



VALVES *International Edition*

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

Technology for a Better Future

DV54 SERIES

Stainless Steel High Purity Diaphragm Valves

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

Materials

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

Specifications

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

Operating Conditions

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

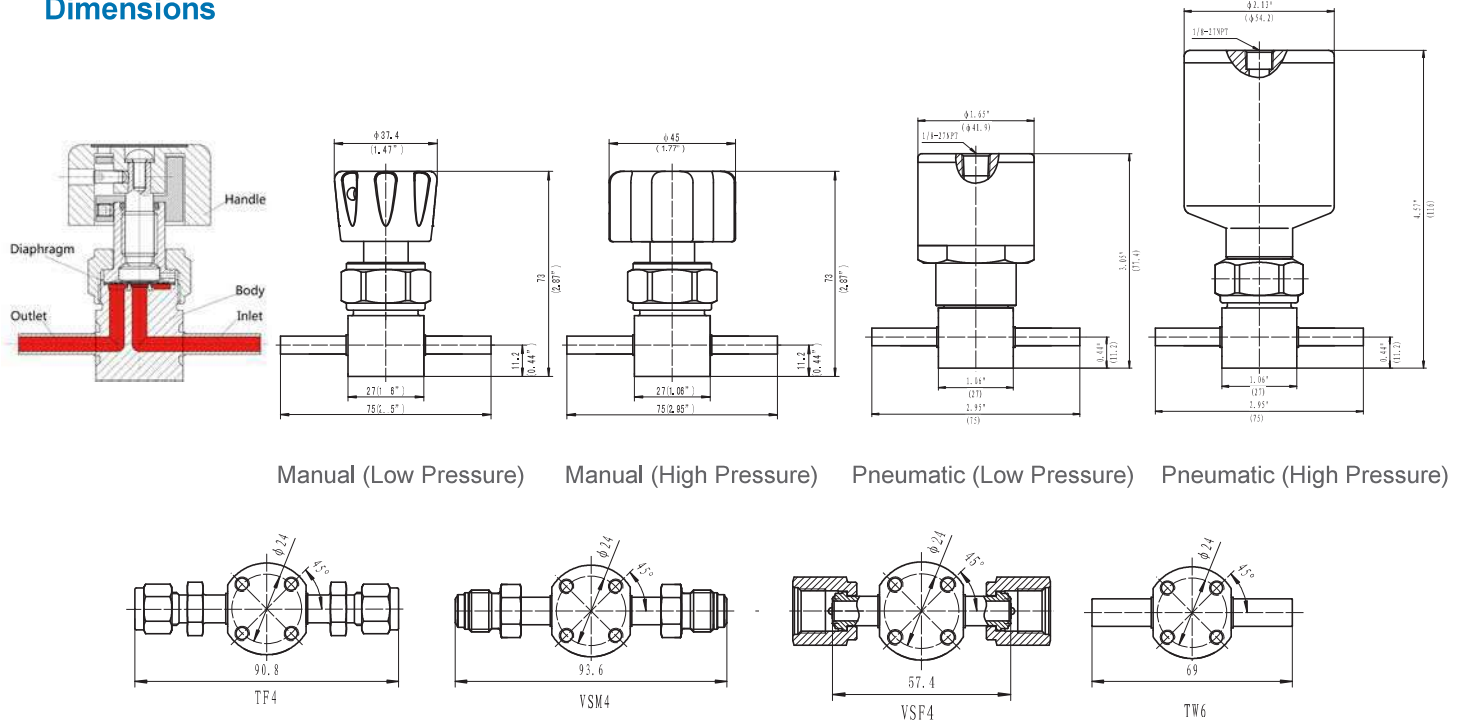
Pneumatic Actuator

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

* Standard Material

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

Dimensions



Flow Path Designator

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

*All schematics are from top view

Ordering Information

EX: SL - DV54	M	H	B -	TW4 -	NO	
Body Material	Series	Actuation	Working Pressure	Flow Path	Inlet / Outlet Connection	Options
SL: 136L	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 Please refer to Flow Path Designator table above	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	Blank: Standard NO: Normally open (Pneumatic, Low Pressure)

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

DV74 SERIES

Stainless Steel Ultra High Purity Diaphragm Valves

GENTEC® Valves



Manual
(High Pressure)



Pneumatic
(High Pressure)

Surface Finish

- Standard Ra(EP): 7 µin

Internal Volume

- 1.6 cc

Product Features

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

Materials

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

Specifications

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

Operating Conditions

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

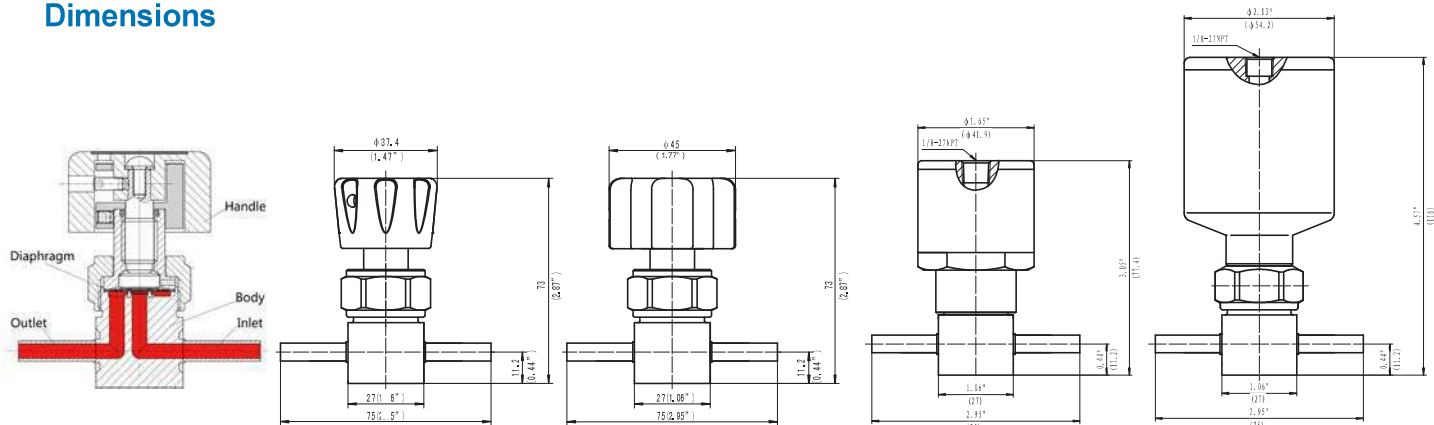
Pneumatic Actuator

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

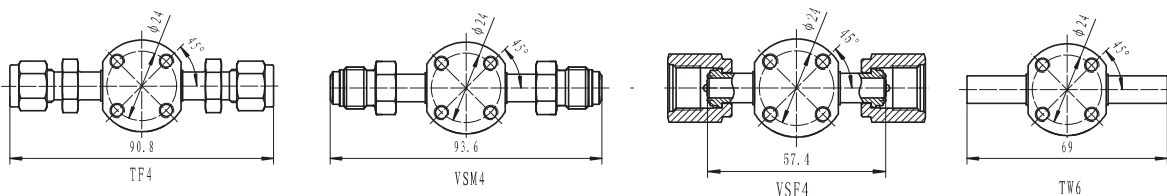
* Standard Material

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

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 - DV74	M	H	B -	TW4 -	NO	
Body Material	Series	Actuation	Working Pressure	Inlet / Outlet Connection	Options	
SL: 136L	DV74	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	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.

DV82 SERIES

Stainless Steel High Purity Diaphragm Valves

GENTEC® Valves



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

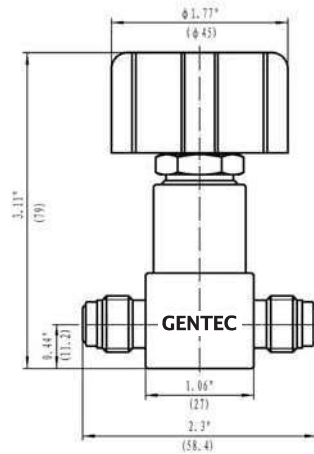
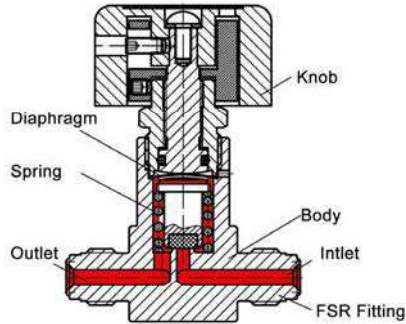
Specifications

- 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)

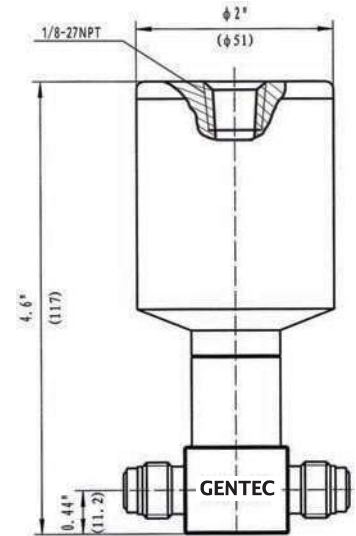
* Standard Material

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

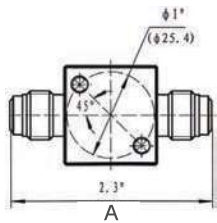
Dimensions



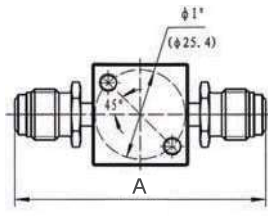
Manual



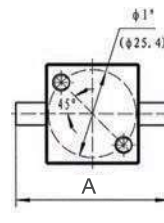
Pneumatic



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: 316SL	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	

DV84 SERIES

Stainless Steel High Purity Diaphragm Valves

GENTEC® Valves



Manual

Product Features

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



Pneumatic

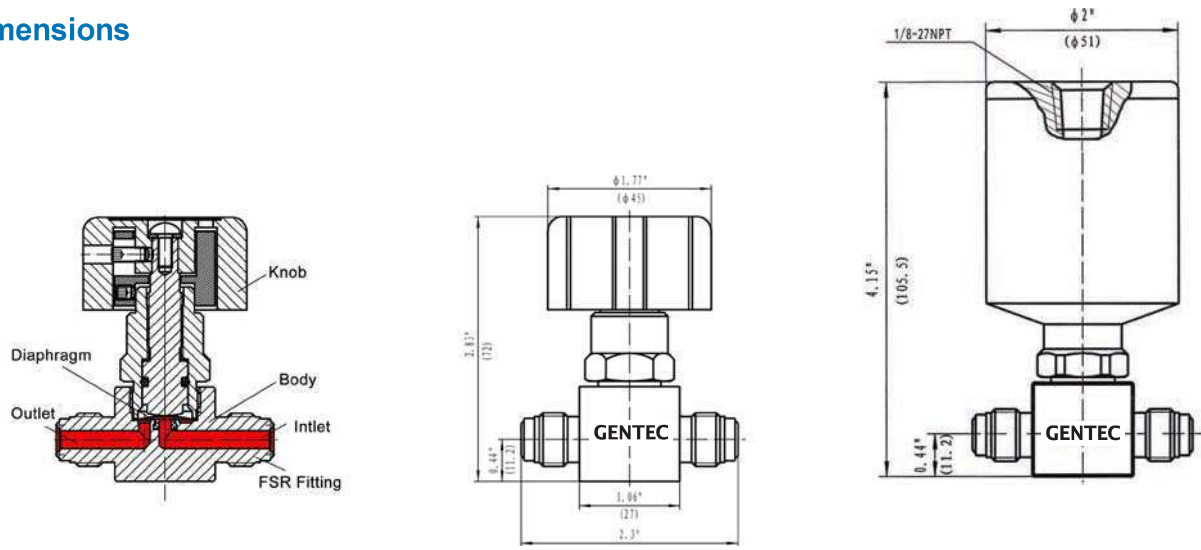
Specifications

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

* Standard Material

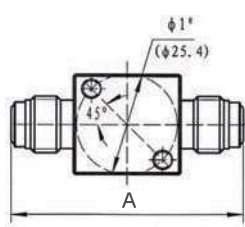
** Vespel® seat is recommended for Nitrous Oxide (N₂O) service but is not available for low pressure pneumatic actuation.

Dimensions

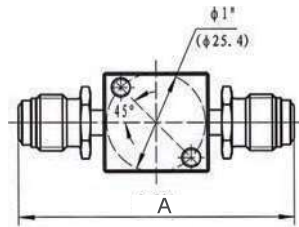


Manual

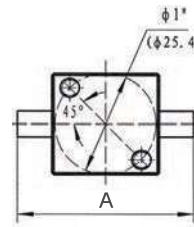
Pneumatic (High Pressure)



Face seal male (FSR fittings)



Face seal swivel male (FSR fittings)



Butt welded

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

*: Applies to both inlet & outlet connections

Ordering Information

EX: SL -	DV84	M	H -	VM4 -	K	E -	IS
Body Material	Series	Actuation	Working Pressure	Inlet /Outlet Connection	Valve Seat	Options	Option
SL: 316SL	DV84	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®	None: 10~15 μ m E: 7 μ m (EP)	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	

DV86 SERIES

Stainless Steel Ultra High Purity Diaphragm Valves

GENTEC® Valves



Manual
(High Pressure)

Product Features

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



Pneumatic
(Low Pressure)

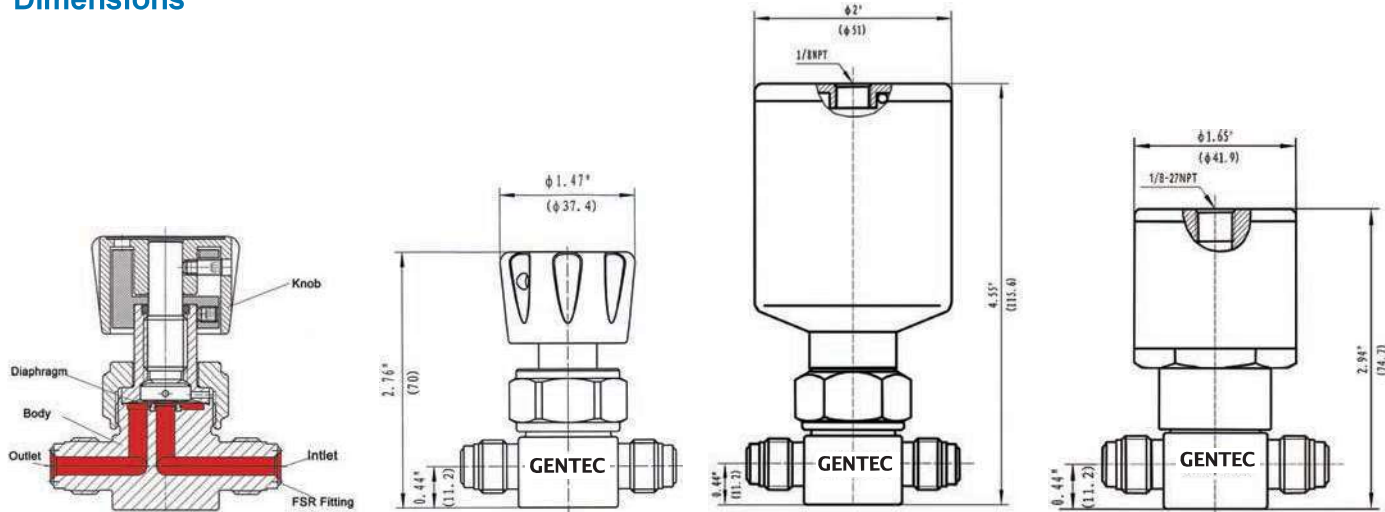
Specifications

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

* Standard Material

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

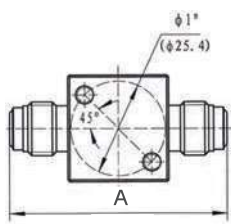
Dimensions



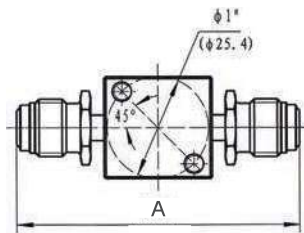
Manual (Low Pressure)

Pneumatic (High Pressure)

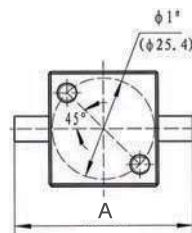
Pneumatic (Low Pressure)



Face seal male (FSR fittings)



Face seal swivel male (FSR fittings)



Butt welded

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

*: Applies to both inlet & outlet connections

Ordering Information

EX: SL -	DV86	M	H -	VM4 -	K	E -	IS
Body Material	Series	Actuation	Working Pressure	Inlet /Outlet Connection	Valve Seat	Options	Option
SL: 316SL	DV86	M: Handwheel (with status window) P: Pneumatic actuator (Normally closed)	H: 3500 psi L: 300 psi	VM4, VM8 VSM4, VSM8 VSF4, VSF8 TW4, TW8	K: PCTFE V: Vespel®	None: 10~15 µin E: 7 µin (EP)	IS: Electronic indicator (for 3500 psi pneumatic only) NO: Normally open (for 300 psi pneumatic only)

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

DV88 SERIES

Stainless Steel High Flow Diaphragm Valves

GENTEC® Valves



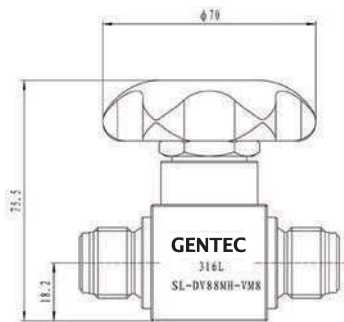
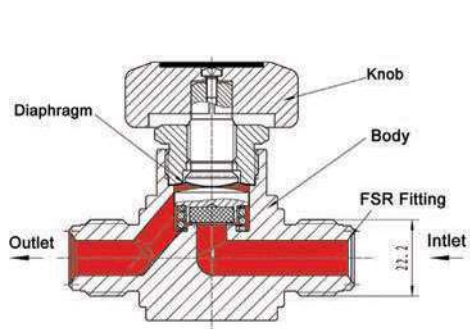
Product Features

- 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

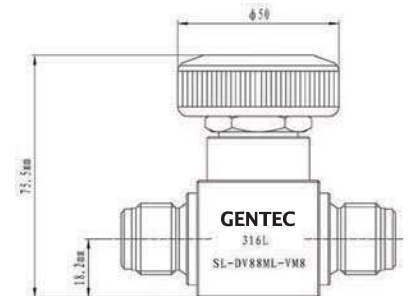
Specifications

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

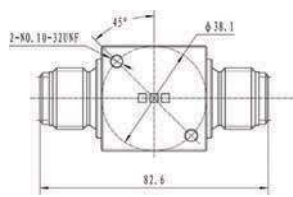
Dimensions



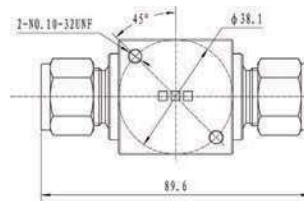
Manual (High Pressure)



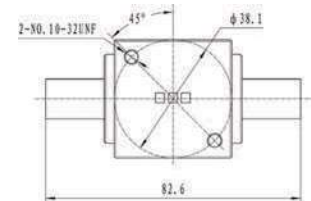
Manual (Low Pressure)



Face seal male (FSR fittings)



GENLOK fitting



Butt welded

Ordering Information

EX: SL -	DV88	N	H -	TF8
Body Material	Series	Actuation	Working Pressure	Inlet /Outlet Connection
SL: 316SL	DV88	N: Handwheel (without status window)	H: 3500 psi M: 1000 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	

DV90 SERIES

Stainless Steel Ultra High Purity High Flow Diaphragm Valves

GENTEC® Valves



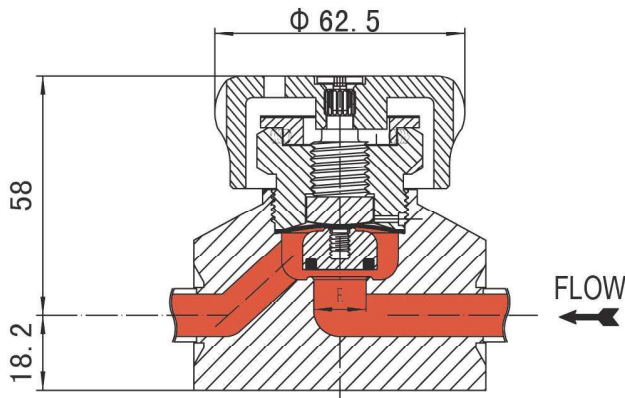
Product Features

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

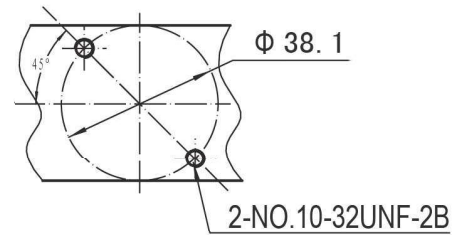
Specifications

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

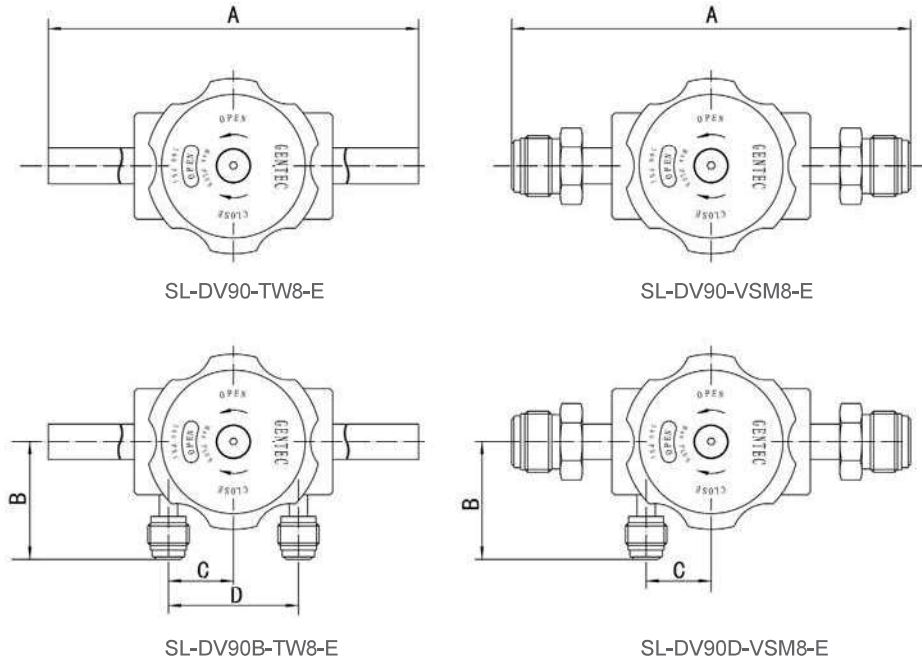
Dimensions



Rear Surface Mount



Dimensions



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

Ordering Information

EX: SL -	DV90	B -	VM8 -	E
Body Material	Series	Options	Inlet /Outlet Connection	Option
SL: 316SL	DV90	(Purge port, 1/4" FSR external threaded fitting) None: No purge port U: with inlet purge port D: with outlet purge port B: with both inlet and outlet purge port	VSM8 VSF8 TW8 TW12	E: 7 µin (EP)

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

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