*	Outlet Connection*	Options
SS: 316 SS	**NV53**	NT12: 3/4" Male NPT	FNT12: 3/4" Female NPT	A: Angle Pattern Blank: Straight Pattern

* Please refer to the chart above for the available specifications for the desired connection type.



Slotted Handle

Vernier Handle

Product Features

- Maximum operating pressure

  MV21: 2000 psi (138 bar)

  MV22, MV23: 1000 psi (69 bar)
- End 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

Pressure-Temperature Rating

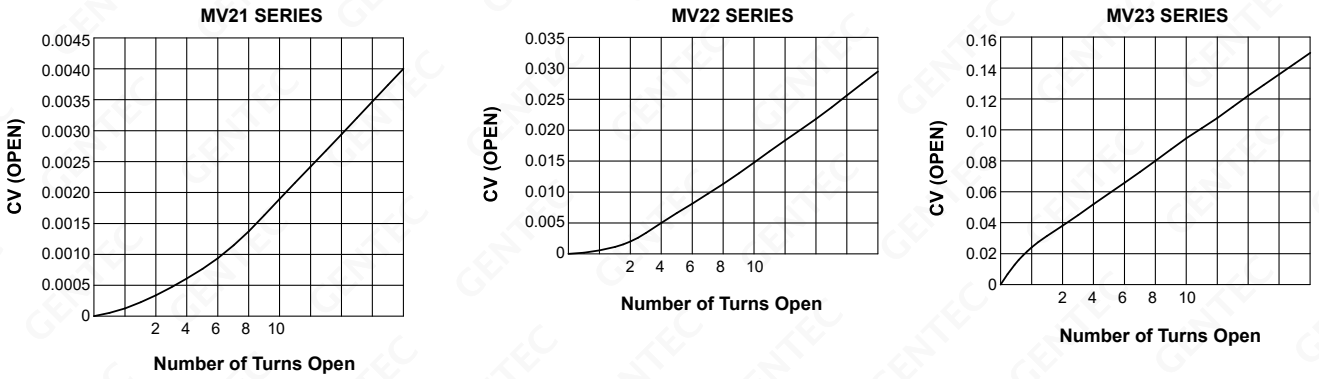
Series	Pressure-Temperature Ratings		Orifice in.(mm)	Shutoff	Stem Taper
	Temperature °F(°C)	Working Pressure psi (bar)			
MV21	-10 ~ 400 (-23 ~ 204)*	2000 (138)	0.032 (0.8)	No	1°
MV22		1000 (69)**	0.06 (1.5)	No	3°
MV23		1000 (69)**	0.13 (3.3)	Yes***	5°

*: –10 to 300°F (–23 to 148°C) for Buna N
**: Downstream pressure 500 psig (34.4 bar) max when valve requires adjustment at pressure due to strength limitations of the fine-pitch threads and high operating torque.
***: MV23 series valves are not recommended for shutoff in vacuum or gas service, or for repetitive shutoff in liquid service.

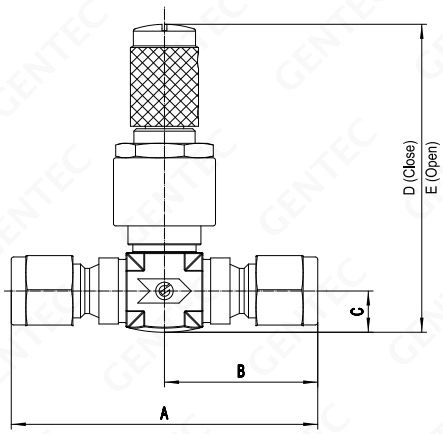
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Lower Gland: PTEF
- O-ring: Fluorine rubber
- Handle: 316 SS

CV-Number of Turns Open



Dimensions



Fractional Tube Fittings

Model	Orifice (mm)	CV	Connection Type		Dimension (in.)				
			Inlet	Outlet	A	B	C	D Close	E Open
SS-MV21-TF2	0.8	0.004	1/8" GENLOK		2.09	1.04	0.33	2.58	3.00
SS-MV21-TF4			1/4" GENLOK		2.31	1.15	0.33	2.58	3.00
SS-MV22-TF2	1.5	0.03	1/8" GENLOK		2.52	1.24	0.33	2.69	3.11
SS-MV22-TF4			1/4" GENLOK		2.52	1.24	0.33	2.69	3.11
SS-MV23-TF2	3.3	0.15	1/8" GENLOK		2.52	1.24	0.33	2.69	3.11
SS-MV23-TF4			1/4" GENLOK		2.52	1.24	0.33	2.69	3.11

NPT Fittings

Model	Orifice (mm)	CV	Connection Type		Dimension (in.)				
			Inlet	Outlet	A	B	C	D Close	E Open
SS-MV21-NT2	0.8	0.004	1/8" Male NPT		2.31	1.15	0.33	2.58	3.00
SS-MV21-NT4			1/4" Male NPT		2.44	1.22	0.33	2.58	3.00
SS-MV22-NT2	1.5	0.03	1/8" Male NPT		2.52	1.24	0.33	2.69	3.11
SS-MV22-NT4			1/4" Male NPT		2.52	1.24	0.33	2.69	3.11
SS-MV23-NT2	3.3	0.15	1/8" Male NPT		2.52	1.24	0.33	2.69	3.11
SS-MV23-NT4			1/4" Male NPT		2.52	1.24	0.33	2.69	3.11

Ordering Information

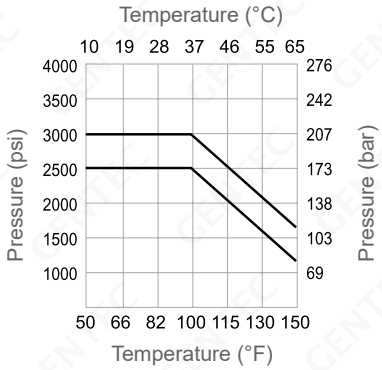
EX: SS -	MV22	M -	TF4 -	B
Body Material	Series	Knob	Inlet \ Outlet Connection	O-ring
SS: 316 SS	**MV21**: 1° **MV22**: 3° **MV23**: 5°	Blank: Slotted Handle M: Vemier Handle	TF4: 1/4" GENLOK TF2: 1/8" GENLOK NT4: 1/4" NPT NT2: 1/8" NPT FNT2: 1/8" NPT(F)	Blank: Standard B: Nitrile Butadiene Rubber

* Please refer to the chart above for the available specifications for the desired connection type.



Product Features

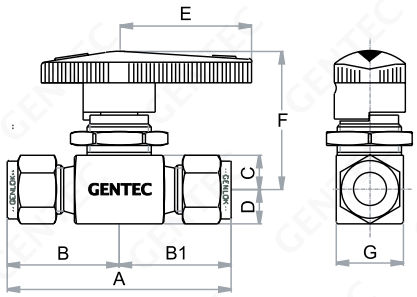
- Maximum operating pressure: 3000 psi (207 bar)- BV15
  2500 psi (172 bar)- others
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: 50°F ~ 150°F (10°C ~ 65°C)
- Handle indicates the flow direction
- End connections: GENLOK, 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.



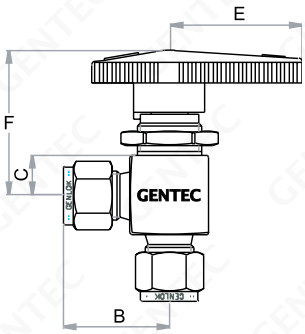
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Bushing: PTFE
- Packing: PTFE
- Handle: Nylon

Dimensions



Straight Pattern



Angle Pattern

Fractional and Metric Tube Fittings

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-TF4	0.125	0.60	0.35	1/4” GENLOK		2.18	1.09	1.09	0.34	0.28	1.12	1.34	0.67	0.61
SS-BV15-TF4	0.187	1.20	0.80	1/4” GENLOK		2.38	1.19	1.19	0.44	0.37	1.53	1.53	0.78	0.79
SS-BV15-TF6	0.187	1.20	0.80	3/8” GENLOK		2.56	1.28	1.28	0.44	0.37	1.53	1.53	0.78	0.79
SS-BV16-TF6	0.281	2.60	1.70	3/8” GENLOK		3.06	1.53	1.53	0.56	0.56	2.00	2.06	1.12	1.10
SS-BV18-TF8	0.406	10.4	4.60	1/2” GENLOK		3.94	1.97	1.97	0.69	0.69	3.00	2.44	1.50	1.56
SS-BV18-TF12	0.406	10.4	4.60	3/4” GENLOK		3.94	1.97	1.97	0.69	0.69	3.00	2.44	1.50	1.56
SS-BV13-TF3M	0.09	0.20	0.15	3 mm GENLOK		2.01	1.01	1.01	0.34	0.28	1.12	1.36	0.58	0.61
SS-BV14-TF6M	0.13	0.60	0.35	6 mm GENLOK		2.21	1.10	1.10	0.34	0.28	1.12	1.36	0.58	0.61
SS-BV15-TF6M	0.19	1.20	0.90	6 mm GENLOK		2.39	1.20	1.20	0.44	0.38	1.53	1.56	0.78	0.79
SS-BV15-TF8M	0.19	1.20	0.90	8 mm GENLOK		2.46	1.23	1.23	0.44	0.38	1.53	1.56	0.78	0.79
SS-BV16-TF10M	0.28	2.5	2.0	10 mm GENLOK		3.07	1.53	1.53	0.56	0.56	2.00	2.07	1.12	1.10
SS-BV18-TF12M	0.37	8.9	4.6	12 mm GENLOK		3.92	1.96	1.96	0.69	0.69	3.00	2.43	1.50	1.56

NPT and FSR Fittings

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-BV14-FNT2	0.125	0.50	0.30	1/8” Female NPT		1.62	0.81	0.81	0.34	0.28	1.12	1.34	0.67	0.61
SS-BV14-VM4	0.125	0.60	0.35	1/4” Male FSR		2.12	1.06	1.06	0.44	0.37	1.12	1.34	0.78	0.61
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	0.187	1.20	0.80	1/4” Female NPT		2.06	1.03	1.03	0.44	0.37	1.53	1.53	0.78	0.79
SS-BV15-NT4	0.187	1.20	0.80	1/4” Male NPT		2.00	1.00	1.00	0.44	0.37	1.53	1.53	0.78	0.79
SS-BV15-VM4	0.187	1.20	0.80	1/4” Male FSR		2.12	1.06	1.06	0.44	0.37	1.53	1.53	0.78	0.79
SS-BV16-FNT4	0.281	2.60	1.70	1/4” Female NPT		2.50	1.25	1.25	0.56	0.56	2.00	2.06	1.12	1.10
SS-BV16-FNT6	0.281	2.60	1.70	3/8” Female NPT		2.50	1.25	1.25	0.56	0.56	2.00	2.06	1.12	1.10
SS-BV16-VM8	0.281	2.60	1.70	1/2” Male FSR		2.88	1.44	1.44	0.56	0.56	2.00	2.06	1.12	1.10
SS-BV18-FNT8	0.406	10.4	4.60	1/2” Female NPT		3.12	1.56	1.56	0.69	0.69	3.00	2.44	1.50	1.56
SS-BV15-NT4-TF4	0.187	1.20	0.8	1/4” Male NPT	1/4” GENLOK	2.19	1.00	1.19	0.44	0.37	1.53	1.53	0.78	0.79

Ordering Information

EX: SS -	BV15 -	TF4 -	A
Body Material	Series	Inlet / Outlet Connection*	Options
SS: 316 SS	**BV13, BV14, BV15, BV16, BV18**	TF4: 1/4” GENLOK	A: Angle Pattern Blank: Straight Pattern

* Please refer to the chart above for the available specifications for the desired connection type.



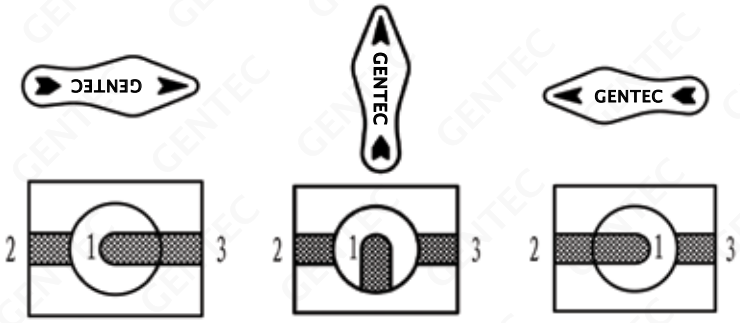
Product Features

- 3-Way valve
- Maximum operating pressure: 2500 psi (172 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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.

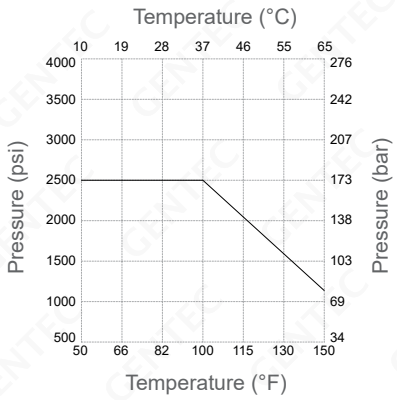
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Bushing: PTFE
- Upper Packing: PTFE
- Lower Gland: PTFE
- Handle: Nylon

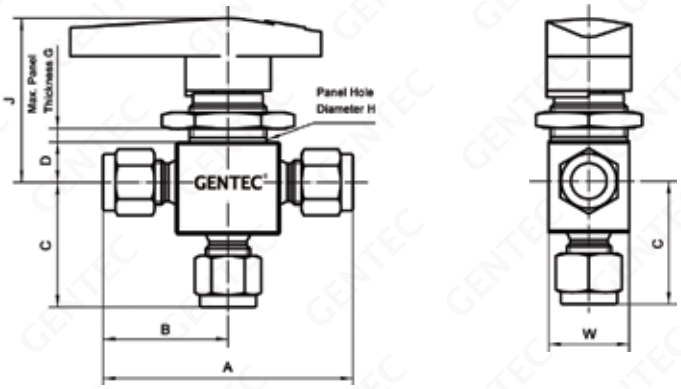
Flow Path Designator



Pressure-Temperature



Dimensions



Fractional Tube Fittings

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

NPT Fittings

Model	Orifice (in.)	CV	Connection Type Inlet/Outlet	Dimension (in.)								
				A	B	C	D	F	G	H	J	w
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

EX: SS -	BV34 -	FNT4
Body Material	Series	Inlet / Outlet Connection
SS: 316 SS	**BV33** **BV34** **BV35**	TF2: 1/8" GENLOK TF4: 1/4" GENLOK FNT2: 1/8" Female NPT FNT4: 1/4" Female NPT



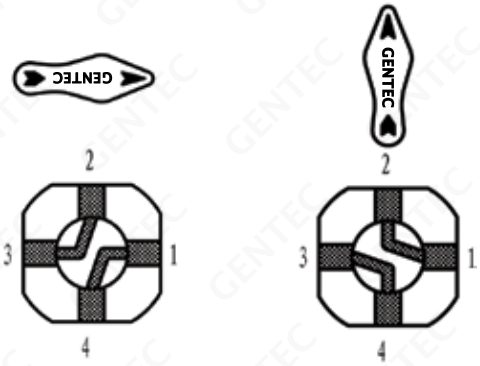
Product Features

- 4-Way valve
- Maximum operating pressure: 2500 psi (172bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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.

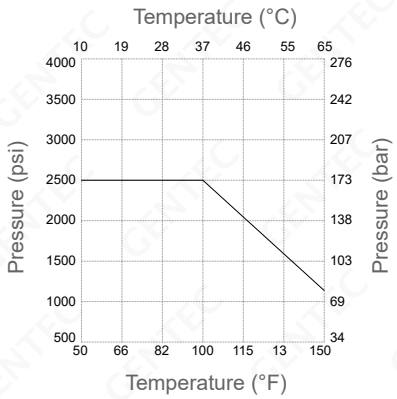
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Bushing: PTFE
- Upper Packing: PTFE
- Lower Gland: PTFE
- Handle: Nylon

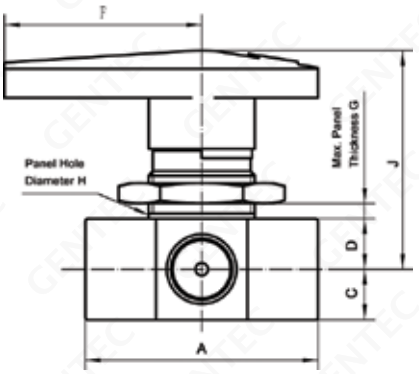
Flow Path Designator



Pressure-Temperature



Dimensions



NPT Fittings

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

EX: SS -	BV42 -	FNT2
Body Material	Series	Inlet / Outlet Connection
SS: 316 SS	**BV42**	FNT2: 1/8" Female NPT FNT4: 1/4" Female NPT

* Please refer to the chart above for the available specifications for the desired connection type.



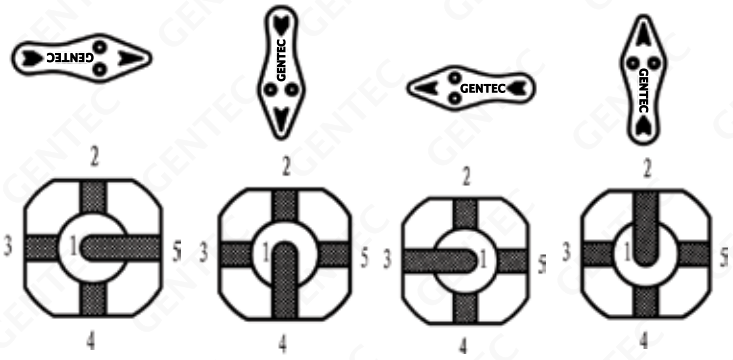
Product Features

- 5-Way valve
- Maximum operating pressure: 2500 psi (172bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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.

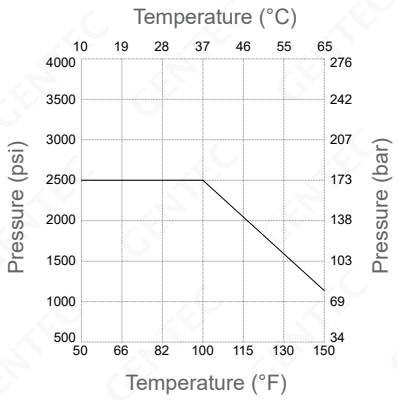
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Bushing: PTFE
- Lower Gland: PTFE
  Upper Gland: PTFE
- Handle: Nylon

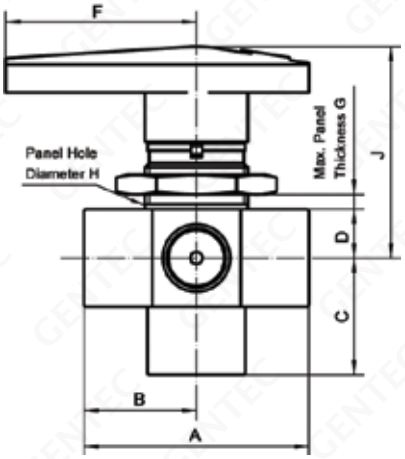
Flow Path Designator



Pressure-Temperature



Dimensions



NPT Fittings

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

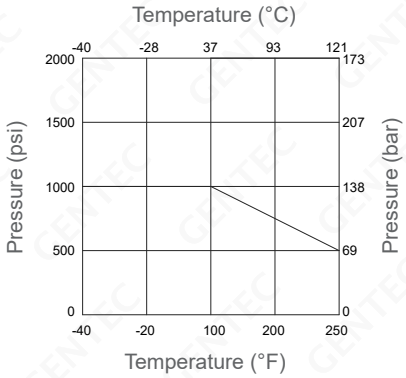
EX: SS -	BV52 -	FNT2
Body Material	Series	Inlet / Outlet Connection
SS: 316 SS	**BV52**	FNT2: 1/8" Female NPT FNT4: 1/4" Female NPT

* Please refer to the chart above for the available specifications for the desired connection type.



Product Features

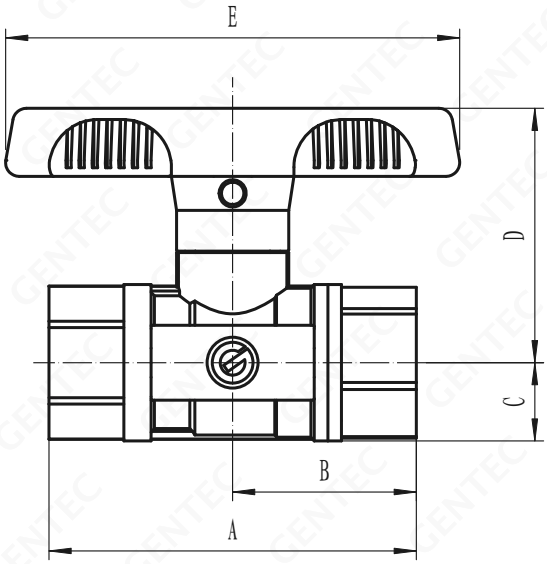
- Maximum operating pressure: 1000 psi (69 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: -40°F ~ 248°F (-40°C ~ 120°C)
- End connections: GENLOK and NPT
  (please refer to the tables on next page for the specifications)
- 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

- Body: 316 SS
- Valve Stem: 316 SS
- Bushing: PTFE
- Packing: PTFE
- Upper Gland: 316 SS
- O-ring: CR
- Handle: Nylon

Dimensions



Fractional Tube Fittings

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-BV113-TF6	0.28	2.6	3/8" GENLOK		3.31	1.65	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-BV116-TF12	0.51	13.5	3/4" GENLOK		4.17	2.09	0.77	2.07	3.70
SS-BV118-TF16	0.63	18	1" GENLOK		4.25	2.13	0.77	2.07	3.70

NPT Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)				
			Inlet	Outlet	A	B	C	D	E
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-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-FNT8	0.41	10.5	1/2" Female NPT		3.31	1.65	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

Ordering Information

EX: SS -	BV112 -	FNT4
Body Material	Series	Inlet / Outlet Connection*
SS: 316 SS	**BV112** **BV113** **BV114** **BV116** **BV118**	FNT4: 1/4" Female NPT TF4: 1/4" GENLOK NT4: 1/4" Male NPT .....

* Please refer to the chart above for the available specifications for the desired connection type.



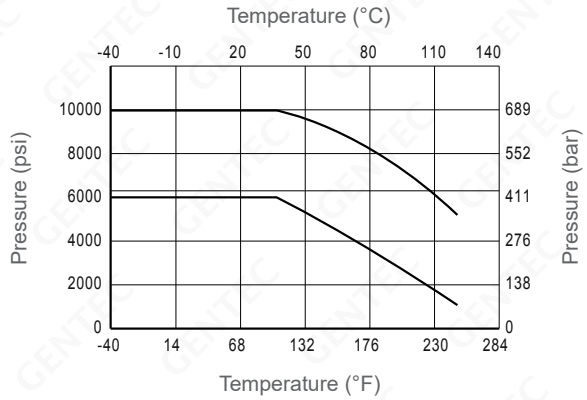
Product Features

- Maximum operating pressure:
  BV212, BV213: 10000 psi (689 bar)
  BV214: 6000 psi (413 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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

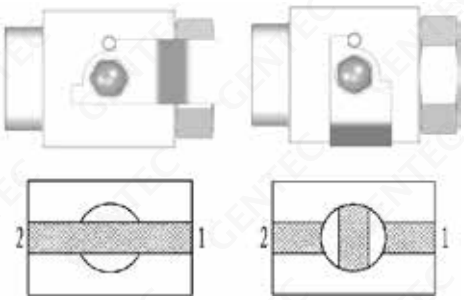
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Washer: PEEK
- Valve Core: 316 SS
- O-ring: Neoprene
- Handle: Stainless Steel

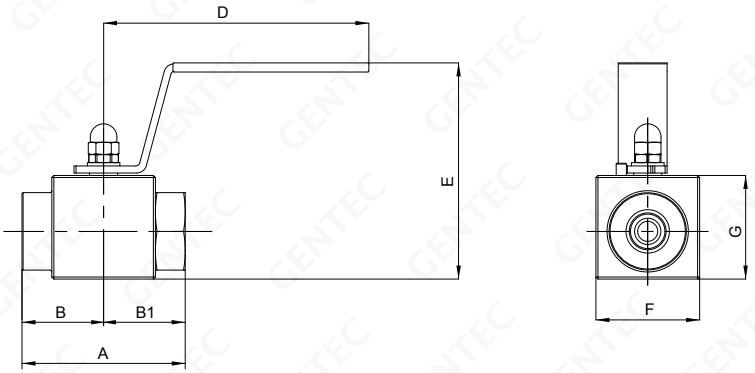
Pressure-Temperature



Flow Path Designator



Dimensions



Model	Orifice (in.)	CV	Connection Type		Dimension (in.)							
			Inlet	Outlet	A	B	B1	C	D	E	F	G
SS-BV212-FNT2	0.12	0.6	1/8" Female NPT		2.05	0.83	1.22	0.51	4.67	2.50	1.13	1.13
SS-BV212-TF4			1/4" GENLOK		3.19	1.34	1.85					
SS-BV212-TF6M			6mm GENLOK		3.19	1.34	1.85					
SS-BV212-FRT2			1/8" Female Rc		2.05	0.83	1.22					
SS-BV213-FNT4	0.20	1.3	1/4" Female NPT		2.44	0.98	1.46					
SS-BV213-TF4			1/4" GENLOK		3.19	1.34	1.85					
SS-BV213-TF6			3/8" GENLOK		3.19	1.34	1.85					
SS-BV213-FRT4			1/4" Female Rc		2.44	0.98	1.46					
SS-BV214-FNT6	0.39	10.5	3/8" Female NPT		3.15	1.57	1.57	0.92	5.12	4.17	2	2
SS-BV214-TF8			1/2" GENLOK		3.32	1.47	1.47					
SS-BV214-TF12M			12mm GENLOK		3.32	1.47	1.47					
SS-BV214-FRT6			3/8" Female Rc		3.15	1.57	1.57					
SS-BV214-FNT8			1/2" Female NPT		3.15	1.57	1.57					

Ordering Information

EX: SS -	BV212 -	TF4
Body Material	Series	Inlet / Outlet Connection*
SS: 316 SS	**BV212** **BV213** **BV214**	TF4: 1/4" GENLOK .....

* Please refer to the chart above for the available specifications for the desired connection type.



Straight Pattern (Manual)



Straight Pattern (Pneumatic)

Product Features

- Maximum operating pressure: 6000 psi (415 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: -65°F ~ 449.6°F (-54°C ~ 232°C)
- Manual and pneumatic options are available
- Handle indicates the flow direction
- End connections: GENLOK and NPT
- Valve Pattern: Straight, Angle and 3-Way
- Panel mounting available
- Low torque design
- 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

* Note: For angle or 3-way ball valves, gas medium can only enter from the bottom.

Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Adjusting Ring: PTFE
- Valve Core: 316 SS
- Handle: Nylon, Aluminum Alloy



Angle Pattern



3-Way Valve

Pneumatic Actuator According to ISO 5211 Standard

Category	Parameter Requirements
Gas Source	Dry and clean air
Recommended gas source pressure	5.5 bar
Maximum gas source pressure	8 bar
Lubrication	Each actuator has been added with sufficient lubricant to ensure normal operation
Installation	The actuator can be installed at any angle both indoors and outdoors

Pneumatic Actuator Working Condition

Please select the pneumatic actuator corresponding to the temperature range in the following table according to the operating conditions of the ball valve.

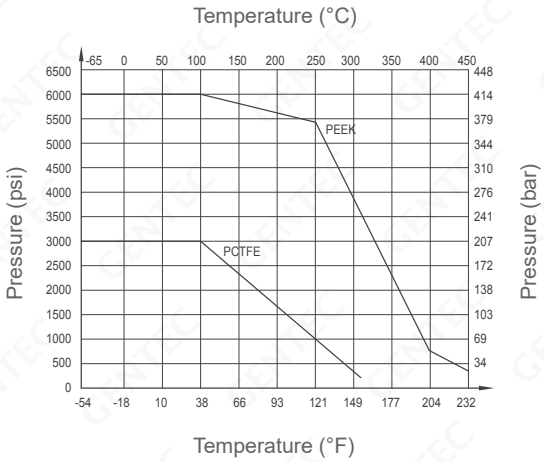
Pneumatic Actuator	Code	Temperature Range
High-temperature Type	**HT**	-4~248°F (-20~120°C)
Low-temperature Type	**LT**	-40~176°F (-40~80°C)

Minimum Operating Pressure

The maximum execution pressure is 8 bar (116 psi). For the minimum execution pressure, please refer to the minimum execution pressure in the table below.

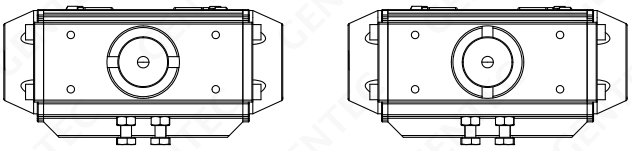
Valve Series	Orifice	Double-acting Pneumatic Actuator Model	Single-acting Pneumatic Actuator Model		Execution Mode	
					Single-acting	Double-acting
			Normally Close	Normally Open	Minimum Execution Pressure	
BV318	10.3 mm	PA050-00D	PA065-S11C	PA065-S11O	72 psi (5.0 bar)	36 psi (2.5 bar)

Pressure-Temperature

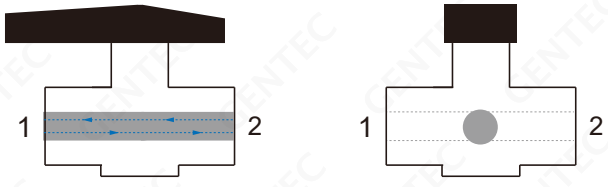


Flow Path Designator

Straight Pattern



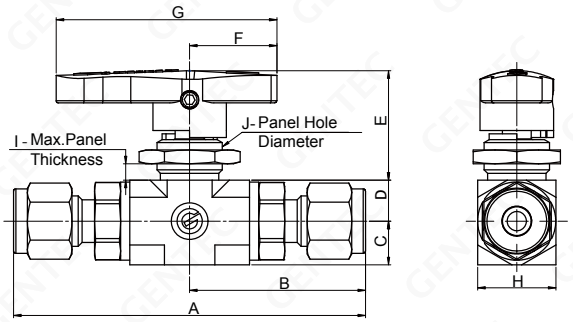




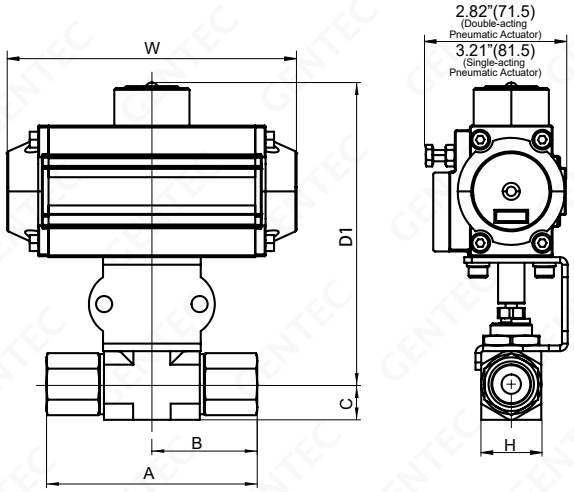
OPEN CLOSE

Dimensions

Straight Pattern



Manual



Pneumatic

Model Number	Orifice (in.)	Cv	Inlet / Outlet Connection	Dimensions (in.)									
				A	B	C	D	E	F	G	H	I	J
SS-BV315-TF2	0.09	0.2	1/8" GENLOK	2.31	1.16	0.37	0.35	0.94	0.75	1.89	0.67	0.25	0.56
SS-BV315-TF3M			3mm GENLOK	2.38	1.19								
SS-BV315-FNT2	0.17	0.9	1/8" Female NPT	2.25	1.13								
SS-BV315-NT2			1/8" Male NPT	2.33	1.17								
SS-BV315-TF4			1/4" GENLOK	3.01	1.51								
SS-BV315-TF6M			6mm GENLOK	3.08	1.54								
SS-BV315-NT4			1/4" Male NPT	2.57	1.29								
SS-BV316-TF6	0.25	2.3	3/8" GENLOK	3.62	1.81	0.49	0.48	1.25	0.91	2.44	0.91	0.33	0.75
SS-BV316-TF8M			8mm GENLOK	3.59	1.80								
SS-BV316-TF10M			10mm GENLOK	3.65	1.83								
SS-BV316-NT6			3/8" Male NPT	3.08	1.54								
SS-BV316-NT4			1/4" Male NPT										
SS-BV316-FNT4			1/4" Female NPT	2.86	1.43								

Model Number		Orifice (in.)	Cv	Inlet / Outlet Connection	Dimensions (in.)											
Manual	Pneumatic				A	B	C	D	D1	E	F	G	H	W	I	J
SS-BV318-TF8	SS-BV318-TF8-PD	0.41	6.4	1/2" GENLOK	4.68	2.34	0.75	0.69	6.34	1.55	1.10	3.27	1.26	6.06	0.39	0.87
	SS-BV318-TF8-PO								7.09					7.44		
	SS-BV318-TF8-PC															
SS-BV318-TF12	SS-BV318-TF12-PD			3/4" GENLOK	4.66	2.33			6.34					6.06		
	SS-BV318-TF12-PO								7.09					7.44		
	SS-BV318-TF12-PC															
SS-BV318-TF12M	SS-BV318-TF12M-PD			12mm GENLOK					6.34					6.06		
	SS-BV318-TF12M-PO								7.09					7.44		
	SS-BV318-TF12M-PC															

Model Number		Orifice (in.)	Cv	Inlet / Outlet Connection	Dimensions (in.)											
Manual	Pneumatic				A	B	C	D	D1	E	F	G	H	W	I	J
SS-BV318-TF14M	SS-BV318-TF14M-PD	0.41	6.4	14mm GENLOK					6.34					5.94		
	SS-BV318-TF14M-PO								7.09					6.61		
	SS-BV318-TF14M-PC															
SS-BV318-TF16M	SS-BV318-TF16M-PD			16mm GENLOK					6.34					5.94		
	SS-BV318-TF16M-PO								7.09					6.61		
	SS-BV318-TF16M-PC															
SS-BV318-TF18M	SS-BV318-TF18M-PD			18mm GENLOK					6.34					5.94		
	SS-BV318-TF18M-PO								7.09					6.61		
	SS-BV318-TF18M-PC															
SS-BV318-TF22M	SS-BV318-TF22M-PD			22mm GENLOK	4.82	2.41			6.34					5.94		
	SS-BV318-TF22M-PO								7.09					6.61		
	SS-BV318-TF22M-PC															
SS-BV318-FNT12	SS-BV318-FNT12-PD			3/4" Female NPT					6.34					5.94		
	SS-BV318-FNT12-PO								7.09					6.61		
	SS-BV318-FNT12-PC															
SS-BV318-FNT8	SS-BV318-FNT8-PD			1/2" Female NPT	4.30	2.15			6.34					5.94		
	SS-BV318-FNT8-PO								7.09					6.61		
	SS-BV318-FNT8-PC															
SS-BV318-FNT6	SS-BV318-FNT6-PD			3/8" Female NPT	3.90	1.95			6.34					5.94		
	SS-BV318-FNT6-PO								7.09					6.61		
	SS-BV318-FNT6-PC															
SS-BV318-NT8	SS-BV318-NT8-PD	0.41	6.4	1/2" Male NPT	4.44	2.22	0.75	0.69	6.34	1.55	1.10	3.27	1.26	5.94	0.39	0.87
	SS-BV318-NT8-PO								7.09					6.61		
	SS-BV318-NT8-PC															
SS-BV318-NT12	SS-BV318-NT12-PD			3/4" Male NPT					6.34					5.94		
	SS-BV318-NT12-PO								7.09					6.61		
	SS-BV318-NT12-PC															

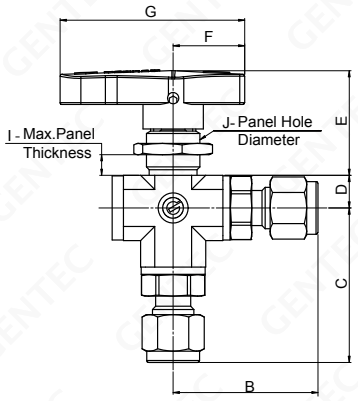
Ordering Information

EX: SS	- BV31	6		- NT4	- K	- PD*	- HT	B
Body	Series	Orifice	Valve Pattern	Inlet / Outlet Connection	Sealing Gasket	Pneumatic Actuator Mode	Pneumatic Actuator Working Condition	Options
SS: 316	**BV31**	5: 2.4, 4.2 mm 6: 6.4 mm 8: 10.3 mm	Blank: Straight	NT4: 1/4" Male NPT TF12: 3/4" GENLOK	K: PCTFE E: PEEK	Blank: Manual PD: 90° Double-acting Pneumatic Actuator (normally open) PC: 90° Single-acting Pneumatic Actuator (normally close) PO: 90° Single-acting Pneumatic Actuator (normally open)	HT: High-temperature Type LT: Low-temperature Type	Blank: Standard B: Metal Handle D: Special Cleaning

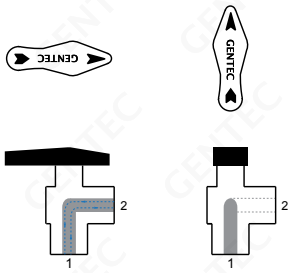
*: The pneumatic actuator is only available in the BV318 series.
*: For more connection options contact GENTEC.

Dimensions

Angle Pattern



Flow Path Designator



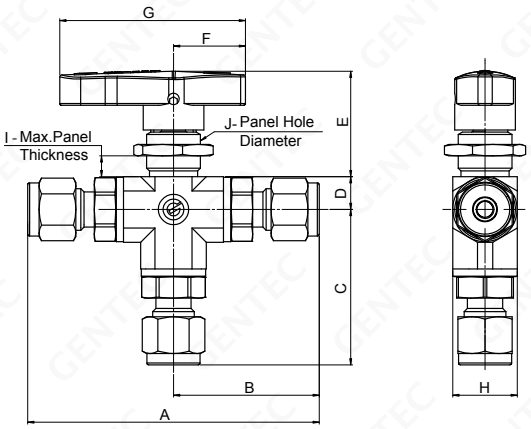
Model Number	Orifice (in.)	Cv	Inlet / Outlet Connection	Dimensions (in.)								
				B	C	D	E	F	G	H	I	J
SS-BV315A-FNT2	0.17	0.9	1/8" Female NPT	1.13	1.23	0.34	1.10	0.75	1.93	0.67	0.25	0.56
SS-BV315A-NT2			1/8" Male NPT	1.17	1.27							
SS-BV315A-NT4			1/4" Male NPT	1.30	1.39							
SS-BV315A-TF4			1/4" GENLOK	1.48	1.61							
SS-BV315A-TF6M			6mm GENLOK									
SS-BV316A-TF6	0.25	2.3	3/8" GENLOK	1.83	2.01	0.60	1.28	0.91	2.44	0.91	0.33	0.75
SS-BV316A-TF8M			8mm GENLOK	1.75	1.93							
SS-BV316A-TF10M			10mm GENLOK	1.73	1.91							
SS-BV316A-FNT4			1/4" Female NPT	1.51	1.69							
SS-BV316A-NT4			1/4" Male NPT	1.62	1.80							
SS-BV316A-NT6			3/8" Male NPT									
SS-BV318A-TF8	0.41	6.4	1/2" GENLOK	2.28	2.59	0.89	1.53	1.10	3.27	1.26	0.39	0.87
SS-BV318A-TF12			3/4" GENLOK	2.38	2.68							
SS-BV318A-TF12M			12mm GENLOK									
SS-BV318A-TF14M			14mm GENLOK									
SS-BV318A-TF16M			16mm GENLOK									
SS-BV318A-TF18M			18mm GENLOK									
SS-BV318A-FNT6			3/8" Female NPT	2.00	2.30							
SS-BV318A-FNT8			1/2" Female NPT	2.20	2.50							
SS-BV318A-FNT12			3/4" Female NPT									
SS-BV318A-NT8			1/2" Male NPT	2.43	2.74							
SS-BV318A-NT12			3/4" Male NPT									

Ordering Information

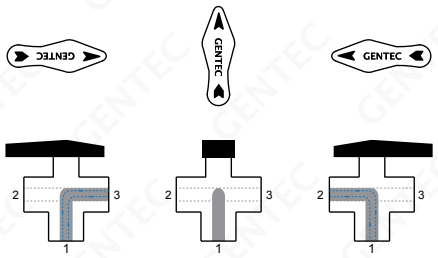
EX: SS	- BV31	6	A	- NT4	- K	B
Body Material	Series	Orifice	Valve Pattern	Inlet / Outlet Connection	Sealing Gasket	Options
SS: 316	**BV31**	5: 4.2 mm 6: 6.4 mm 8: 10.3 mm	A: Angle	NT4: 1/4" Male NPT TF12: 3/4" GENLOK	K: PCTFE E: PEEK	Blank: Standard B: Metal Handle D: Special Cleaning

Dimensions

3-Way valve



Flow Path Designator



1 and 3 are Connected | **Close** | **1 and 2 are Connected**

Model Number	Orifice (in.)	Cv	Inlet / Outlet Connection	Dimensions (in.)									
				A	B	C	D	E	F	G	H	I	J
SS-BV315T-FNT2	0.17	0.9	1/8" Female NPT	2.27	1.13	1.23	0.34	1.10	0.75	1.93	0.67	0.25	0.56
SS-BV315T-NT2			1/8" Male NPT	2.35	1.17	1.27							
SS-BV315T-NT4			1/4" Male NPT	2.59	1.30	1.39							
SS-BV315T-TF4			1/4" GENLOK	2.95	1.48	1.61							
SS-BV315T-TF6M			6mm GENLOK										
SS-BV316T-TF6	0.25	2.3	3/8" GENLOK	3.66	1.83	2.01	0.60	1.28	0.91	2.44	0.91	8.3	0.75
SS-BV316T-TF8M			8mm GENLOK	3.50	1.75	1.93							
SS-BV316T-TF10M			10mm GENLOK	3.46	1.73	1.91							
SS-BV316T-FNT4			1/4" Female NPT	3.02	1.51	1.69							
SS-BV316T-NT4			1/4" Male NPT	3.24	1.62	1.80							
SS-BV316T-NT6			3/8" Male NPT										
SS-BV318T-TF8	0.41	6.4	1/2" GENLOK	4.57	2.28	2.59	0.89	1.53	1.10	3.27	1.26	0.39	0.87
SS-BV318T-TF12			3/4" GENLOK	4.76	2.38	2.68							
SS-BV318T-TF12M			12mm GENLOK										
SS-BV318T-TF14M			14mm GENLOK										
SS-BV318T-TF16M			16mm GENLOK										
SS-BV318T-TF18M			18mm GENLOK										
SS-BV318T-FNT6			3/8" Female NPT	3.99	2.00	2.30							
SS-BV318T-FNT8			1/2" Female NPT	4.39	2.20	2.50							
SS-BV318T-FNT12			3/4" Female NPT										
SS-BV318T-NT8			1/2" Male NPT	4.87	2.43	2.74							
SS-BV318T-NT12			3/4" Male NPT										

Ordering Information

EX: SS	- BV31	6	T	- NT4	- K	B
Body Material	Series	Orifice	Valve Pattern	Inlet / Outlet Connection	Sealing Gasket	Options
SS: 316	**BV31**	5: 4.2 mm 6: 6.4 mm 8: 10.3 mm	T: 3-Way	NT4: 1/4" Male NPT TF12: 3/4" GENLOK	K: PCTFE E: PEEK	Blank: Standard B: Metal Handle D: Special Cleaning



Manual
SS-BV513-FNT8

Product Features

- Maximum operating pressure: 2500 psi (172 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: -40°F ~ 248°F (-40°C ~ 120°C)
- Manual and pneumatic options are available
- Service Condition: Fully open or fully closed only
- End connections: GENLOK, Female NPT, Socket weld and Tube butt weld
- 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 2500 psi

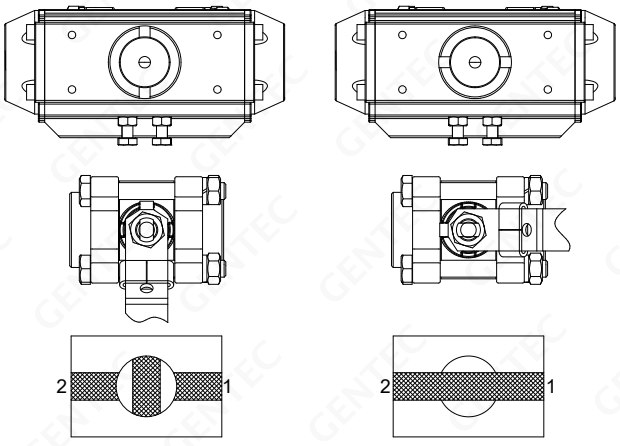


Pneumatic
SS-BV514-FNT12-PD

Materials of Construction

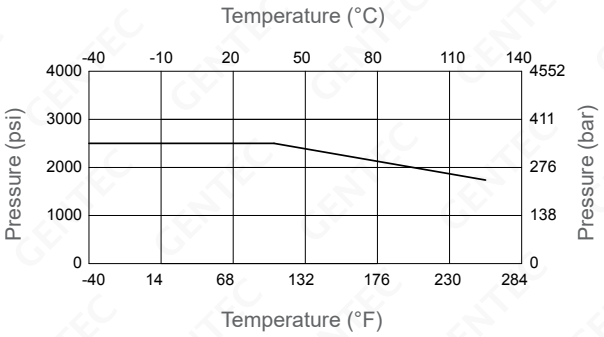
- Body: CF3M
- Valve Stem: 316 SS
- Valve Core: 316 SS
- Ball Seal: Enhanced PTFE
- Flange: CF3M
- Lock Handle: Stainless Steel

Flow Path Designator



Close Open

Pressure-Temperature



Pneumatic Actuator According to ISO 5211 Standard

Category	Parameter Requirements
Gas Source	Dry and clean air
Recommended gas source pressure	5.5 bar
Maximum gas source pressure	8 bar
Lubrication	Each actuator has been added with sufficient lubricant to ensure normal operation
Installation	The actuator can be installed at any angle both indoors and outdoors

Pneumatic Actuator Working Condition

Please select the pneumatic actuator corresponding to the temperature range in the following table according to the operating conditions of the ball valve.

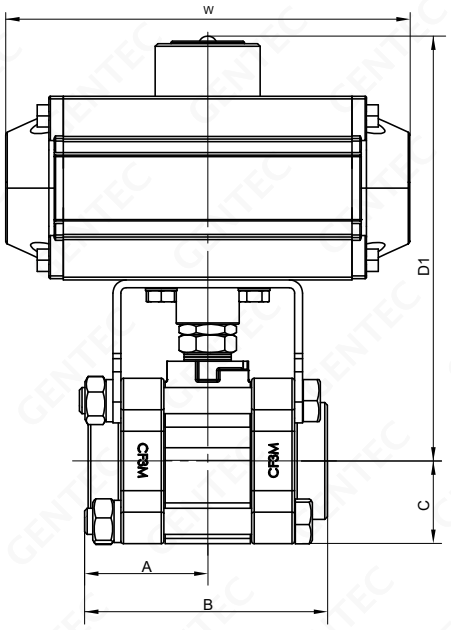
Pneumatic Actuator	Code	Temperature Range
High-temperature Type	**HT**	-4~248°F (-20~120°C)
Low-temperature Type	**LT**	-40~176°F (-40~80°C)

Minimum Operating Pressure

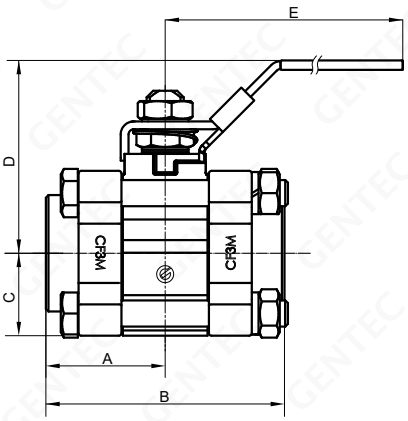
The maximum execution pressure is 8 bar (116 psi). For the minimum execution pressure, please refer to the minimum execution pressure in the table below.

Valve Series	Orifice	Double-acting Pneumatic Actuator Model	Single-acting Pneumatic Actuator Model		Execution Mode	
					Single-acting	Double-acting
			Normally Close	Normally Open	Minimum Execution Pressure	
BV318	10.3 mm	PA050-00D	PA065-S11C	PA065-S11O	72 psi (5.0 bar)	36 psi (2.5 bar)

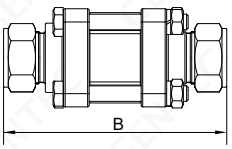
Dimensions



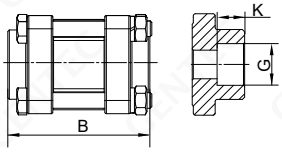
Pneumatic



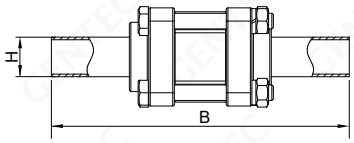
Manual



GENLOK



Socket Weld



Tube butt Weld

Model Number		Orifice (in.)	CV	Connection		Dimension (in.)									
Manual	Pneumatic			Inlet	Outlet	A	B	C	D	D1	E	G	K	H	W
SS-BV513-TF12	SS-BV513-TF12-PD SS-BV513-TF12-PC SS-BV513-TF12-PO	13.1	13.6	3/4" GENLOK		2.62	5.24	0.91	2.32	6.14	4.21	-	-	-	5.94
SS-BV513-FNT8	SS-BV513-FNT8-PD SS-BV513-FNT8-PC SS-BV513-FNT8-PO			1/2" Female NPT		1.46	2.91					-	-	-	
SS-BV513-SW12	SS-BV513-SW12-PD SS-BV513-SW12-PC SS-BV513-SW12-PO			3/4" Socket weld		1.46	2.91					0.75	0.50	-	
SS-BV513-TW12	SS-BV513-TW12-PD SS-BV513-TW12-PC SS-BV513-TW12-PO			3/4" Tube butt weld		2.52	5.04					-	-	0.75	
SS-BV514-TF16	SS-BV514--TF16-PD SS-BV514--TF16-PC SS-BV514--TF16-PO	22.4	38.0	1" GENLOK		3.11	6.22	1.24	2.93	6.48	5.63	-	-	-	5.94 6.61
SS-BV514-FNT12	SS-BV514-FNT12-PD SS-BV514-FNT12-PC SS-BV514-FNT12-PO		31.0	3/4" Female NPT		1.80	3.59					-	-	-	5.94 6.61
SS-BV514-FNT16	SS-BV514-FNT16-PD SS-BV514-FNT16-PC SS-BV514-FNT16-PO		38.0	1" Female NPT		1.80	3.59					-	-	-	5.94 6.61
SS-BV514-SW16	SS-BV514-SW16-PD SS-BV514-SW16-PC SS-BV514-SW16-PO			1" Socket weld		1.80	3.59					1.00	0.62	-	5.94 6.61
SS-BV514-TW16	SS-BV514-TW16-PD SS-BV514-TW16-PC SS-BV514-TW16-PO		36.0	1" Tube butt weld		3.74	3.94					-	-	1.00	5.94 6.61

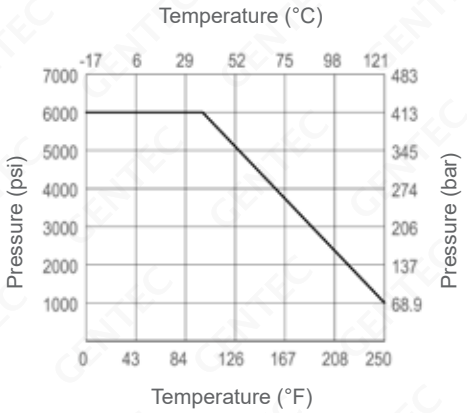
Ordering Information

EX: SS	- BV514	- FNT12	- PD	- HT
Body	Series	Inlet / Outlet Connection	Pneumatic Actuator Mode	Pneumatic Actuator Working Condition
SS: CF3M	**BV513** **BV514**	FNT8: 1/2" Female NPT TW12: 3/4" Tube butt weld SW16: 1" Socket weld	Blank: Manual PD: 90° Double-acting Pneumatic Actuator (normally open) PC: 90° Single-acting Pneumatic Actuator (normally close) PO: 90° Single-acting Pneumatic Actuator (normally open)	HT: High-temperature Type LT: Low-temperature Type



Product Features

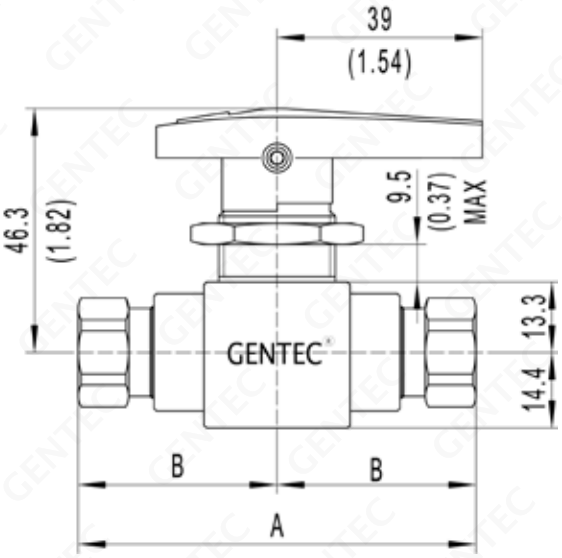
- Maximum operating pressure: 6000 psi (415 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: 1.4°F ~ 250°F (-17°C ~ 121°C)
- Handle indicates flow direction
- End connections: GENLOK and Female NPT
  (please refer to the 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

- Body: 316 SS
- Valve Stem: 316 SS
- O-ring: Fluororubber
- Spacer: Enhanced PTFE
- Valve Base: PCTFE
- Handle: Nylon

Dimensions



Fractional and Metric Tube Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)		Panel Mounting Hole Diameter(in.)
			Inlet	Outlet	A	B	
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
SS-BV615-TF6M	0.187	1.6	6mm GENLOK		4.14	2.07	0.91
SS-BV615-TF8M	0.187	1.5	8mm GENLOK		4.14	2.07	0.91
SS-BV615-TF10M	0.187	1.3	10mm GENLOK		4.39	2.19	0.91
SS-BV615-TF12M	0.187	1.0	12mm GENLOK		4.60	2.30	0.91

NPT Fittings

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

Ordering Information

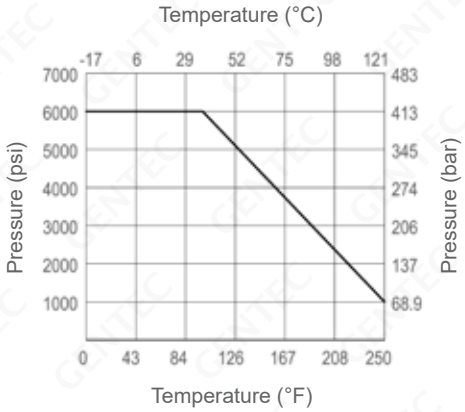
EX: SS -	BV112 -	FNT4
Body Material	**Series**	**Inlet / Outlet Connection***
SS: 316 SS	**BV615**	FNT4: 1/4" Female NPT .....

* Please refer to the chart above for the available specifications for the desired connection type.



Product Features

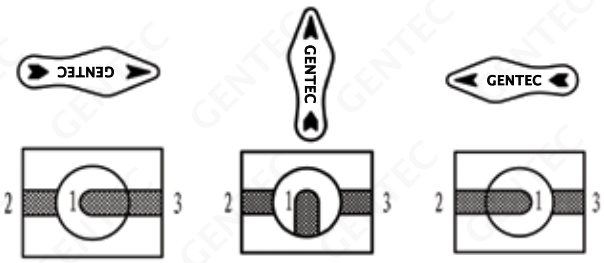
- Maximum operating pressure: 6000 psi (415 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- Operating temperature: 1.4°F ~ 250°F (-17°C ~ 121°C)
- Handle indicates flow direction
- Inlet Connection: 1/4'' NPT
  Outlet connections: GENLOK and 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



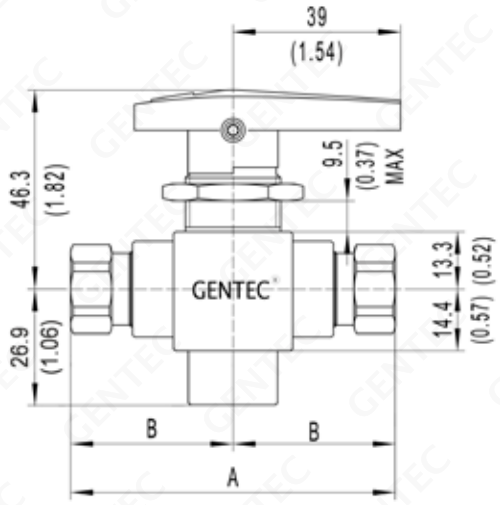
Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- O-ring: Fluororubber
- Valve Seat: PCTFE/PEEK
- Handle: Nylon

Flow Path Designator



Dimensions



Model	Orifice (in.)	CV	Connection Type		Dimension (in.)		Panel Mounting Hole Diameter(in.)
			Inlet	Outlet	A	B	
SS-BV635-FNT4	0.187	1.0	1/4" Female NPT		2.93	1.47	0.91
SS-BV635-FNT2	0.187	1.2	1/4" Female NPT	1/8" Female NPT	2.94	1.47	0.91
SS-BV635-TF4	0.187	1.6	1/4" Female NPT	1/4" GENLOK	4.14	2.07	0.91
SS-BV635-TF6	0.187	1.4	1/4" Female NPT	3/8" GENLOK	4.39	2.19	0.91
SS-BV635-TF8	0.187	1.0	1/4" Female NPT	1/2" GENLOK	4.60	2.30	0.91
SS-BV635-TF6M	0.19	1.6	1/4" Female NPT	6mm GENLOK	4.14	2.07	0.91
SS-BV635-TF8M	0.19	1.5	1/4" Female NPT	8mm GENLOK	4.14	2.07	0.91
SS-BV635-TF10M	0.19	1.3	1/4" Female NPT	10mm GENLOK	4.41	2.20	0.91
SS-BV635-TF12M	0.19	1.0	1/4" Female NPT	12mm GENLOK	4.60	2.30	0.91

Ordering Information

EX: SS -	BV635 -	FNT4 -	E
Body Material	**Series**	**Inlet / Outlet Connection***	**Options**
SS: 316 SS	**BV635**	FNT4: 1/4" Female NPT	Blank: PCTFE (Valve seat material) E: PEEK

* Please refer to the chart above for the available specifications for the desired connection type.



BSV12 Manual Bellows-Sealed Valve
(Round Handle)



Type K Type G Type R



BSV14 Manual Bellows Sealed Valve
(Bar Handle)



BSV14 Pneumatic Bellows-Sealed Valve
(Normally Closed)

Product Features

- Manual and Pneumatic versions are available based on a common body design
- Panel or bottom mounting
- Working pressure up to 1000 psi (68.9bar)
- Valve stem tip options: Type K, Type G and Type R
  K designates PCTFE stem tip
  G designates spherical stem tip
  R designates regulating stem tip
- Reliable piston design for enhanced cycle life
- 100% Helium-leak tested

Specifications

- Working Pressure:
  Vacuum to 1000 psi (68.9 bar), Manual
  Vacuum to 500 psi (34.5 bar), Actuation Normally Open
  Vacuum to 150 psi (10.3 bar), Actuation Normally Closed
- Working Temperature:
  -20°F ~ 200°F (-28°C ~ 93°C), Type K
  -20°F ~ 900°F (-28°C ~ 482°C), Type G and Type R
- Inboard Leak Rate: $4x10^{-9}$ atm.cc/sec He
  Outboard Leak Rate: $4x10^{-9}$ atm.cc/sec He
- Cv: 0.36 (BSV12) , 1.2 (BSV14)

Materials of Construction

- Valve Body: 316
- Valve Stem tips: PCTFE (Type K), 316 (Type G and Type R)
- Bellows: 316

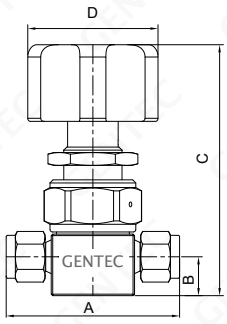
Actuator Control Specification

- Working Pressure: 70 ~ 125 psi (4.8 ~ 8.6 bar)
- Inlet Connection: 1/8”NPT (F)
- Setting: Normally Open, Normally Closed

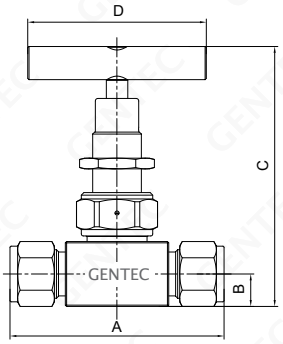
Internal Volume

- 1.2 cc (BSV12)
  3.7 cc (BSV14)

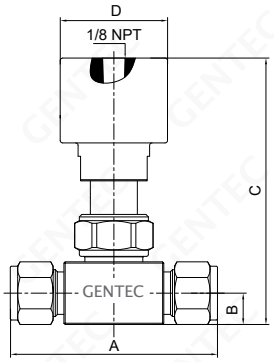
Dimensions



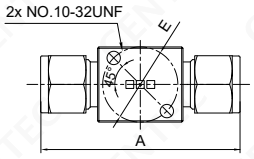
Round Handle



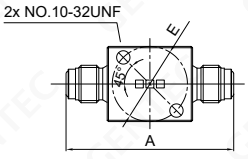
Bar Handle



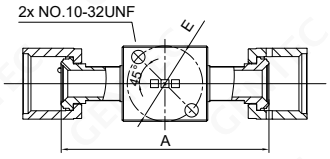
Pneumatics



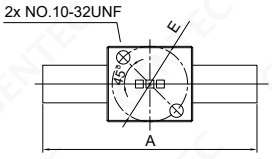
GENLOK



Face Seal Male



Face Seal Swivel Female



Butt Weld

Model No	Orifice in. (mm)	CV	End Connections	Dimensions in. (mm)					Panel Mounting Hole Size in. (mm)
				A	B	C	D	E	
SS-BSV12NK-TF4	0.18 (4.5)	0.36	1/4" GENLOK	2.46 (62.5)	0.5 (12.7)	3.24 (82.4)	1.77 (45)	1 (25.4)	0.75 (19)
SS-BSV12BK-TF4	0.18 (4.5)	0.36	1/4" GENLOK	2.46 (62.5)	0.5 (12.7)	3.19 (80.9)	1.89 (48)	1 (25.4)	0.75 (19)
SS-BSV12BK-TW4	0.18 (4.5)	0.36	1/4" Weld Tube	1.68 (42.7)	0.5 (12.7)	3.19 (80.9)	1.89 (48)	1 (25.4)	0.75 (19)
SS-BSV12BK-VM4	0.18 (4.5)	0.36	1/4" FSR (M)	2.24 (56.9)	0.5 (12.7)	3.19 (80.9)	1.89 (48)	1 (25.4)	0.75 (19)
SS-BSV12BK-VSF4	0.18 (4.5)	0.36	1/4" FSR (F)	2.76 (70.1)	0.5 (12.7)	3.19 (80.9)	1.89 (48)	1 (25.4)	0.75 (19)
SS-BSV12PK-VSF4	0.18 (4.5)	0.36	1/4" FSR (F)	2.76 (70.1)	0.5 (12.7)	3.35 (85.1)	1.65 (42)	1 (25.4)	/
SS-BSV12PK-VSF4-NO	0.18 (4.5)	0.36	1/4" FSR (F)	2.76 (70.1)	0.5 (12.7)	3.35 (85.1)	1.65 (42)	1 (25.4)	/
SS-BSV14BK-TF8	0.30 (7.7)	1.2	1/2" GENLOK	3.30 (83.8)	0.5 (12.7)	4.01 (101.9)	2.76 (70)	1.13 (28.7)	0.75 (19)
SS-BSV14BK-TW8	0.30 (7.7)	1.2	1/2" Weld Tube	2.27 (57.7)	0.5 (12.7)	4.01 (101.9)	2.76 (70)	1.13 (28.7)	0.75 (19)
SS-BSV14BK-VM8	0.30 (7.7)	1.2	1/2" FSR (M)	3.12 (76.2)	0.46 (11.7)	4.01 (101.9)	2.76 (70)	1.13 (28.7)	0.75 (19)
SS-BSV14BK-VSF8	0.30 (7.7)	1.2	1/2" FSR (F)	3.12 (79.2)	0.57 (14.5)	4.01 (101.9)	2.76 (70)	1.13 (28.7)	0.75 (19)
SS-BSV14PK-VSF8	0.30 (7.7)	1.2	1/2" FSR (F)	3.12 (79.2)	0.57 (14.5)	4.01 (110.6)	1.71 (43.5)	1.13 (28.7)	/
SS-BSV14PK-VSF8-NO	0.30 (7.7)	1.2	1/2" FSR (F)	3.12 (79.2)	0.57 (14.5)	4.25 (108)	1.71 (43.5)	1.13 (28.7)	/

Ordering Information

SS	BSV1	2	N	K	- TF4	- E	- NO
Body	Model	Orifice	Actuation	Stem	Inlet/Outlet Connection	Surface Finish	Options
SS: 316	BSV1: Bellows-Sealed Valves	2: 4.5mm 4: 7.7mm	N: Round Handle B: Bar handle *Round Handle is only available for BSV12	K: PCTFE stem tip R: Regulating stem tip G: Spherical stem tip	TF4: 1/4" GENLOK VM4: 1/4" Face seal male VSF4: 1/4" Face seal swivel female TW4: 1/4" Butt weld	Blank: Ra 15 µin E: Ra 10 µin	Blank: Standard NO: Normally Open
			P: Pneumatic	K: PCTFE stem tip			

* Please refer to the chart above for the available specifications for the desired connection type.



Product 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

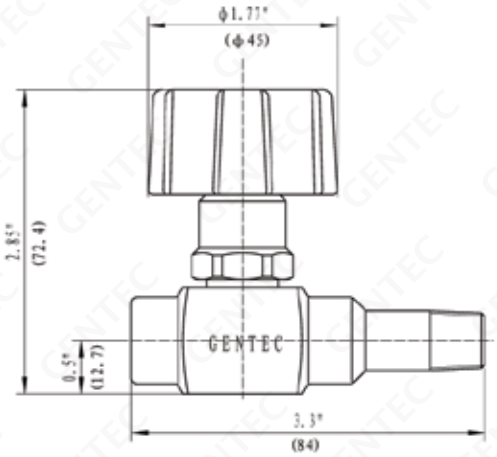
  Inboard: $1x10^{-9}$ atm cc/sec He

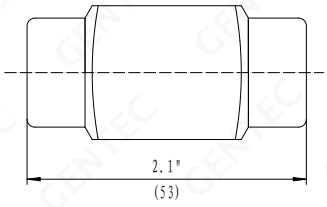
  Across Seat: $4x10^{-9}$ atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

Operating Conditions

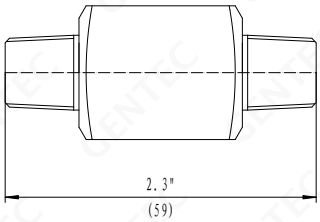
- Maximum operating pressure: 300 psi (20 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

Dimensions





FNT4



NT4

Ordering Information

EX: BP -	DV11	N	L -	FNT4
Body Material	**Series**	**Actuation**	**Working Pressure**	**Inlet / Outlet Connection**
BP: Plated Brass	**DV11**	N: Handwheel (without status window)	L: 300 psi	NT4: 1/4" Male NPT FNT4: 1/4" Female NPT

* Please refer to the chart above for the available specifications for the desired connection type.



Product 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: $1x10^{-9}$ atm cc/sec He

  Across Seat: $4x10^{-9}$ atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

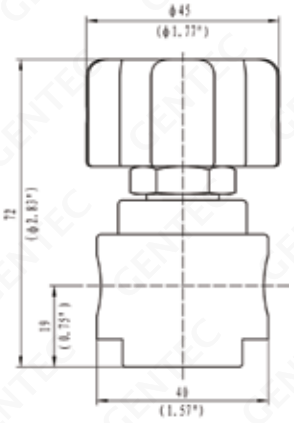
Operating Conditions

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

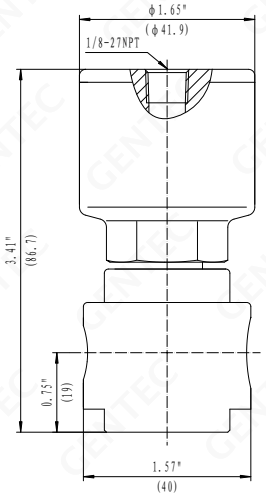
Pneumatic Actuator

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

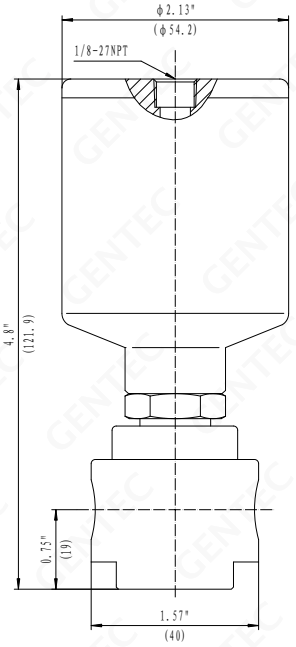
Dimensions



Manual

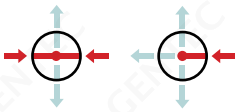
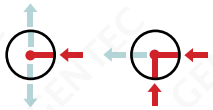
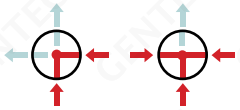


Pneumatic (Low Pressure)



Pneumatic (High Pressure)

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

EX: BP -	DV13	M	H	B -	FNT4 -	NO
Body Material	Series	Actuation	Working Pressure	Flow Path	Inlet / Outlet Connection	Options
B: Brass BP: Plated Brass	DV13	M: Handwheel (with status window) P: Pneumatic actuator (Normally closed)	H: 3500 psi L: 300 psi	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 Four-way valve I: Two inlet / two outlet J: One inlet / three outlet K: Two inlet / two outlet (elbow) L: Three inlet / one outlet Please refer to Flow Path Designator table above	FNT4	Blank: Standard NO: Normally open (Pneumatic, Low Pressure)

* Please refer to the chart above for the available specifications for the desired connection type.

DV53 SERIES

Stainless Steel Multi-way Diaphragm Valves



Product 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: $1x10^{-9}$ atm cc/sec He

  Across Seat: $4x10^{-9}$ atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

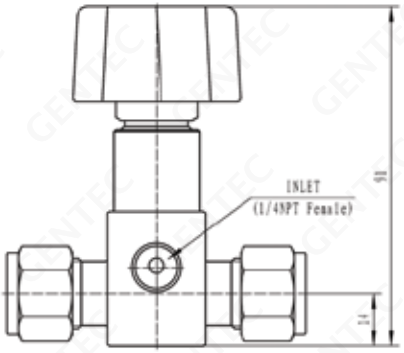
Operating Conditions

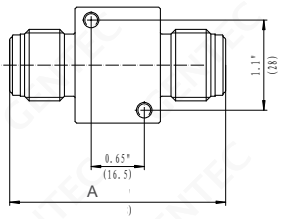
- Maximum operating pressure: 3500 psi (240 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: 40°F ~ 150°F (-40°C ~ 65°C)

Surface Finish

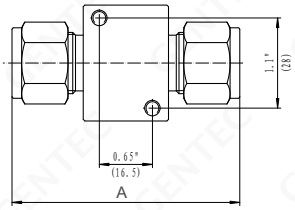
- Standard Ra: 20 µin

Dimensions

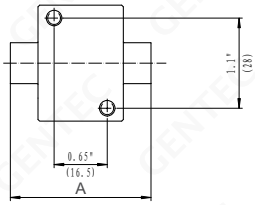




Face seal male (FSR fittings)



GENLOK Fitting



Butt welded

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

EX: SL -	DV53	M	H	E -	FNT4 -	TF6
Body Material	Series	Actuation	Working Pressure	Flow Path	Inlet Connection	Outlet Connection
SL: 316SL	**DV53**	N: Handwheel (without status window) M: Handwheel (with status window)	H: 3500 psi	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	FNT4	TF6, TF8 TW6, TW8 VM8

* Please refer to the chart above for the available specifications for the desired connection type.

DV54 SERIES

Stainless Steel High Purrity Diaphragm Valves



Manual
(Low Pressure)



Manual
(High Pressure)

Surface Finish

- Standard Ra: 10-15 µin

Internal Volume

- 1.6 cc

Product Features

- Suitable for high purity applications
- 316Lstainless 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: $1x10^{-9}$ atm cc/sec He
  Across Seat: $4x10^{-9}$ atm cc/sec He
- Proof Pressure: 150% of maximum operating pressure
- Burst Pressure: 400% of maximum operating pressure

Operating Conditions

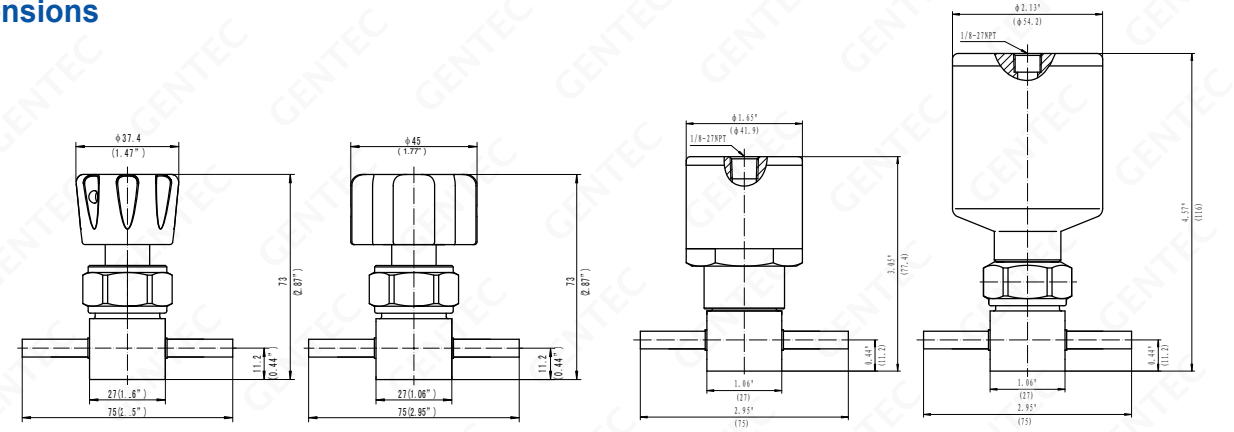
- Maximum operating pressure: 300 psi (20 bar), 3500 psi (240 bar)
- Minimum operating pressure: Vacuum
- Operating temperature: -40°F ~ 150°F (-40°C ~ 65°C)

Pneumatic Actuator

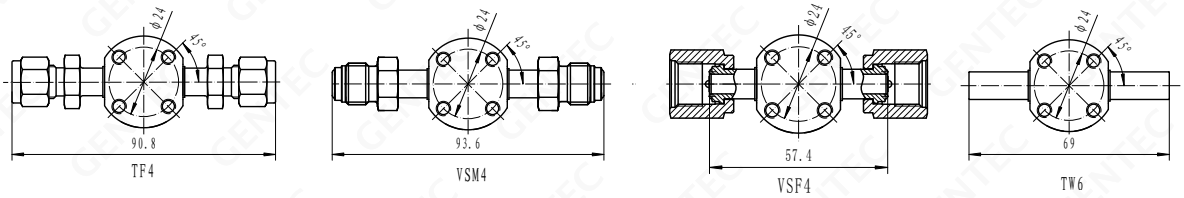
- Operating pressure: 70-125 psi
- Inlet Connection: 1/8” NPT(F)
- Working Status: Normally closed

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

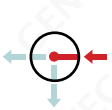
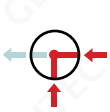
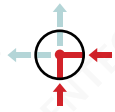
Dimensions



Manual (Low Pressure) Manual (High Pressure) Pneumatic (Low Pressure) Pneumatic (High Pressure)



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

EX: SL -	DV54	M	H	B -	TW4 -	NO
Body Material	Series	Actuation	Working Pressure	Flow Path	Inlet / Outlet Connection	Options
SL: 316L	**DV54**	M: Handwheel (with status window) P: Pneumatic actuator (Normally closed)	H: 3500 psi L: 300 psi	Blank: In-line Type Elbow Type P: Right in / top out Q: Right in / bottom 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 Four-way Valve I: Two inlet / two outlet J: One inlet / three outlet K: Two inlet / two outlet (elbow) L: Three inlet / one outlet Rear-entry Valve A: Rear inlet / one outlet T: Rear inlet / two outlet R: Rear inlet / four outlet Please refer to Flow Path Designator table above	TW4 TW6 VSM4 VSF4 TF4	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



Pneumatic

Product 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

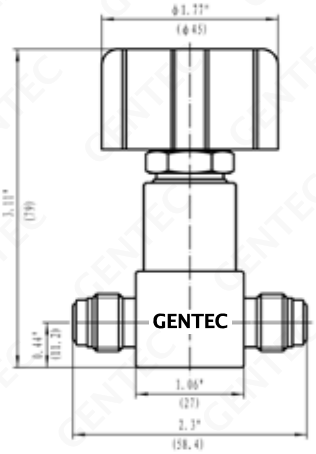
Specifications

- 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)

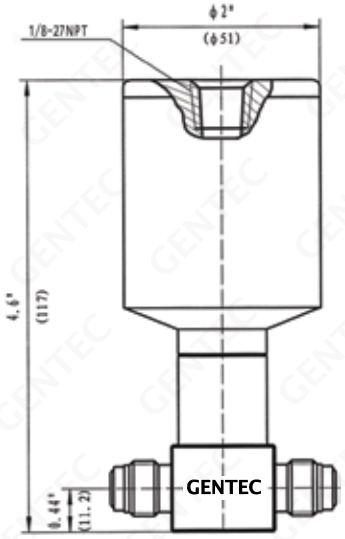
* Standard Material

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

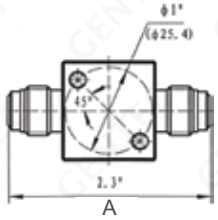
Dimensions



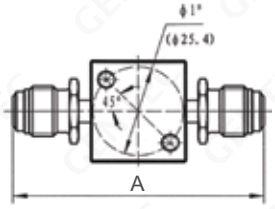
Manual



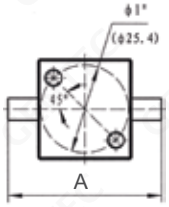
Pneumatic



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

EX: SL -	DV82	M	H -	VM4 -	K -	IS
Body Material	Series	Actuation	Working Pressure	Inlet /Outlet Connection	Valve Seat	Option
SL: 316L	DV82	M: Handwheel (with status window) P: Pneumatic actuator (Normally closed)	H: 3500 psi	VM4, VM8 VSM4 ,VSM8 VSF4, VSF8 TW4, TW8	K: PCTFE V: Vespel®	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	



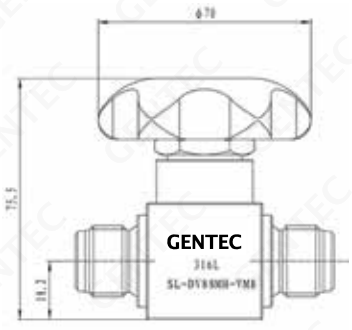
Product Features

- 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

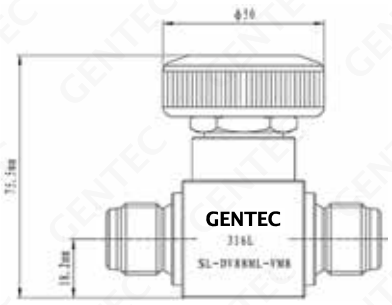
Specifications

- Body: 316L stainless steel
- Seat: PCTFE
- Diaphragm: Elgiloy®
- Maximum operating pressure: 1500 psi (103 bar), 3500 psi (240 bar)
- Operating temperature: -40°F ~ 150°F (-40°C ~ 65°C)
- Cv: 1.0
- Standard Ra: 20 µin (BA)

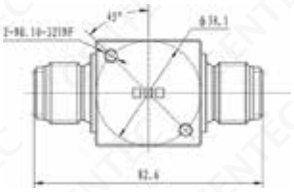
Dimensions



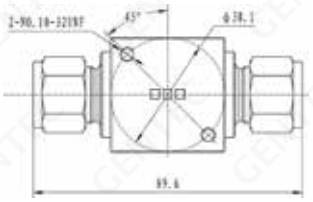
Manual (High Pressure)



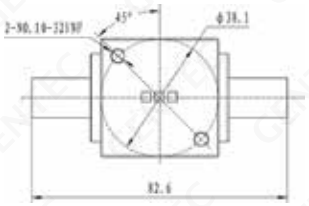
Manual (Low Pressure)



Face seal male (FSR fittings)



GENLOK fitting



Butt welded

Ordering Information

EX: SL -	DV88	M	H -	TF8
Body Material	Series	Actuation	Working Pressure	Inlet /Outlet Connection
SL: 316SL	**DV88**	M: Manual	H: 3500 psi M: 1500 psi	VM8 TF8 TW8

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



Product 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 cm^3/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

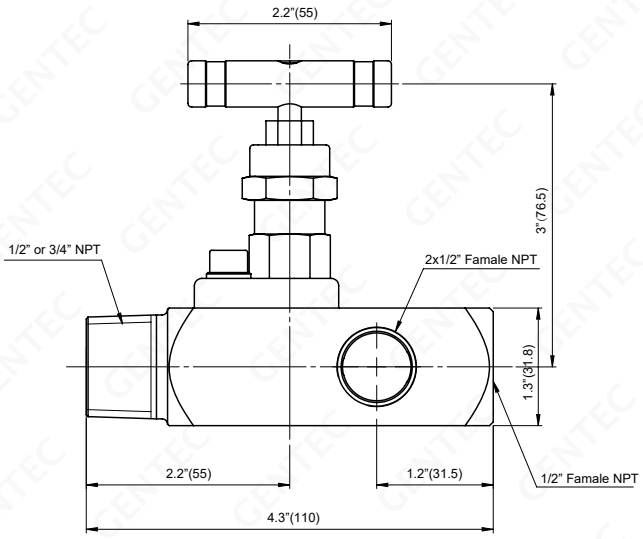
Caution:

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

Materials of Construction

- Body: 316 SS
- Valve Stem: 316 SS
- Packing Bolt: 416
- Packing: PTFE
- Handle: 316 SS

Dimensions



Model	Connection Type		Dimension (in.)			
	Inlet	Outlet	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)	0.157	3.39	2.17	4.33

Ordering Information

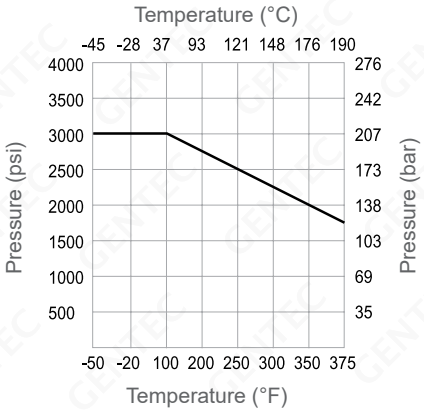
EX: SL -	GV1	S	T -	NT12 -	FNT8
Body Material	Series	Valve Seat Material	Seal Packing Material	Inlet Connection	Outlet Connection
SL: 316L	**GV1**	S: Stainless steel	T: PTFE	NT8: 1/2" NPT NT12: 3/4" NPT	FNT8: 1/2" NPT (F)

* Please refer to the chart above for the available specifications for the desired connection type.



Product Features

- Maximum operating pressure: 3000 psi (207 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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)
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

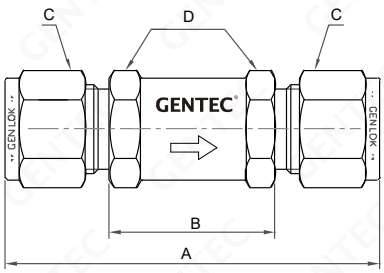
Materials of Construction

- Inlet Body: 316 SS
- O-ring: Fluororubber
- Poppet: 316 SS
- Spring: 316 SS
- Outlet body: 316 SS

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

Check Valves

Dimensions



Fractional and Metric Tube Fittings

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-TF4	0.19	0.47	1/4" GENLOK		2.36	0.98	9/16	5/8
SS-CV12-TF6	0.28	1.48	3/8" GENLOK		2.58	1.07	11/16	3/4
SS-CV13-TF8	0.39	1.70	1/2" GENLOK		3.16	1.43	7/8	7/8
SS-CV14-TF10	0.53	2.60	5/8" GENLOK		3.61	1.89	1	1-1/8
SS-CV15-TF12	0.63	5.20	3/4" GENLOK		4.36	2.64	1-1/8	1-1/4
SS-CV16-TF16	0.71	9.00	1" GENLOK		4.77	2.69	1-1/2	1-3/8
SS-CV11-TF6M	0.19	0.47	6 mm GENLOK		2.36	0.98	9/16	5/8
SS-CV12-TF10M	0.28	1.48	10 mm GENLOK		2.52	1.07	3/4	3/4
SS-CV13-TF12M	0.39	1.70	12 mm GENLOK		3.16	1.43	7/8	7/8

NPT Fittings

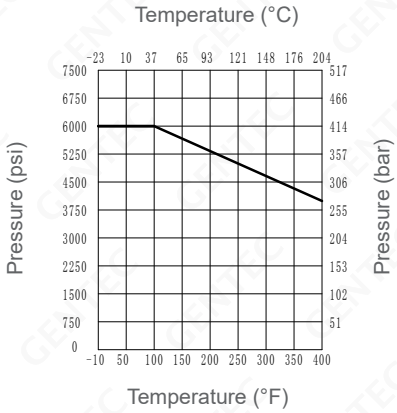
Model	Orifice (in.)	CV	Connection Type		Dimension (in.)			
			Inlet	Outlet	A	B	C (Hex Flat)	D (Hex Flat)
SS-CV11-NT2	0.19	0.47	1/8" Male NPT		1.75	0.98	-	5/8
SS-CV11-FNT2	0.19	0.47	1/8" Female NPT		1.84	-	-	5/8
SS-CV11-NT4	0.19	0.47	1/4" Male NPT		2.10	0.98	-	5/8
SS-CV12-FNT4	0.28	1.48	1/4" Female NPT		2.24	1.07	-	3/4
SS-CV12-NT6	0.28	1.48	3/8" Male NPT		2.19	1.07	-	3/4
SS-CV13-FNT6	0.39	1.70	3/8" Female NPT		2.51	1.43	-	7/8
SS-CV13-NT8	0.39	1.70	1/2" Male NPT		2.93	1.43	-	7/8
SS-CV14-FNT8	0.53	2.60	1/2" Female NPT		3.33	-	-	1-1/8
SS-CV15-NT12	0.63	5.20	3/4" Male NPT		4.15	2.64	-	1-1/4
SS-CV15-FNT12	0.63	5.20	3/4" Female NPT		4.06	-	-	1-1/4
SS-CV16-NT16	0.71	9.00	1" Male NPT		4.58	2.69	-	1-3/8
SS-CV16-FNT16	0.71	9.00	1" Female NPT		4.39	2.69	-	1-5/8
SS-CV11-NT4-TF4	0.19	0.47	1/4" Male NPT	1/4" GENLOK	2.22	0.98	9/16	5/8

Ordering Information

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

* Please refer to the chart above for the available specifications for the desired connection type.





Product Features

- Maximum operating pressure: 6000 psi (414 bar)
  (For pressure limitations under high temperature conditions, refer to pressure-temperature table)
- 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

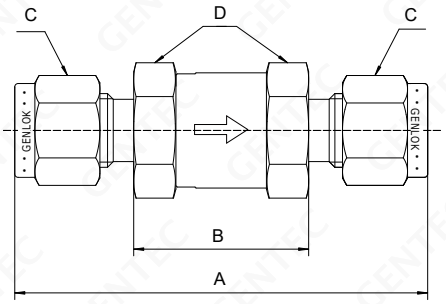
Nominal Cracking pressure psi (bar)	Cracking Pressure Ranges psi (bar)	Minimum Reseating Pressure psi (bar)
1 (0.07)	2 (0.14)	6 (0.41) back pressure
3 (0.20)	2.5~4 (0.17~0.28)	6 (0.41) back pressure
10 (0.69)	8~13 (0.55~0.90)	7 (0.48)
25 (1.72)	23~28 (1.59~1.93)	20 (1.38)

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

Materials of Construction

- Inlet Body: 316 SS
- Poppet set: Viton bonded 316 SS
- Spring: 316 SS / 304
- O-ring: Fluororubber
- Backup ring: PTFE
- Outlet body: 316 SS

Dimensions



Fractional and Metric Tube Fittings

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	0.67	1/4"GENLOK		2.43	1.03	9/16	11/16
SS-CV43-TF6	0.33	1.8	3/8"GENLOK		2.75	1.26	11/16	1
SS-CV43-TF8	0.33	1.8	1/2"GENLOK		2.97	1.22	7/8	1
SS-CV44-TF12	0.47	5.2	3/4"GENLOK		3.52	1.85	7/8	1 5/8
SS-CV45-TF16	0.63	9	1"GENLOK		4.27	2.21	1	1 5/8

NPT and FSR Fittings

Model	Orifice (in.)	CV	Connection Type		Dimension (in.)			
			Inlet	Outlet	A	B	C (Hex Flat)	D (Hex Flat)
SS-CV42-NT2	0.19	0.67	1/8" Male NPT		1.79	0.93	-	11/16
SS-CV42-FNT2	0.19	0.67	1/8" Female NPT		1.73	1.05	-	11/16
SS-CV42-NT4	0.19	0.67	1/4" Male NPT		2.12	1.02	-	11/16
SS-CV42-FNT4	0.19	0.67	1/4" Female NPT		1.98	1.79	-	11/16
SS-CV42-VM4	0.19	0.67	1/4" FSR		2.28	1.04	-	11/16
SS-CV43-NT6	0.33	1.8	3/8" Male NPT		2.36	1.26	-	1
SS-CV43-FNT6	0.33	1.8	3/8" Female NPT		2.55	1.46	-	1
SS-CV43-NT8	0.33	1.8	1/2" Male NPT		3.03	1.77	-	1
SS-CV43-FNT8	0.33	1.8	1/2" Female NPT		2.73	1.77	-	1 1/16
SS-CV43-VM8	0.33	1.8	1/2" FSR		2.74	1.02	-	1
SS-CV44-NT12	0.47	5.2	3/4" Male NPT		3.29	1.87	-	1 5/8
SS-CV44-FNT12	0.47	5.2	3/4" Female NPT		3.23	1.87	-	1 5/8
SS-CV44-GS12	0.47	5.2	3/4" Male ISO(G)		3.35	2.09	-	1 5/8
SS-CV45-NT16	0.63	9	1" Male NPT		3.67	2.02	-	1 5/8
SS-CV45-FNT16	0.63	9	1" Female NPT		3.83	2.02	1	1 5/8
SS-CV45-GS16	0.63	9	1" Male ISO(G)		3.67	2.23	-	1

Ordering Information

EX: SS -	CV42 -	NT4 -	R -	1
Body Material	Series	Inlet \ Outlet Connection*	Seal Material	Cracking Pressure
SS: 316SS	**CV42,** **CV43,** **CV44,** **CV45**	NT4: 1/4" Male NPT	R: Fluororubber Y: Ethylene Prorylene N: Neoprene	1: 1 psi 3: 3 psi 10: 10 psi 25: 25 psi

* Please refer to the chart above for the available specifications for the desired connection type.

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.



Product 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.

Materials of Construction

- Body: 316 SS
- Poppet set: 316 SS
- Spring: 316 SS
- Valve Bushing: 316 SS
- Backup ring: PTFE
- O-ring: Viton®

Pressure-Temperature Ratings

The nominal pressure depends on the end connections

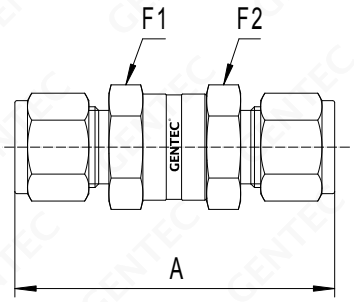
Material	316 SS
Temperature °F (°C)	Operating pressure psi (bar)
-10 (-23) ~ 100 (37)	6000 (414)
200 (93)	5160 (356)
250 (121)	4910 (339)
300 (148)	4660 (321)
400 (204)	4280 (295)

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	-40~250 (-40 ~ 121)
EPDM	-Y	-49~280 (-45 ~ 138)
Neoprene	-N	-40~250 (-40 ~ 121)

Dimensions



Fractional and Metric Tube Fittings

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-EV13-TF6	3/8" GENLOK		6000 (413)	2.75	1
SS-EV14-TF8	1/2" GENLOK		6000 (413)	2.97	1
SS-EV12-TF6M	6mm GENLOK		6000 (413)	2.43	11/16
SS- EV13-TF8M	8mm GENLOK		6000 (413)	2.70	1
SS- EV13-TF10M	10mm GENLOK		6000 (413)	2.80	1
SS-EV14-TF12M	12mm GENLOK		6000 (413)	2.96	1

NPT and FSR Fittings

Model	Connection Type		Pressure Range psi (bar)	Dimension (in.)	
	Inlet	Outlet		A	F1/F2
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)	2.12	11/16
SS-EV12-VM4	1/4" FSR		6000 (413)	2.28	11/16
SS-EV13-FNT6	3/8" Female NPT		5300 (365)	2.55	11/16
SS-EV13-NT6	3/8" Male NPT		6000 (413)	2.36	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

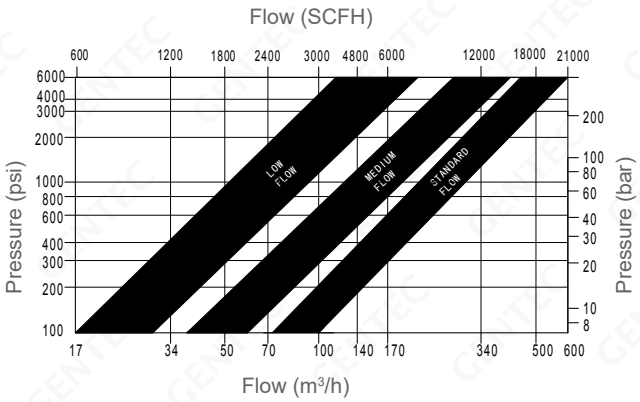
Ordering Information

EX: SS -	EV12 -	NT4 -	B -	M
Body Material	Series	Inlet \ Outlet Connection*	Seal Material	Cracking Pressure
SS: 316SS	EV12 EV13 EV14	NT4: 1/4" Male NPT	R: Fluororubber B: Buna-N N: Neoprene Y: EPDM	None: Standard Flow M: Medium Flow L: Low Flow Refer to the flow data charts on the next page

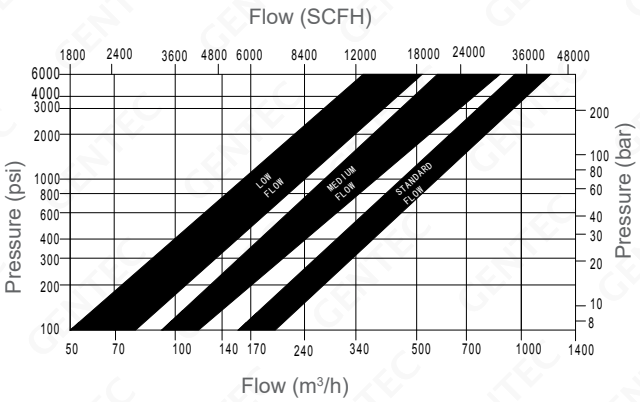
* Please refer to the chart above for the available specifications for the desired connection type.

Flow Data at 70°F (20°C)

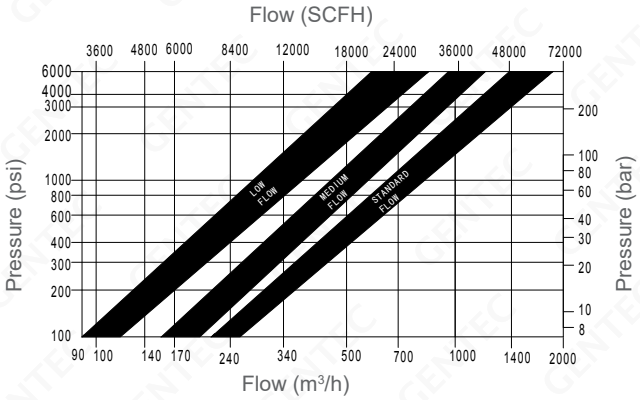
EV12 Series



EV13 Series



EV14 Series



Product Selection

Excess flow valves are used to prevent uncontrolled release of flow in the event of a gas line rupture or disconnection. The excess flow valves are intended to close upon excess flow of gas and remain closed until the system equalizes.

Selection Guideline:

- EV12 Excess Flow Valve: When inlet pressure is 60 bar with peak flow rate of 50 m3/h. The intersection point on the chart above lies within the Low Flow section. The proper cracking pressure range should be medium flow or the standard flow. A low flow range selection would have a risk of the excess flow valve reducing or shutting the flow during normal system operation.
- EV 13 Excess Flow Valve: When inlet pressure is 20 Bar with peak flow rate of 100 m3/h and a 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.
- EV 14 Excess Flow Valve: When inlet pressure is 15 bar with peak flow rate of 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 regulators, flow control valves and reducing pipes, the flow through the rupture might not be sufficient enough to reach the flowrate required to trip the excess valve. In these cases, excess valves with medium flow and low flow trip range should be selected.

RV31, RV32 SERIES

Relief Valves



Product Features

- 316 stainless steel construction
- RV31 series

  Nominal diameter: 3.6 mm

  Pressure range: 10-6000 psi (0.69~414 bar)
- RV32 series

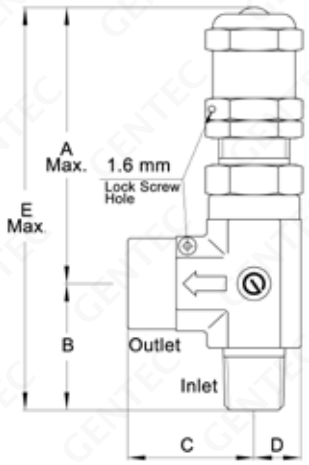
  Nominal diameter: 6.4 mm

  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 and12mm 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

- Body: 316 SS
- Valve Stem: 316 SS
- Spring: Piano Wire
- O-ring: Fluororubber

Dimensions



Fractional and Metric Tube Fittings

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 -TF6M	6mm GENLOK		0.14	2.62	1.40	1.40	0.42	4.02
SS-RV31 -TF8M	8mm GENLOK		0.14	2.62	1.12	1.40	0.42	3.74
SS-RV32 -TF12M	12mm GENLOK		0.25	3.88	1.40	1.78	0.51	5.28

NPT Fittings

Model	Connection Type		Dimension (in.)					
	Inlet	Outlet	Orifice	A	B	C	D	E
SS-RV31 -NT4-TF4	1/4" Male NPT	1/4" GENLOK	0.14	2.62	1.12	1.40	0.42	3.74
SS-RV31 -NT4-FNT4	1/4" Male NPT	1/4" Female NPT	0.14	2.62	1.12	1.12	0.42	3.74
SS-RV31 -RT4-FRT4	1/4" Male BSPT/ ISO Tapered	1/4" Female BSPT/ ISO Tapered	0.14	2.62	1.12	1.12	0.42	3.74
SS-RV32 -NT8-TF8	1/2" Male NPT	1/2" GENLOK	0.25	3.88	1.40	1.78	0.51	5.28
SS-RV32 -NT8-FNT8	1/2" Male NPT	1/2" Female NPT	0.25	3.88	1.40	1.40	0.51	5.28

Ordering Information

EX: SS -	RV31	R	H -	NT4 -	TF4 -	XX
Body Material	Series	Seal Material	Pressure Range	Inlet Connection*	Outlet Connection*	Custom Pressure
SS: 316L	RV31: 3.6 mm (Orifice) RV32: 6.4 mm (Orifice)	R: Fluororubber B: Buna-N rubber Y: EPDM	**(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	NT4: 1/4" Male NPT	TF4: 1/4" GENLOK	

* Please refer to the chart above for the available specifications for the desired connection type.

CATALOGS

GENTEC® Related Catalogs



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- Control Panels
- HP/UHP Regulators
- Pressure Gauges
- Valves & Fittings



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- Other Control Systems
- Accessories



Specialty Gas Regulators & Accessories

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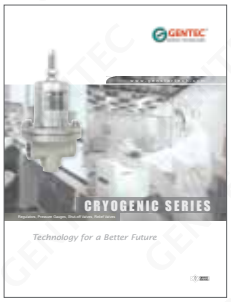
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Manifold Systems for Liquid Vessels

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