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Catalog No. H-100NVT
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Multi-Turn Shut-off Valves

for Instrumentation
(Needle, Toggle, Gate, Bleed & Purge Valve)



HY-LOK CORPORATION

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Specification 3

Pressure and Temperature Rating 6

NV, SV Series 7

GB, GH Series10

SVH Series13

RP Series15

NSNV Series17

TG Series19

G Series23

BLV Series25

BAP Series26

PV Series27

VP Series28

Technical Data29

Ordering Information30



NV Series Integral Bonnet Needle Valves

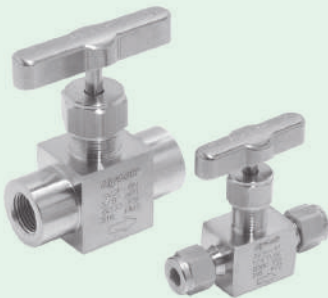


- Pressure : 5,000 psig (340bar) @ 100°F (38°C)
- Temperature : -65°F to 600°F (-54°C to 315°C)
- Materials : 316 Stainless Steel, Brass, Carbon Steel, Alloy 400
- Body Pattern : Straight, Angle
- Stem : Rotating Vee Tip, Regulating Tip, Soft Tip
- CV : 0.09 ~ 1.8
- Orifice : 2.0mm ~ 9.5mm (0.079" ~ 0.374")

Applications

Instrument isolation / General service / Test stands

SV Series Integral Bonnet Needle Valves



- Pressure : 6,000 psig (413 bar) @ 100°F (38°C)
- Temperature : -65°F to 600°F (-54°C to 315°C)
- Materials : 316 Stainless Steel, Alloy 400
- Body Pattern : Straight, Angle
- Stem : Rotating Vee Tip, Regulating Tip, Soft Tip
- CV : 0.37 ~ 0.73
- Orifice : 4.3mm ~ 6.3mm (0.169" ~ 0.248")

Applications

Test Valves / Pilot plants

GB Series Union Bonnet Needle Valves



- Pressure : 6,000 psig (413 bar) @ 100°F (38°C)
- Temperature : -65°F to 1,200°F (-54°C to 648°C)
- Materials : 316 Stainless Steel, Carbon Steel, Alloy 400
- Body Pattern : Straight, Angle
- Stem : Non-Rotating Vee Tip, Non-Rotating Ball Tip, Regulating Soft Tip
- CV : 0.35 ~ 2.2
- Orifice : 4.0mm ~ 11.0mm (0.157" ~ 0.433")

Applications

Handling corrosives / High temperature service /
Radioactive and hot condensate

GH Series High Pressure & Temperature Union Bonnet Needle Valves



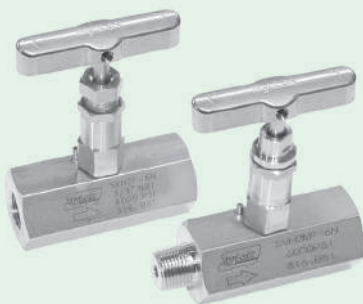
- Pressure : 10,000 psig (689 bar) @ 100°F (38°C)
- Temperature : -65°F to 1,200°F (-54°C to 648°C)
- Materials : 316 Stainless Steel
- Body Pattern : Straight
- Stem : Regulating Tip, Non-Rotating Ball Tip
- CV : 0.35 ~ 0.86
- Orifice : 4.0mm ~ 6.4mm (0.157" ~ 0.252")

Applications

Handling corrosives / High temperature and pressure service /
Radioactive and hot condensate

Specification

SVH Series High Pressure Screwed Bonnet Bar Stock Needle Valves

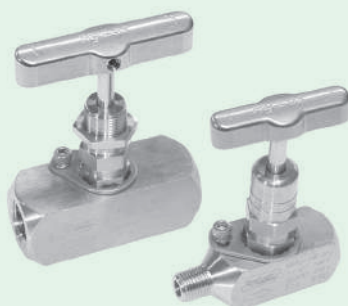


- Pressure : 10,000 psig (689 bar) @ 100°F (38°C)
- Temperature : -65°F to 1,200°F (-54°C to 648°C)
- Materials : 316 Stainless Steel, Carbon Steel, Alloy 400
- Body Pattern : Straight, Angle
- Stem : Non-Rotating Vee Tip, Non-Rotating Ball Tip
- CV : 0.52
- Orifice : 5.0mm (0.197")

Applications

Instrument isolation / Gas / Vapor or Liquid

RP Series Rising Plug Valves

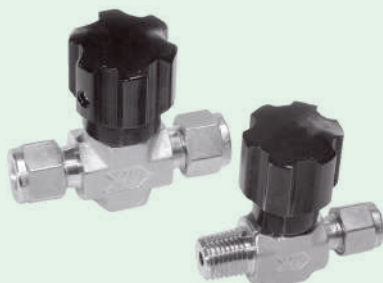


- Pressure : 6,000 psig (413 bar) @ 100°F (38°C)
- Temperature : -20°F to 400°F (-29°C to 204°C)
- Materials : 316 Stainless Steel
- Body Pattern : Straight
- Stem : Non-Rotating Vee Tip & Soft Seat
- CV : 1.77
- Orifice : 6.3mm (0.248")

Applications

Sour gas service / Handling slurries or solid impurities

NSNV Series Non-rotating Stem Needle Valve



- Pressure : 3,000 psig (206 bar) @ 100°F (38°C)
- Temperature : -20°F to 450°F (-28°C to 232°C)
- Materials : 316 Stainless Steel, Brass, Alloy 400
- Body Pattern : Straight, Angle
- Stem : Soft Tip
- CV : 0.12 ~ 0.53
- Orifice : 2.4mm ~ 5.6mm (0.093" ~ 0.218")

Applications

Sampling System or Cylinders.

TG Series Toggle Valves



- Pressure : 300 psig (20 bar) @ 100°F (38°C)
- Temperature : -20°F to 200°F (-28°C to 93°C)
- Materials : 316 Stainless Steel, Brass
- Body Pattern : Straight, Angle
- Stem : Soft tip
- CV : 0.11 ~ 0.7
- Orifice : 2.0mm ~ 6.4mm (0.079" ~ 0.252")

Applications

Test Valves / Pilot plants

G Series Gate Valves



- Pressure : 3,600 psig (248bar) @ 100°F(38°C)
- Temperature : -65°F to 1500°F (-54°C to 816°C)
- Materials : 316 Stainless Steel / A105 / Alloy400
- Stem : Gate
- CV : 2.6 ~ 26.3
- Orifice : 6.4mm ~ 19.0mm(0.252" ~ 0.748")

Applications

Instrument Isolation / High temperature service /
Handling slurries or solid impurities

BLV Series Bleed & Purge Valves / VP Series Vent Plugs



- Pressure : 10,000 psig (689 bar) @ 100°F (38°C)
- Temperature : -65°F to 850°F (-54°C to 454°C)
- Materials : 316 Stainless Steel, Carbon Steel, Alloy 400
- Body Pattern : Angle
- Stem : Rotating Vee Tip
- Orifice : BLV Series [3.2mm (0.125")]
VP Series [6, 8mm (0.234", 0.315")]

Applications

Venting or purging of liquids and gases

BAP Series Bleed & Purge Valve



- Pressure : 7,100 psig (500 bar) @ 100°F (38°C)
- Temperature : -20°F to 600°F (-28°C to 315°C)
- Materials : 316 Stainless Steel, Carbon Steel
- Body Pattern : Angle
- Stem : Rotating Vee Tip
- Orifice : 3mm ~ 4mm (0.118" ~ 0.157")

Applications

Venting or purging of liquids and gases

PV Series Bleed & Purge Valves



- Pressure : 4,000 psig (275 bar) @ 100°F (38°C)
- Temperature : -65°F to 600°F (-54°C to 315°C)
- Materials : 316 Stainless Steel, Carbon Steel, Alloy 400
- Body Pattern : Straight

Applications

Venting or purging of liquids and gases

Pressure & Temperature Rating

Series	Page	Material		Temperature Range	Pressure Rating		
		Body	Packing		@ 38°C (100°F)	@ Max. Temp.	
NV	7~8	Stainless Steel	PTFE	-54°C to 232°C (-65°F to 450°F)	344 bar (5,000 psig)	236 bar (3,435 psig)	
			PEEK	-54°C to 315°C (-65°F to 600°F)		215 bar (3,130 psig)	
		Brass	PTFE	-54°C to 204°C (-65°F to 400°F)	206 bar (3,000 psig)	26 bar (390 psig)	
			PEEK				
		Carbon Steel	PTFE	-29°C to 176°C (-20°F to 350°F)	206 bar (3,000 psig)	180 bar (2,615 psig)	
			PEEK				
Alloy 400 (Monel)	PTFE	-54°C to 232°C (-65°F to 450°F)	206 bar (3,000 psig)	164 bar (2,380 psig)			
	PEEK	-54°C to 260°C (-65°F to 500°F)		163 bar (2,375 psig)			
SV	7, 9	Stainless Steel	PTFE	-54°C to 232°C (-65°F to 450°F)	413 bar (6,000 psig)	284 bar (4,130 psig)	
			PEEK	-54°C to 315°C (-65°F to 600°F)		259 bar (3,760 psig)	
		Alloy 400 (Monel)	PTFE	-54°C to 232°C (-65°F to 450°F)	344 bar (5,000 psig)	274 bar (3,970 psig)	
			PEEK	-54°C to 260°C (-65°F to 500°F)		273 bar (3,960 psig)	
GB SVH2	10~11 13~14	Stainless Steel	PTFE	-54°C to 232°C (-65°F to 450°F)	413 bar (6,000 psig)	284 bar (4,130 psig)	
			PEEK	-54°C to 315°C (-65°F to 600°F)		259 bar (3,760 psig)	
			Graphite	-54°C to 648°C (-65°F to 1200°F)		118 bar (1,715 psig)	
		Carbon Steel	PTFE	-28°C to 176°C (-20°F to 350°F)	413 bar (6,000 psig)	360 bar (5,230 psig)	
			PEEK				
		Alloy 400 (Monel)	Graphite	-54°C to 232°C (-65°F to 450°F)	344 bar (5,000 psig)	274 bar (3,970 psig)	
			PTFE			-54°C to 260°C (-65°F to 500°F)	273 bar (3,960 psig)
			PEEK				
GH	10, 12	Stainless Steel	PTFE	-54°C to 232°C (-65°F to 450°F)	689 bar (10,000 psig)	512 bar (7,435 psig)	
			PEEK	-54°C to 315°C (-65°F to 600°F)		466 bar (6,770 psig)	
			Graphite	-54°C to 648°C (-65°F to 1200°F)		212 bar (3,085 psig)	
SVH1	13~14	Stainless Steel	PTFE	-54°C to 232°C (-65°F to 450°F)	689 bar (10,000 psig)	344 bar (5,000 psig)	
		Carbon Steel		-28°C to 176°C (-20°F to 350°F)		482 bar (7,000 psig)	
RP	15~16	Stainless Steel	POM (Seat)	-28°C to 121°C (-20°F to 250°F)	413 bar (6,000 psig)	69 bar (1,000 psig)	
			PEEK (Seat)	-28°C to 204°C (-20°F to 400°F)		69 bar (1,000 psig)	
NSNV	17~18	Stainless Steel	PCTFE (Seat)	-28°C to 93°C (-20°F to 200°F)	206 bar (3,000 psig)	177 bar (2,580 psig)	
			PEEK (Seat)	-28°C to 232°C (-20°F to 450°F)		142 bar (2,065 psig)	
		Brass	PCTFE (Seat)	-28°C to 93°C (-20°F to 200°F)		161 bar (2,350 psig)	
			PEEK (Seat)	-28°C to 204°C (-20°F to 400°F)		26.8 bar (390 psig)	
		Alloy 400 (Monel)	PCTFE (Seat)	-28°C to 93°C (-20°F to 200°F)		181 bar (2,640 psig)	
			PEEK (Seat)	-28°C to 232°C (-20°F to 450°F)		163 bar (2,380 psig)	
TG	19~22	Stainless Steel	PTFE (Seat)	-28°C to 93°C (-20°F to 200°F)	20 bar (300 psig)	20 bar (300 psig)	
			PEEK (Seat)				
		Brass	PTFE (Seat)				
			PEEK (Seat)				
G	23	Stainless Steel	PTFE	-54°C to 232°C (-65°F to 450°F)	248 bar (3600 psig)	14.1 bar (205 psig)	
			Graphite	-54°C to 816°C (-65°F to 1500°F)		226 bar (3,270 psig)	
		Carbon Steel	PTFE	-28°C to 176°C (-20°F to 350°F)			164 bar (2,380 psig)
			Graphite	-54°C to 260°C (-65°F to 500°F)		163 bar (2,375 psig)	
BLV,VP	25, 28	Stainless Steel	N/A	-54°C to 454°C (-65°F to 850°F)	689 bar (10,000 psig)	419 bar (6,085 psig)	
		Carbon Steel		-28°C to 232°C (-20°F to 450°F)		572 bar (8,315 psig)	
		Alloy 400 (Monel)		-54°C to 260°C (-65°F to 500°F)		545 bar (7,920 psig)	
BAP	26	Stainless Steel	N/A	-28°C to 315°C (-20°F to 600°F)	413 bar (6,000 psig)	172 bar (2,500 psig)	
		Carbon Steel		-28°C to 176°C (-20°F to 350°F)		205 bar (2,985 psig)	
PV	27	Stainless Steel	N/A	-54°C to 315°C (-65°F to 600°F)	275 bar (4,000 psig)	172 bar (2,500 psig)	
		Carbon Steel		-28°C to 176°C (-20°F to 350°F)	206 bar (3,000 psig)	205 bar (2,985 psig)	
		Brass		-28°C to 176°C (-20°F to 350°F)		50.9 bar (740 psig)	

Peek is not recommended for service with aromatic heat transfer fluids or concentrated sulfuric and nitric acids.

Other limitations may apply.

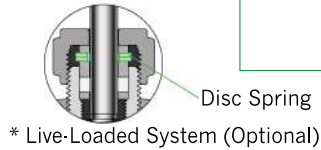
Extreme temperature fluctuations may require packing adjustment.

When valves with Hy-Lok Tube Fitting end connection are connected to tubing, the working pressure of tubing must be considered in the calculation of total system working pressure.

Features

Packing Nut

- allows smooth packing adjustment.



Stem Threads

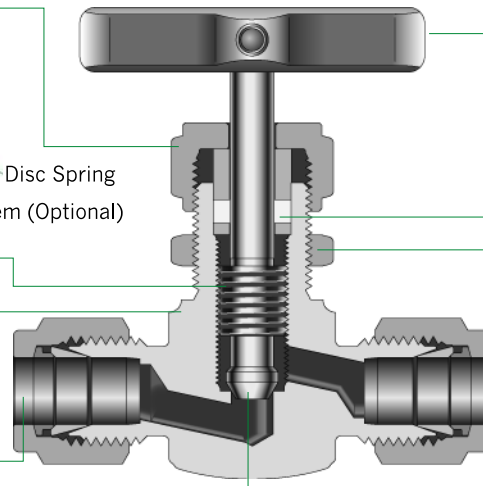
- are rolled and electroless nickel plated for maximum service life.

Integral Bonnet

- is available with straight and angle pattern.

Variety of End Connections

- include Hy-Lok tube fittings, male/female NPT threads, male/female ISO threads.



Best Suited Standard Handles

- Include sintered stainless steel, black phenolic knob, and black aluminum bar depending upon valve type.

Packing Materials

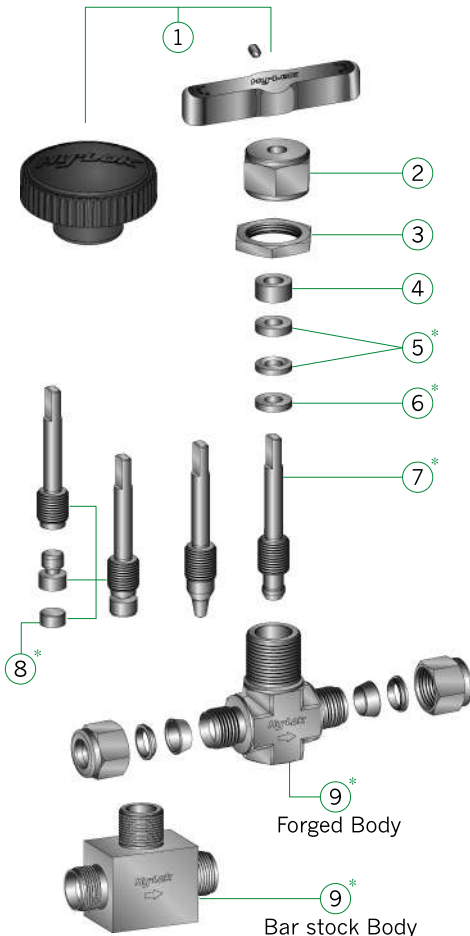
- are available in PTFE (standard) and PEEK.(option)

Panel Mounting Nut

- allows easy mounting. (NV series standard)
- is optional at SV Series.

Variety of Stem Tips

- include vee, regulating, and soft seat with PCTFE



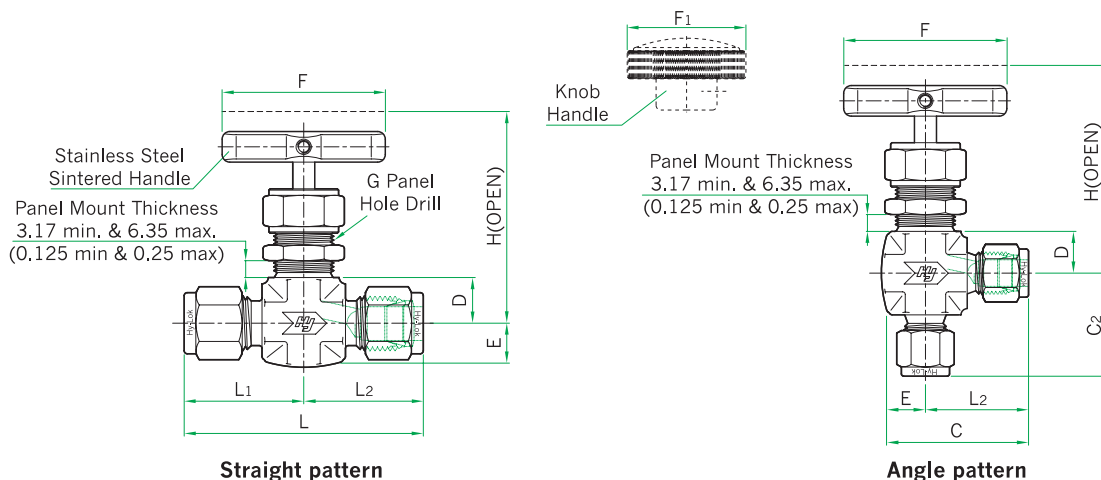
Materials of Construction

Description			Grade / ASTM Specification			
			Valve Body Materials			
			SS 316	Brass	Carbon Steel	Alloy 400
1	Handle	Sintered	Stainless Steel	-	-	Stainless Steel
		Others	-	Black Phenolic Knob	Aluminum Bar	-
2	Packing Nut		SS 316 / A479	C 360 / B16	1020 / A108	Alloy 400 / B164
3	Panel Nut		SS 316 / A276		SS 316 / A479	SS 316 / A276
4	Gland					SS 316 / A479
5	Packing*		PTFE			
6	Packing Washer*		SS 316 / A479			Alloy 400 / B164
7	Stem*	Vee	SS 316 / A479	C 360 / B16	SS 316 / A479	Alloy 400 / B164
		Regulating				
		Soft Seat				
8	Soft Tip*		PCTFE			
9	Body*	NV	SS316 / A479 or SS316 / A182	C 377 / B283	A105 or 1020 / A108	Alloy 400 / B564
		SV		-	-	Alloy 400 / B164

Note : * *marked are wetted parts.
Black phenolic knob is standard for brass body and soft seat stem valves.
Black aluminum bar handle are available as an options.
Panel nut ((3)) is optional at SV Series.

NV Series Integral Bonnet Needle Valve

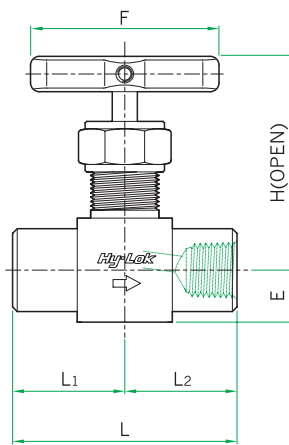
Table of Dimensions



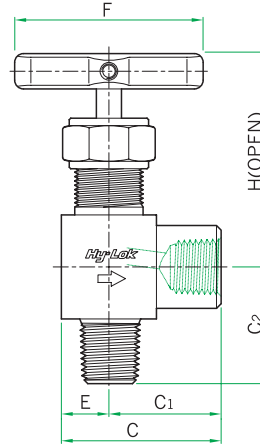
Basic Part No.		Orifice Hole	Cv	End Connection		Dimensions										
				Inlet	Outlet	L	L1	L2	C2	C	D	E	F1	F	G	H
NV1	F -2N	2.0 (0.08)	0.09	1/8" Female NPT		42.0 (1.65)	21.0 (0.83)	21.0 (0.83)	21.0 (0.83)	30.5 (1.20)	11.0 (0.43)	9.5 (0.37)	38.0 (1.50)	45.0 (1.77)	13.5 (0.53)	51.2 (2.02)
	1/8" Male NPT				21.0 (0.83)	20.0 (0.79)	21.0 (0.83)	29.5 (1.16)								
	1/8" Male NPT			1/8" Hy-Lok	47.0 (1.85)		26.0 (1.02)		35.5 (1.40)							
	1/8" Hy-Lok			52.0 (2.05)	26.0 (1.02)	26.0 (1.02)	26.0 (1.02)									
	3mm Hy-Lok															
NV2	F -2N	4.3 (0.17)	0.37	1/8" Female NPT		42.0 (1.65)	21.0 (0.83)	21.0 (0.83)	21.0 (0.83)	30.5 (1.20)	11.0 (0.43)	9.5 (0.37)	38.0 (1.50)	45.0 (1.77)	13.5 (0.53)	51.2 (2.02)
	1/8" Male NPT															
	1/4" Male NPT			50.0 (1.97)	25.0 (0.98)	25.0 (0.98)	34.5 (1.36)									
	1/4" Male NPT			1/4" Hy-Lok	53.8 (2.12)	28.8 (1.13)	28.8 (1.13)	28.8 (1.13)	38.3 (1.51)							
	6mm Hy-Lok			57.6 (2.27)	28.8 (1.13)	28.8 (1.13)	28.8 (1.13)	38.3 (1.51)								
	1/4" Hy-Lok															
	8mm Hy-Lok			59.2 (2.33)	29.6 (1.17)	29.6 (1.17)	29.6 (1.17)	39.1 (1.54)								
NV3	F -4N	6.3 (0.25)	0.73	1/4" Female NPT		56.0 (2.20)	28.0 (1.10)	28.0 (1.10)	41.0 (1.16)	13.5 (0.53)	13.0 (0.51)	50.0 (1.97)	64.0 (2.52)	20.0 (0.79)	63.6 (2.50)	
	1/4" Female ISO															
	1/4" Male NPT			1/4" Female NPT												
	MH-4N6T			1/4" Male NPT	3/8" Hy-Lok	61.2 (2.41)		33.2 (1.31)	46.2 (1.82)							
	M -6N			3/8" Male NPT		58.0 (2.28)		29.0 (1.14)	42.0 (1.65)							
	MH-6N6T			3/8" Male NPT	3/8" Hy-Lok	62.2 (2.45)	29.0 (1.14)	33.2 (1.31)	29.0 (1.14)							46.2 (1.82)
	MH-6N8T			3/8" Male NPT	1/2" Hy-Lok	65.0 (2.56)		36.0 (1.42)	49.0 (1.93)							
	H -10M			10mm Hy-Lok		66.4 (2.61)	33.2 (1.31)	33.2 (1.31)	33.2 (1.31)							46.2 (1.82)
	H -6T			3/8" Hy-Lok												
	H -12M			12mm Hy-Lok		72.0 (2.83)	36.0 (1.42)	36.0 (1.42)	36.0 (1.42)							49.0 (1.93)
	H -8T			1/2" Hy-Lok												
	NV4			F -6N	9.5 (0.37)	1.8	3/8" Female NPT		76.0 (2.99)							38.0 (1.50)
3/8" Female ISO																
1/2" Female NPT																
1/2" Female ISO																
1/2" Male NPT																
1/2" Male NPT		1/2" Female NPT														
1/2" Hy-Lok																
H -8T		3/4" Hy-Lok														
H -12T																

Dimensions in millimeters(inch) are for reference only, subject to change
 Dimensions shown with Hy-Lok nuts in finger-tight position , Where applicable
 Ordering information refer to page 30.

Table of Dimensions



Straight pattern



Angle pattern

Basic Part No.		Orifice Hole	Cv	End Connections		Dimensions								
				Inlet	Outlet	L	L1	L2	C	C1	C2	E	F	H
SV1	F -4N	4.3 (0,17)	0.37	1/4" Female NPT		47,6 (1,87)	23,8 (0,94)	23,8 (0,94)	36,5 (1,44)	25,4 (1,00)	25,4 (1,00)	11,2 (0,44)	45,0 (1,77)	51,0 (2,00)
	1/4" Female ISO													
	1/4" Male NPT			49,2 (1,87)		24,6 (0,97)	35,8 (1,41)	24,6 (0,97)	25,2 (0,99)					
	1/4" Male NPT			1/4" Female NPT	48,4 (1,91)	24,6 (0,97)	23,8 (0,94)	36,5 (1,44)	25,4 (1,00)	26,2 (1,03)				
	1/4" Male NPT			1/4" Hy-Lok	53,3 (2,10)		28,7 (1,13)	39,8 (1,57)	28,7 (1,13)					
	1/4" Hy-Lok			62,4 (2,46)	31,2 (1,23)	31,2 (1,23)			29,7 (1,17)					
SV2	F -6N	6,3 (0,25)	0,73	3/8" Female NPT		64,0 (2,52)	32,0 (1,26)	32,0 (1,26)	48,6 (1,91)	31,8 (1,25)	31,8 (1,25)	16,8 (0,66)	64,0 (2,52)	63,0 (2,48)
	1/2" Female NPT													
	1/2" Female ISO													
	MF -6N			3/8" Male NPT	3/8" Female NPT					31,0 (1,22)				
	MF -8N			1/2" Male NPT	1/2" Female NPT	64,3 (2,53)	32,5 (1,28)			35,8 (1,41)				
	MF -12N8N			3/4" Male NPT	1/2" Female NPT	63,6 (2,50)	31,8 (1,25)							
	MH-6N8T			3/8" Male NPT	1/2" Hy-Lok	73,7 (2,90)		41,9 (1,65)						
	H -6T			3/8" Hy-Lok		78,2 (3,08)	39,1 (1,54)	39,1 (1,54)						
	H -8T			1/2" Hy-Lok		83,8 (3,30)	41,9 (1,65)	41,9 (1,65)						

Dimensions in millimeters(inch) are for reference only, subject to change
Dimensions shown with Hy-Lok nuts in finger-tight position , Where applicable
Ordering information refer to page 30.

GB, GH Series Union Bonnet Needle Valve

Features

Handle

- is available in sintered stainless steel and black phenolic knob.

Stem Threads

- are rolled and electroless nickel plated for maximum service life.

Panel Mounting Nut

- allows easy mounting.(standard)

Rugged Body

- is available with straight and angle pattern.

Variety of End Connections

- include Hy-Lok tube fitting, male/female NPT/ISO threads, and socket weld Ends.

Variety of Orifice Sizes

- include 4.0mm(GB1, GH1 series), 6.4mm(GB2, GH2 series), 11.0mm (GB3 series)

Locking Nut

- prevents packing bolt from loosening.

Metal Seal Bonnet - to - Body Construction

- ensures safety.

Stem Packing

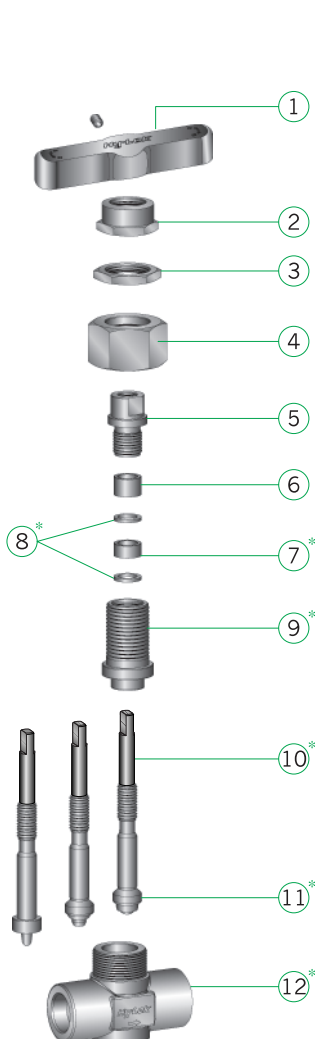
- available in PTFE(Standard) PEEK and Graphite

Back Seating

- provides anti - blow out of stem.

Variety of Stem Tips

- include non - rotating Vee(standard) non-rotating ball, soft seat, regulating soft seat and non - rotating regulating tip.(optional)



Ball Tip



Soft Seat Tip



Regulating Soft Seat Tip



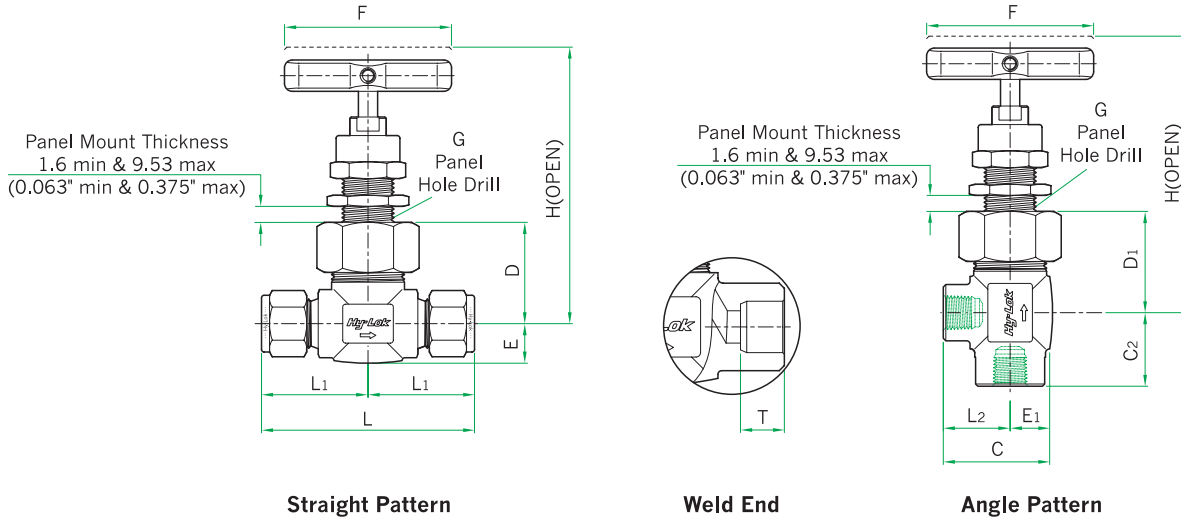
Regulating Tip

Materials of Construction

Description			Grade / ASTM Specification		
			Valve Body Materials		
			SS316	Carbon Steel	Alloy 400
1	Handle	Sintered	Stainless Steel	-	Stainless Steel
		Bar	-	Aluminum Bar	-
2	Packing Nut		SS316 / A276	1020 / A108	SS316 / A276
3	Panel Nut				
4	Bonnet Nut				
5	Packing Bolt		SS316 / A479		
6	Gland		SS316 / A276		Alloy 400 / B164
7	Packing *		PTFE		
8	Packing Washer *		Glass Filled PTFE		
9	Bonnet *		SS316 / A479	1020 / A108	Alloy 400 / B164
10	Stem *		SS316 / A479		
11	Stem Tip *	Vee	SS630 / A564		Alloy K500 / B865
		Ball			
		Regulating			
		Soft	PCTFE		
12	Body *		SS316 / A479 or SS316 / A182	A105 or 1020 / A108	Alloy 400 / B164 or Alloy 400 / B564

Note : " * "marked are wetted parts.

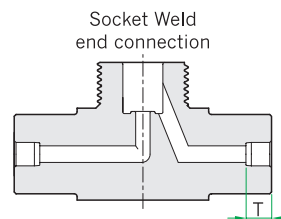
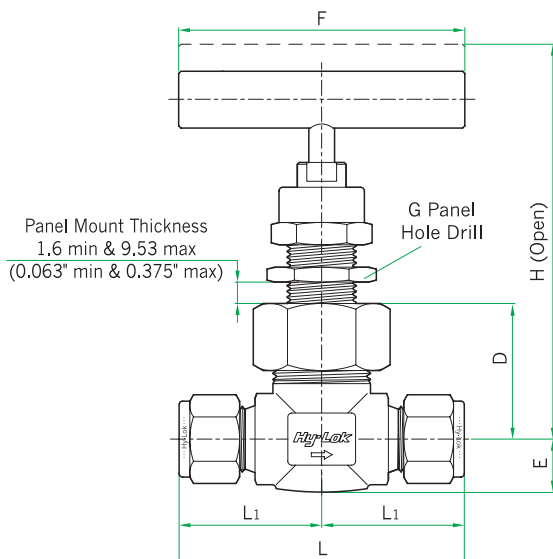
Table of Dimensions



Basic Part No.	Orifice Hole	Cv	End Connection		Dimensions													
			Inlet	Outlet	L	L ₁	L ₂	C	C ₂	D	D ₁	E	E ₁	F	G	H Straight	H Angle	T
GB1	F -2N	4.0 (0.16)	0.35	1/8" Female NPT		50.8 (2.00)	25.4 (1.00)	23.0 (0.91)	32.6 (1.28)	25.4 (1.00)	32.6 (1.28)	11.5 (0.45)	11.5 (0.45)	45 (1.77)	15.1 (0.59)	77.8 (3.06)	82.6 (3.25)	7.2 (0.28)
	F -4N			1/4" Female NPT		52.4 (2.06)	26.2 (1.03)	23.0 (0.91)	32.6 (1.28)									
	M -4N			1/4" Male NPT		50.8 (2.00)	25.4 (1.00)	25.4 (1.00)	35.0 (1.38)									
	MF -4N			1/4" Male NPT	1/4" Female NPT	52.4 (2.06)	26.2 (1.03)	23.0 (0.91)	32.6 (1.28)									
	H -6M			6mm Hy-Lok		61.9 (2.44)	31.0 (1.22)	29.4 (1.16)	38.9 (1.53)									
	H -4T			1/4" Hy-Lok		46.0 (1.81)	23.0 (0.91)	22.3 (0.88)	31.8 (1.03)									
	SW-4T			1/4" Tube Weld		46.0 (1.81)	23.0 (0.91)	22.3 (0.88)	31.8 (1.03)									
	H -8M			8mm Hy-Lok		61.9 (2.44)	31.0 (1.22)	29.4 (1.16)	38.9 (1.53)									
GB2	F -4N	6.4 (0.25)	0.86	1/4" Female NPT		57.2 (2.25)	28.6 (1.13)	25.4 (1.00)	39.6 (1.56)	34.0 (1.34)	34.0 (1.34)	14.2 (0.56)	14.2 (0.56)	64 (2.52)	19.9 (0.78)	93.7 (3.69)	96.9 (3.81)	10.0 (0.39)
	F -6N			3/8" Female NPT		57.2 (2.25)	28.6 (1.13)	25.4 (1.00)	39.6 (1.56)									
	H -10M			10mm Hy-Lok		73.0 (2.87)	36.5 (1.44)	33.7 (1.33)	47.9 (1.89)									
	H -6T			3/8" Hy-Lok		73.0 (2.87)	36.5 (1.44)	33.5 (1.32)	47.7 (1.88)									
	H -12M			12mm Hy-Lok		77.8 (3.06)	38.9 (1.53)	36.2 (1.43)	50.4 (1.98)									
	H -8T			1/2" Hy-Lok		77.8 (3.06)	38.9 (1.53)	36.0 (1.42)	50.2 (1.98)									
	SW-4P			1/4" Pipe Weld		57.2 (2.25)	28.6 (1.13)	25.4 (1.00)	39.6 (1.56)									
	SW-6T			3/8" Tube Weld		57.2 (2.25)	28.6 (1.13)	25.4 (1.00)	39.6 (1.56)									
	SW-8T			1/2" Tube Weld		57.2 (2.25)	28.6 (1.13)	25.4 (1.00)	39.6 (1.56)									
GB3	F -8N	11.0 (0.43)	2.2	1/2" Female NPT		79.4 (3.13)	39.7 (1.56)	33.3 (1.31)	50.8 (2.00)	46.0 (1.81)	47.0 (1.85)	15.9 (0.63)	17.5 (0.69)	76 (2.99)	26.2 (1.03)	121.5 (4.78)	122.4 (4.82)	10.0 (0.39)
	F -12N			3/4" Female NPT		82.6 (3.25)	41.3 (1.63)	41.3 (1.63)	61.3 (2.41)									
	F -16N			1" Female NPT		92.1 (3.63)	46.0 (1.81)	-	-									
	MF -8N			1/2" Male NPT	1/2" Female NPT	79.4 (3.13)	39.7 (1.56)	33.3 (1.31)	50.8 (2.00)									
	MF -12N			3/4" Male NPT	3/4" Female NPT	82.6 (3.25)	41.3 (1.63)	-	-									
	MF -16N			1" Male NPT	1" Female NPT	92.1 (3.63)	46.0 (1.81)	-	-									
	H -12M			12mm Hy-Lok		79.4 (3.13)	39.7 (1.56)	33.3 (1.31)	50.8 (2.00)									
	H -8T			1/2" Hy-Lok		100.0 (3.94)	50.0 (1.97)	47.0 (1.85)	61.1 (2.41)									
	H -12T			3/4" Hy-Lok		100.0 (3.94)	50.0 (1.97)	47.0 (1.85)	61.1 (2.41)									
	H -16T			1" Hy-Lok		100.0 (3.94)	50.0 (1.97)	47.0 (1.85)	61.1 (2.41)									
	SW-8P			1/2" Pipe Weld		79.4 (3.13)	39.7 (1.56)	33.3 (1.31)	50.8 (2.00)									
	SW-8T			1/2" Tube Weld		79.4 (3.13)	39.7 (1.56)	33.3 (1.31)	50.8 (2.00)									
	SW-12T			3/4" Tube Weld		79.4 (3.13)	39.7 (1.56)	33.3 (1.31)	50.8 (2.00)									

Dimensions in millimeters(inch) are for reference only, subject to change
 Dimensions shown with Hy-Lok nuts in finger-tight position, Where applicable
 Ordering information refer to page 30.

Table of Dimensions



Basic Part No.		Orifice Hole	Cv	End Connections		Dimensions							
				Inlet	Outlet	L	L ₁	D	E	F	G	H	T
GH1	F -2N	4,0 (0,157)	0,35	1/8" Female NPT		71,4 (2,81)	35,7 (1,40)	35,1 (1,38)	12,7 (0,50)	64 (2,52)	20,6 (0,81)	84,1 (3,31)	-
	1/4" Female NPT			57,2 (2,25)	28,6 (1,13)								
	1/4" Male NPT												
	1/4" Male NPT					1/4" Female NPT							
	1/4" Hy-Lok												
	1/4" Tube Socket Weld					7,1 (0,28)							
GH2	F -4N	6,4 (0,252)	0,86	1/4" Female NPT		79,5 (3,13)	39,8 (1,56)	46,0 (1,81)	16,0 (0,63)	76 (2,99)	26,9 (1,06)	105 (4,13)	-
	1/2" Female NPT			82,6 (3,25)	41,3 (1,63)	49,3 (1,94)	19,8 (0,78)	108 (4,25)					
	1/2" Male NPT												
	1/2" Male NPT								1/2" Female NPT				

Dimensions in millimeters(inch) are for reference only, subject to change
 Dimensions shown with Hy-Lok nuts in finger-tight position , Where applicable
 Ordering information refer to page 30.

Features

Handle

- sintered stainless steel handle.

Packing Bolt

- allows easy packing adjustment for leak tight seal.

Stem Threads

- are rolled and electroless nickel plated for maximum service life.

Stop Pin

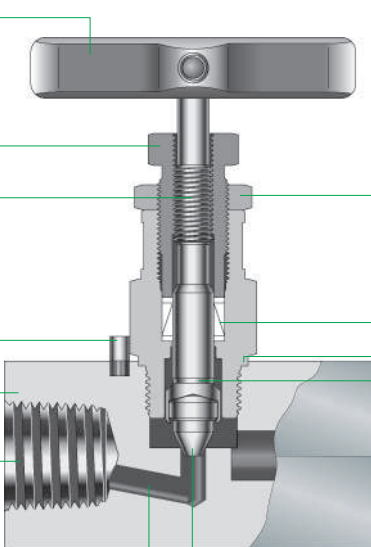
- prevents accidental removal in service.

Rugged Body

- available in straight and angle pattern.

Variety of End Connection

- Hy-Lok Tube Fittings, Male & Female ISO threads, Male & Female NPT.



Locking Nut

- prevents packing bolt from loosening.

Packing

- below stem threads
- isolates stem thread from process
- prevents stem lubricant washout
- is PTFE standard with reinforced packing washer and grafoil available upon request.

Metal Seal

- construction ensure safety

Back Seating

- provides anti-blow out of stem and secondary stem seal

Orifice Size

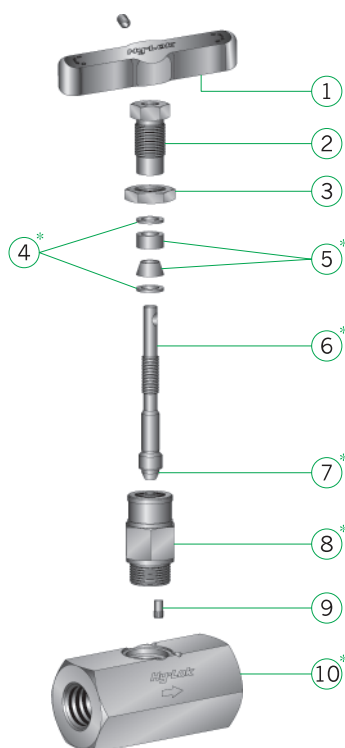
- 5.0mm (0.2 inch)



Ball Tip

Variety Stem Tips

- includes non-rotating vee(standard) and ball tip(optional)



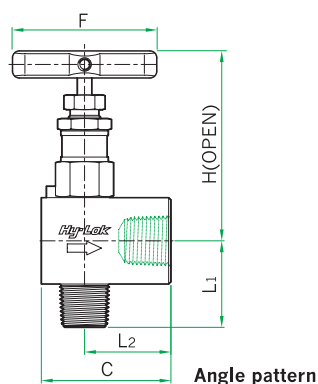
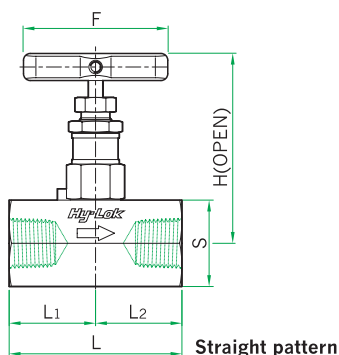
Materials of Construction

Description			Grade / ASTM Specification		
			Valve Body Materials		
			SS 316	Carbon Steel	Alloy 400
1	Handle	Sintered	Stainless Steel	-	Stainless Steel
		Others	-	Aluminum Bar	-
2	Packing Bolt		SS316 / A479		
3	Lock Nut		SS 316 / A276		
4	Packing Washer*		Reinforced PTFE		
5	Packing*		PTFE		
6	Stem*		SS316 / A479		Alloy 400 / B164
7	Stem Tip*	Vee Ball	SS630 / A564		Alloy K500 / B865
8	Bonnet*		SS 316 / A479	1020 / A108	Alloy 400 / B164
9	Stop Pin		Stainless Steel		
10	Body*		SS 316 / A479	1020 / A108	Alloy 400 / B164

Note : "*"marked are wetted parts.

SVH series High Pressure Screwed Bonnet Bar Stock Needle Valve

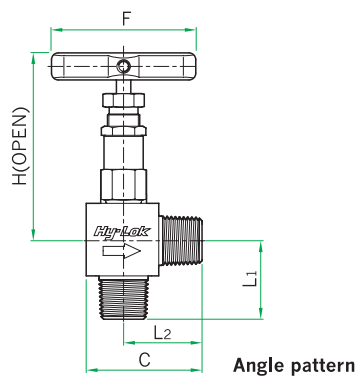
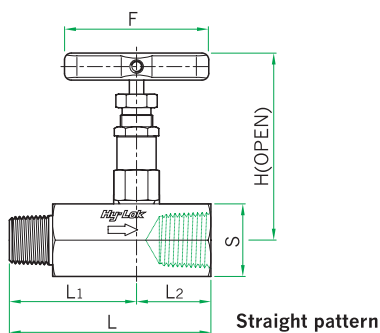
Table of Dimensions (SVH1 Series)



Basic Part No.		Orifice Hole	Cv	End Connections		Dimensions							
				Inlet	Outlet	L	L1	L2	C	S	F	H	
SVH1	F -4N	5.0 (0.197)	0.52	1/4" Female NPT		76.2 (3.00)	38.1 (1.50)	38.1 (1.50)	57.2 (2.25)	38.1 (1.50)	64.0 (2.52)	90.0 (3.54)	
	1/2" Female NPT												
	3/4" Female NPT			84.0 (3.31)	42.0 (1.65)	42.0 (1.65)	62.5 (2.46)	41.0 (1.61)	91.5 (3.60)				
	MF-4N			1/4" Male NPT	1/4" Female NPT	76.2 (3.00)	38.1 (1.50)						
	MF-6N			3/8" Male NPT	3/8" Female NPT	82.2 (3.24)	44.1 (1.74)	38.1 (1.50)	57.2 (2.25)	38.1 (1.50)		90.0 (3.54)	
	MF-8N			1/2" Male NPT	1/2" Female NPT	87.1 (3.43)	49.0 (1.93)						

All dimensions in millimeters(inch).
Ordering information refer to page 30.

Table of Dimensions (SVH2 Series)



Basic Part No.		Orifice Hole	Cv	End Connections		Dimensions													
				Inlet	Outlet	L	L1	L2	C	S	F	H							
SVH2	F -4N	5.0 (0.197)	0.52	1/4" Female NPT		76.2 (3.00)	38.1 (1.50)	38.1 (1.50)	54.1 (2.13)	32.0 (1.26)	64.0 (2.52)	88.5 (3.48)							
	3/8" Female NPT			57.2 (2.25)	38.1 (1.50)														
	1/2" Female NPT																		
	3/4" Female NPT			88.9 (3.50)	56.1 (2.21)	32.8 (1.29)	48.8 (1.92)	32.0 (1.26)	38.1 (1.50)	88.5 (3.48)									
	1/2" Male NPT												1/2" Female NPT						
	3/4" Male NPT												114.3 (4.50)	76.2 (3.00)	38.1 (1.50)	57.2 (2.25)	38.1 (1.50)	91.5 (3.60)	
	3/4" Female NPT																		
	3/8" Hy-Lok												91.2 (3.59)	45.6 (1.80)	45.6 (1.80)	61.6 (2.43)	32.0 (1.26)	88.5 (3.48)	
	1/2" Hy-Lok																		
	1/4" Pipe Socket Weld			65.0 (2.56)	32.5 (1.28)	32.5 (1.28)	48.5 (1.91)												
	1/2" Pipe Socket Weld																		
	1/4" Pipe S.W.							1/4" Female NPT											
1/2" Pipe S.W.		76.2 (3.00)	38.1 (1.50)	38.1 (1.50)	54.1 (2.13)														

Dimensions in millimeters(inch) are for reference only, subject to change
Dimensions shown with Hy-Lok nuts in finger-tight position , Where applicable
Ordering information refer to page 30.

Features

Robust Bar Handle

- sintered stainless steel handle.

Stem Thread

- is to prevent particle build-up and for long life.
- is above the packing to prevent fluid contamination.

Bonnet Loking Plate

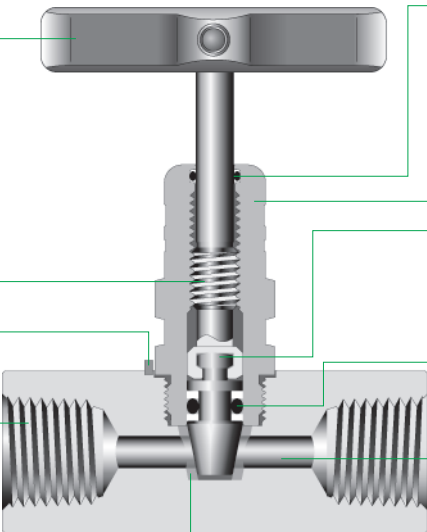
- ensures no disassembly.

Variety of End Connections

- include male/female NPT and Male/Female ISO/BSP.
- Female Hy-Lok Tube Fittings.

POM Cone Seat

- is standard for easier replacement and PEEK is also available as option.



Internal Seal

- prevent ingress of foreign materials into the actuating threads.

Panel Mount

- is available as option.

Non - Rotating Stem Tip

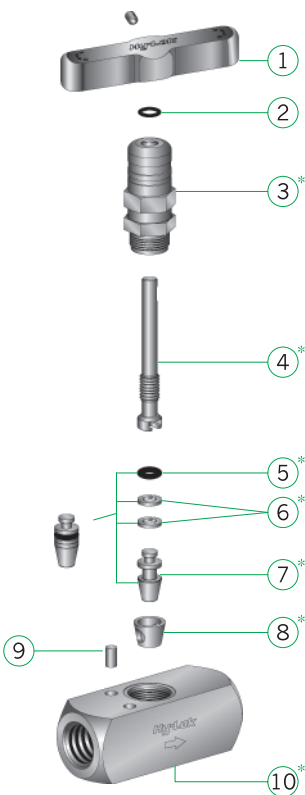
- ensures positive sealing minimizing seat wear-out.

Viton O - Ring with Back - up Ring

- is Standard.

Orifice in Straight Flow Path

- ensures max Cv.

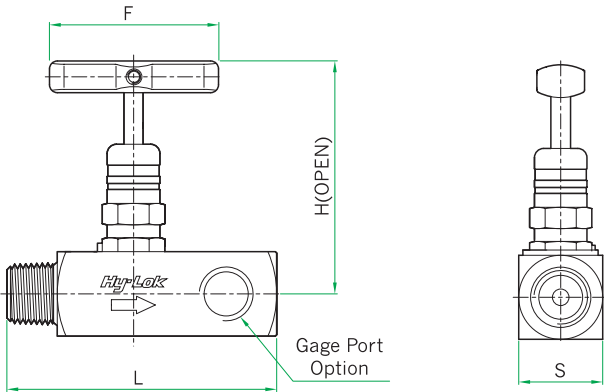


Materials of Construction

Description		Grade / ASTM Specification
		Valve Body Materials
		SS 316
1	Handle	Stainless Steel
2	Seal	Viton
3	Bonnet *	SS 316 / A479
4	Stem *	
5	Stem Seal *	Viton
6	Back up Ring *	PTFE
7	Stem Tip *	SS 316 / A479
8	Seat *	POM
9	Pin	Stainless Steel
10	Body *	SS 316 / A479

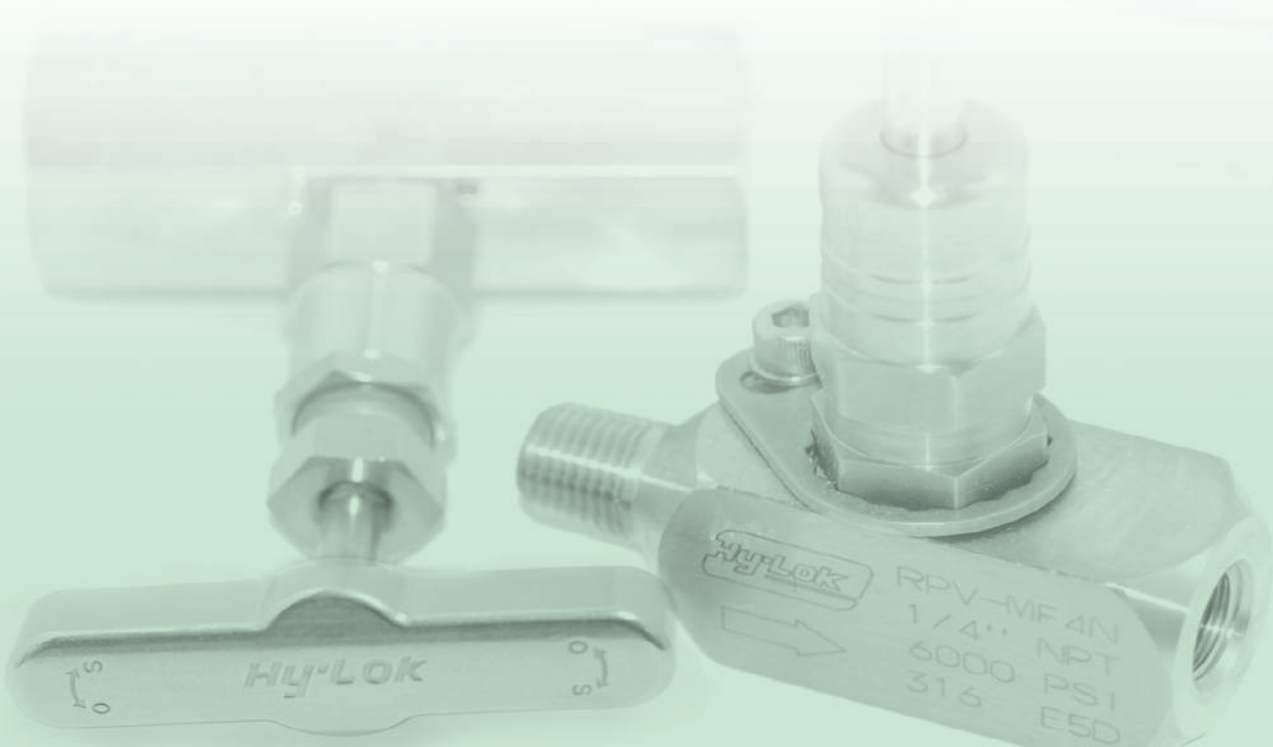
Note : " * " marked are wetted parts.

Table of Dimensions



Basic Part No.		Orifice Hole	Cv	End Connections		Dimensions			
				Inlet	Outlet	L	S	F	H
RPV	F -4N	6.3 (0.25)	1.77	1/4" Female NPT		62.0 (2.44)	25.4 (1.00)	60 (2.36)	95.4 (3.75)
	MF-4N			1/4" Male NPT	1/4" Female NPT	74.0 (2.91)			
	F -8N			1/2" Female NPT		84.0 (3.31)	32.0 (1.26)		97.5 (3.34)
	MF-8N			1/2" Male NPT	1/2" Female NPT	90.0 (3.54)			
	MF-12N8N			3/4" Male NPT	1/2" Female NPT				

Dimensions in millimeters(inch) are for reference only, subject to change
Ordering information refer to page 30.



Features

Handle

- Aluminum handle with black anodizing

Back Seating

- provides sealing in fully open position

Variety of End Connections

- include Hy-Lok tube fitting and male/female NPT/ISO threads

Integral Bonnet with One Piece Body

- is available with straight and angle pattern

Non - Rotating Stem

- ensures positive sealing

Viton O - Ring with Back - up Ring

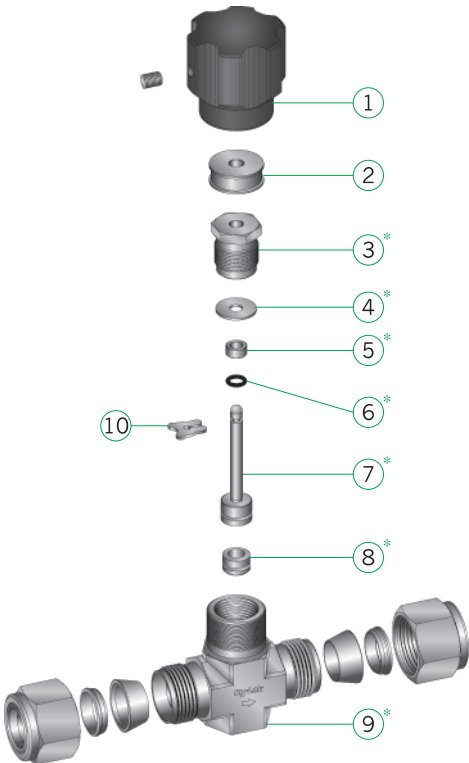
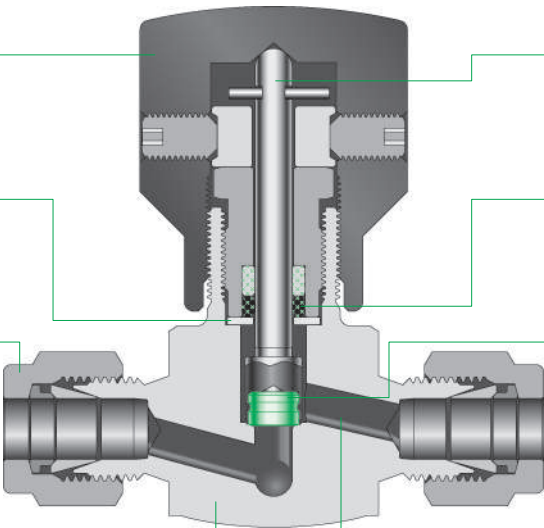
- needs no adjustment

Soft Seat Stem Tips

- Soft seat with PCTFE

Variety of Orifice Sizes

- include 2.4mm(NSNV 1 series), 4.0mm(NSNV 2 series), 5.6mm(NSNV 3 series),



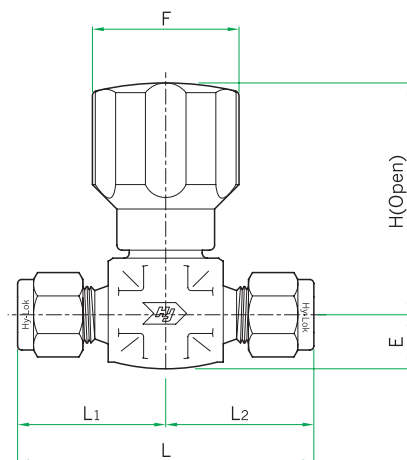
Materials of Construction

No.	Component	Grade / ASTM Specification		
		Valve Body Materials		
		SS316	Brass	Alloy 400
1	Handle	Aluminum		
2	Handle Spool			
3	Packing Bolt *	SS316 / A479	C360 / B16	Alloy 400 / B164
4	Stem Washer*	SS316 / A276		
5	Back up Ring*	PTFE		
6	O-Ring*	Viton		
7	Stem*	SS316 / A479		Alloy 400 / B164
8	Stem Tip*	PCTFE		
9	Body*	SS316 / A182	C377 / B283	Alloy 400 / B564
10	Stop Ring	Carbon Steel		

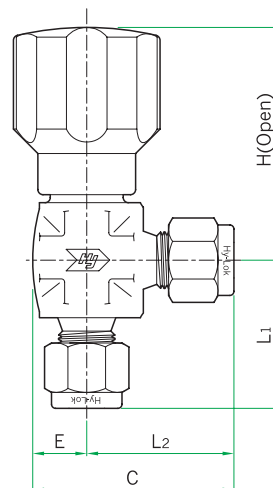
Note : " * " marked are wetted parts,
Molybdenum disulfide and fluoro carbon based lubricant in used.

NSNV Series Non-rotating Stem Needle Valve

Table of Dimensions



Straight Pattern

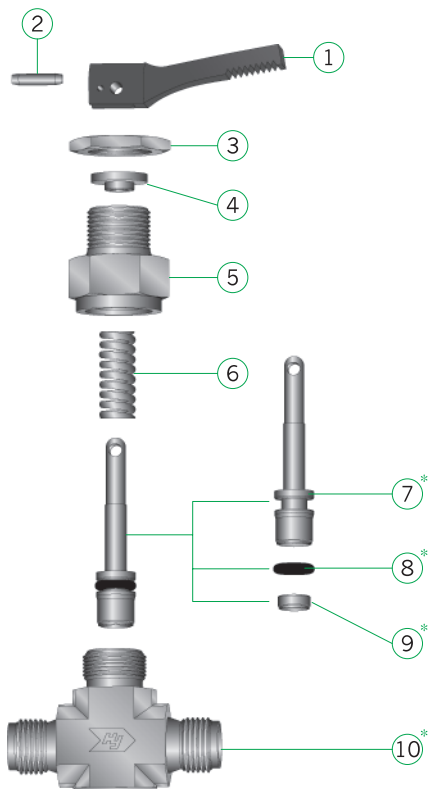
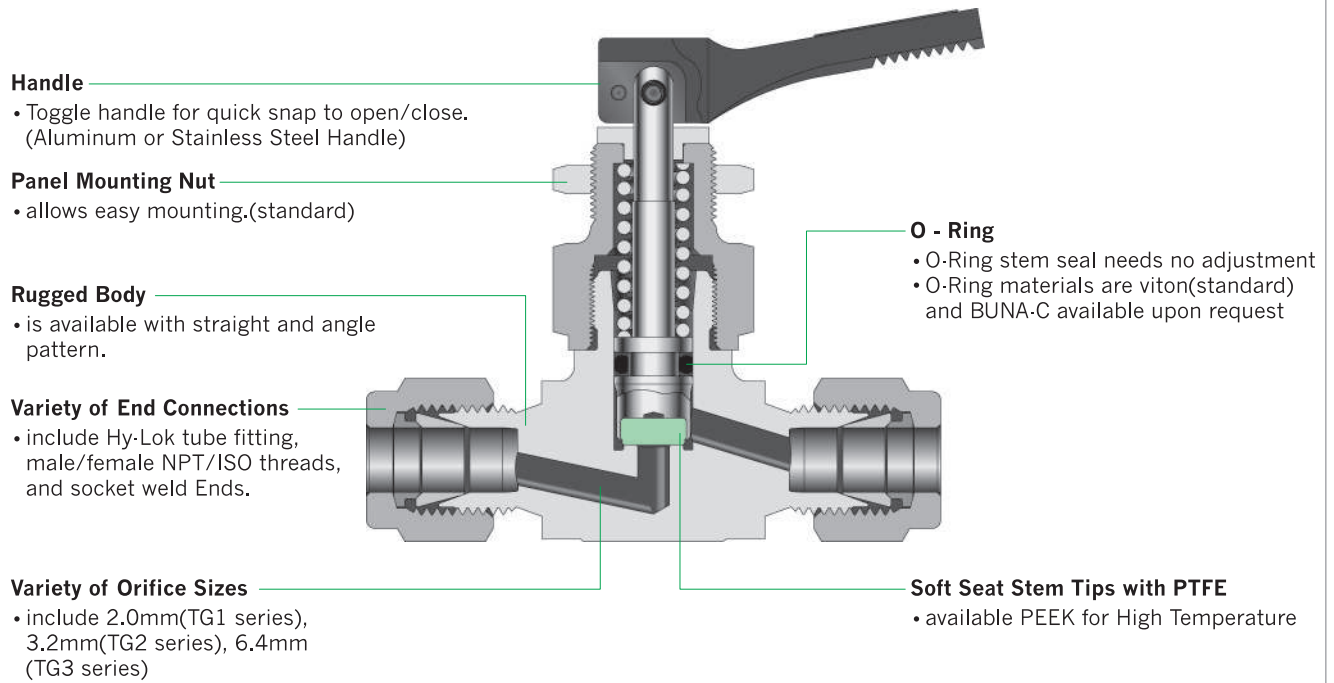


Angle Pattern

Basic Part No.			Cv	Orifice	End Connection		Dimensions						
					Inlet	Outlet	L	L1	L2	E	C	F	H
NSNV1	H	-2T-	0.12	2.4 (0,093)	1/8" Hy-Lok	1/8" Hy-Lok	55,9 (2,20)	27,9 (1,10)	27,9 (1,10)	7,9 (0,31)	35,8 (1,41)	28,5 (1,12)	48,0 (1,89)
	MH	-2N4T-			1/8" Male NPT	1/4" Hy-Lok	47,0 (1,85)	19,0 (0,75)			36,1 (1,42)		
	MF	-2N-				1/8" Female NPT	42,9 (1,69)				23,9 (0,94)		
NSNV2	H	-4T-	0.27	4,0 (0,156)	1/4" Hy-Lok	1/4" Hy-Lok	57,6 (2,27)	28,7 (1,13)	28,7 (1,13)	9,7 (0,38)	38,4 (1,51)	28,5 (1,12)	48,0 (1,89)
	H	-6M-			6mm Hy-Lok	6mm Hy-Lok							
	M	-4N-			1/4" Male NPT	1/4" Male NPT	50,0 (1,97)	24,9 (0,98)	12,7 (0,50)	34,5 (1,36)			
	MH	-4N4T-				1/4" Hy-Lok	53,8 (2,12)		28,7 (1,13)	9,7 (0,38)	38,4 (1,51)		
	MH	-4N6M-				6mm Hy-Lok							
NSNV3	H	-6T-	0.53	5,6 (0,218)	3/8" Hy-Lok	3/8" Hy-Lok	65,5 (2,58)	32,8 (1,29)	32,8 (1,29)	12,7 (0,50)	45,5 (1,79)	32,0 (1,26)	52,5 (21,8)
	M	-4N-			1/4" Male NPT	1/4" Male NPT	57,2 (2,25)	28,4 (1,12)	28,4 (1,12)		41,1 (1,62)		
	M	-6N-			3/8" Male NPT	3/8" Male NPT				14,2 (0,56)	42,6 (1,68)		
	F	-4N-			1/4" Female NPT	1/4" Female NPT	53,8 (2,12)	26,9 (1,06)	26,9 (1,06)	12,7 (0,50)	39,6 (1,56)		
	MH	-4N6T-			1/4" Male NPT	3/8" Hy-Lok	60,5 (2,38)	24,9 (0,98)	28,7 (1,13)		45,5 (1,79)		
	MF	-4N-				1/4" Female NPT	55,6 (2,19)	28,4 (1,12)	26,9 (1,06)		39,6 (1,56)		
	MF	-8N4N-					1/2" Male NPT	63,5 (2,50)	31,8 (1,25)		31,8 (1,25)		

Dimensions in millimeters(inch) are for reference only, subject to change
Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.
Ording information refer to page 30.

Features

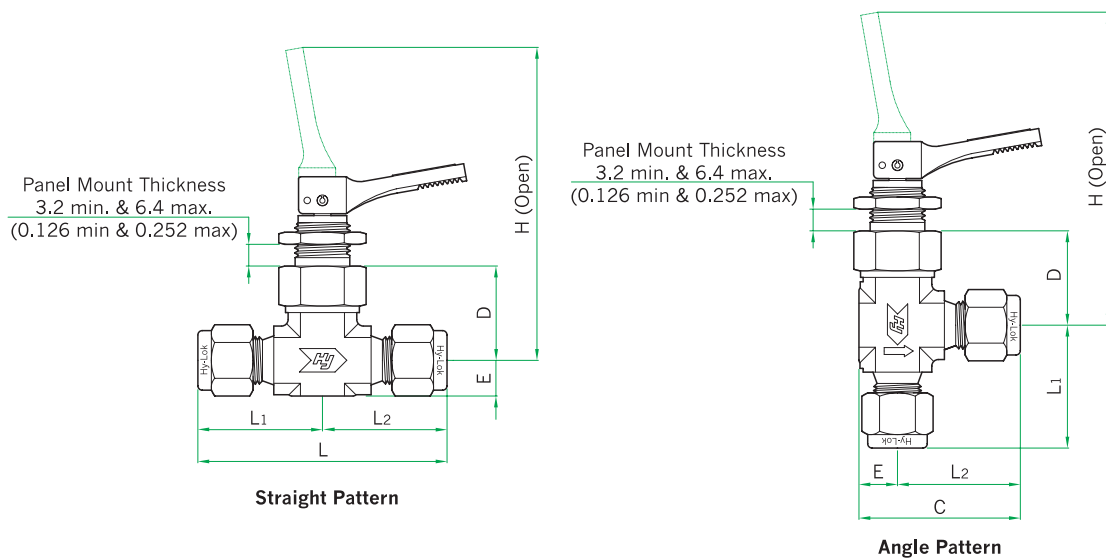


Materials of Construction

No.	Component	Grade / ASTM Specification	
		Valve Body Materials	
		Stainless Steel	Brass
1	Handle	Nylon	
2	Pin	SS302	
3	Panel Nut	SS316 / A276	C360 / B16
4	Washer	Nylon	
5	Packing Nut	SS316 / A479	C360 / B16
6	Spring	SS302	
7	Stem*	SS316 / A479	
8	Stem O-ring*	Viton	
9	Stem Tip*	PTFE	
10	Body*	SS316 / A182	C377 / B283

Note : " * " marked are wetted parts.
Molybdenum disulfide and fluoro carbon based lubricant in used.

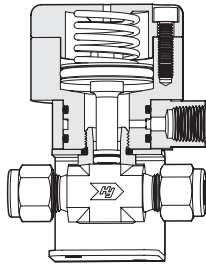
Table of Dimensions



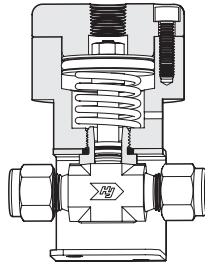
Basic Part No.			Orifice	Cv	End Connection		Dimensions						
					Inlet	Outlet	L	L1	L2	C	E	D	H
TG1	H	-2T-	2,0 (0.08)	0.11	1/8" Hy-Lok	1/8" Hy-Lok	49,8 (1.96)	24,9 (0.98)		32,9 (1.30)	8,0 (0.31)	21,9 (0.86)	72,2 (2.84)
	H	-3M-			3mm Hy-Lok	3mm Hy-Lok							
	M	-2N-			1/8" Male NPT	1/8" Male NPT	38,1 (1.50)	19,0 (0.75)		27,0 (1.06)			
	MH	-2N2T-				1/8" Hy-Lok	43,9 (1.73)	19,0 (0.75)	24,9 (0.98)	32,9 (1.30)			
TG2	H	-4T-	3,2 (0.125)	0.20	1/4" Hy-Lok	1/4" Hy-Lok	57,4 (2.26)	28,7 (1.13)		36,9 (1.45)	8,2 (0.32)	21,7 (0.85)	72,0 (2.83)
	H	-6M-			6mm Hy-Lok	6mm Hy-Lok							
	H	-8M-			8mm Hy-Lok	8mm Hy-Lok	56,4 (2.22)	28,2 (1.11)		36,4 (1.43)			
	F	-2N-			1/8" Female NPT	1/8" Female NPT	41,4 (1.63)	20,6 (0.81)		28,8 (1.13)			
	M	-2N-			1/8" Male NPT	1/8" Male NPT	43,7 (1.72)	21,8 (0.86)		30,0 (1.18)			
	M	-4N-			1/4" Male NPT	1/4" Male NPT	49,8 (1.96)	24,9 (0.98)		34,4 (1.35)	9,5 (0.37)		
	MH	-4N4T-				1/4" Hy-Lok	53,6 (2.11)	24,9 (0.98)	28,7 (1.13)	38,2 (1.50)			
	MF	-2N-			1/8" Male NPT	1/8" Female NPT	41,4 (1.63)	20,6 (0.81)		28,8 (1.13)	8,2 (0.32)		
TG3	H	-6T-	6,4 (0.25)	0.70	3/8" Hy-Lok	3/8" Hy-Lok	65,5 (2.58)	32,8 (1.29)		45,8 (1.80)	13,0 (0.51)	26,9 (1.06)	90,4 (3.56)
	H	-8T-			1/2" Hy-Lok	1/2" Hy-Lok	71,1 (2.80)	35,6 (1.40)		48,6 (1.91)			
	H	-10M-			10mm Hy-Lok	10mm Hy-Lok	69,1 (2.72)	34,5 (1.36)		47,5 (1.87)			
	H	-12M-			12mm Hy-Lok	12mm Hy-Lok	74,2 (2.92)	37,1 (1.46)		50,1 (1.97)			
	F	-4N-			1/4" Female NPT	1/4" Female NPT	53,8 (2.12)	26,9 (1.06)		39,9 (1.57)			
	M	-6N-			3/8" Male NPT	3/8" Male NPT	57,2 (2.25)	28,4 (1.12)		41,4 (1.63)			

Dimensions in millimeters(inch) are for reference only, subject to change
 Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.
 Ordering information refer to page 30.

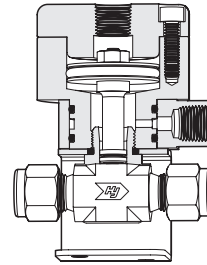
Pneumatically Actuated Valves



[Normally Closed]



[Normally Open]



[Double Acting]

Actuator Types

Type	Material		
	O-ring	Stem Tip	Washer
Standard	Viton	PTFE	Nylon
Low temperature	BUNA-C		
High temperature	Viton	PEEK	PEEK

Material of Construction

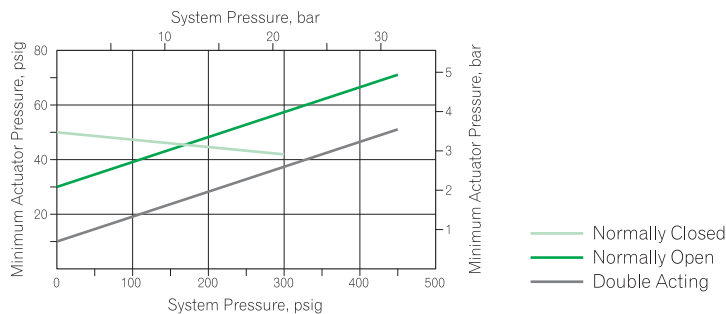
No.	Component	Material
1	Cover	Black anodized aluminum
2	Housing	
3	Port	
4	Piston	Aluminum
5	Bolt	SS304
6	Spring	SS302
7	O-ring	Viton
8	Mounting Bracket	SS304

See page18 for other materials of construction.

Actuation Modes

- Normally closed : Air opens, spring closes
- Normally open : Air closes, spring opens
- Double acting : Air opens and closes

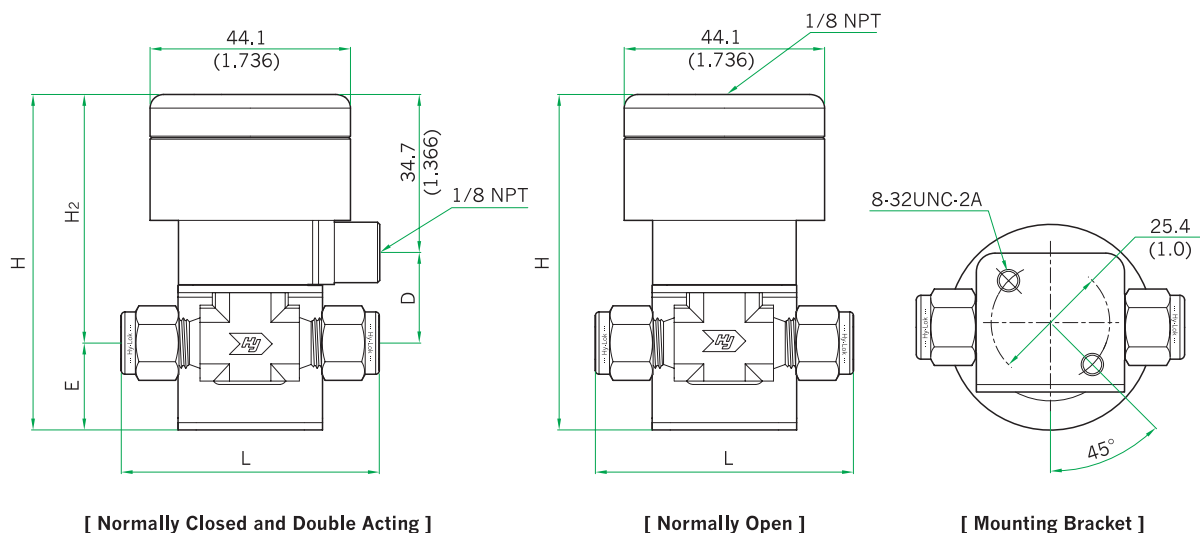
Pneumatic Actuator Performance



Technical Data

Actuator Type	Temperature Rating °F (°C)	Working Pressure, psig (bar)			Actuator Pressure Rating, psig (bar)
		Normally Closed	Normally Open	Double Acting	
Standard	-20 to 200 (-28 to 93)	300 (20.6)	450 (31.0)	50 (31.0)	150 (10.3)
Low temperature	-65 to 200 (-53 to 93)				
High temperature	-20 to 400 (-28 to 204)				

Table of Dimensions



Basic Part No.			Orifice in. (mm)	Cv	End Connection		Dimensions				
					Inlet	Outlet	L	D	E	H	H ₂
TG1	H	-2T-	2.0 (0.08)	0.11	1/8" Hy-Lok	1/8" Hy-Lok	49,8 (1.96)	20,1 (0.79)	19,0 (0.75)	73,8 (2.90)	54,8 (2.16)
	M	-2N-			1/8" Male NPT	1/8" Male NPT	38,1 (1.50)				
	MH	-2N2T-				1/8" Hy-Lok	43,9 (1.73)				
TG2	H	-4T-	3.2 (0.125)	0.20	1/4" Hy-Lok	1/4" Hy-Lok	57.4 (2.26)	19,9 (0.78)	19,2 (0.76)	73,8 (2.90)	54,6 (2.15)
	H	-6M-			6mm Hy-Lok	6mm Hy-Lok					
	H	-8M-			8mm Hy-Lok	8mm Hy-Lok	56,4 (2.22)				
	F	-2N-			1/8" Female NPT	1/8" Female NPT	41,4 (1.63)				
	M	-4N-			1/4" Male NPT	1/4" Male NPT	49,8 (1.96)				
	MH	-4N4T-				1/4" Hy-Lok	53,6 (2.11)				

Dimensions in millimeters(inch) are for reference only, subject to change
 Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable.
 Ordering information refer to page 30.



Features

Handle

- is robust stainless steel bar handle.

Packing Bolt

- allows easy packing adjustment for leak tight seal.

Stem Threads

- is rolled and electroless nickel pl for maximum operating life.

Back Seating

- provides anti-blow out of stem and secondary stem seal function

Rugged Body

- is machined from forging.

Variety of End Connections

- Hy-Lok Tube End.
Male & Female ISO threads
Male & Female NPT threads
and socket weld Ends.

Locking Nut

- prevents loosening of packing bolt.

Packing

- located below stem threads
- isolates stem thread from process
- prevents stem lubricant washout
- is PTFE as a standard with reinforced packing washer and grafoil is also available upon request.

Metal & Graphited Seal Bonnet to Body construction

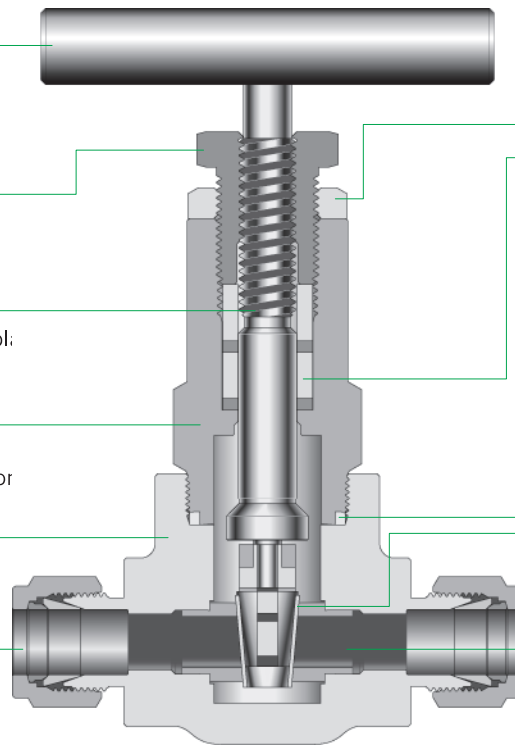
- construction reinforces safety

Seat ring & Wedge Stellite hard facing

- Long cycle life.

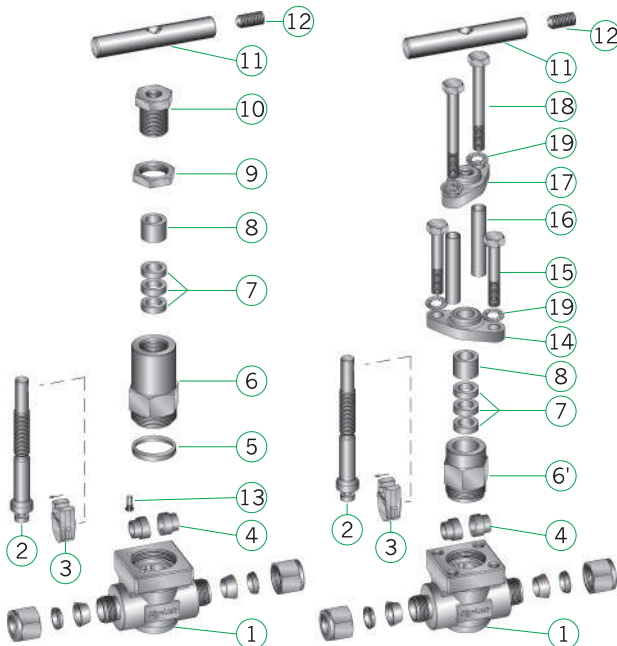
Orifice Size

- 6.4mm (GT1V Series)
- 10.0mm (GT2V Series)
- 12.7mm (GT3V Series)
- 19.0mm (GT4V Series)



GT

GTY



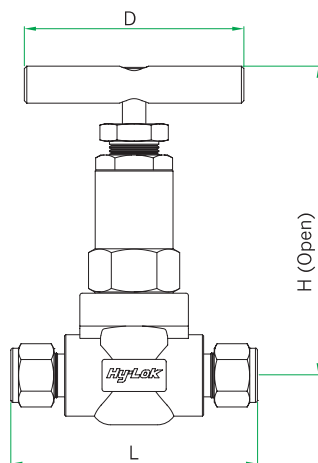
Materials of Construction

Description		Grade / ASTM Specification		
		Valve Body Materials		
		SS316	A105	Alloy 400
1	Body *	SS316 / A182	A105	Alloy 400 / B564
2	Stem *	SS316 / A479		Alloy 400 / B164
3	Wedge*	HF CF8M / A351		UNS N04400
4	Seat Ring*	HF SS316 / A479		Alloy 400 / B164
5	Bonnet Packing	Grafoil		
6,6'	Bonnet*	SS316 / A479	A105	Alloy 400 / B164
7	Stem Packing	PTFE (Available Grafoil)		
8	Packing Gland	SS316 / A479		
9	Bonnet Nut	SS316 / A479		
10	Packing Bolt	SS316 / A479		
11	Bar Handle	Stainless Steel		
12	Handle Screw			
13	Stop Pin			
14	Gland Flange	SS316 / A182 or A479		
15	Yoke Packing Bolt	B8M / A193	B7 / A193	B8M / A193
16	Yoke Support	SS316 / A269		
17	Yoke Flange	SS316 / A182 or A479		
18	Yoke Bolt	B8M / A193	B7 / A193	B8M / A193
19	Washer	Stainless Steel		

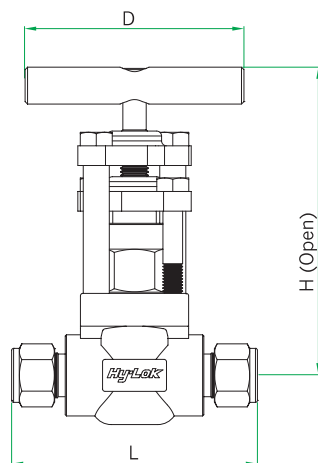
Note : " * " marked are wetted parts.
"HF" Stellite Hardfacing.

G Series Gate Valve

Table of Dimensions



Threaded Bonnet type



Outside Screw & Yoke type

Basic Part No.			Port	Orifice Hole	Cv Factor	End Connection		Dimensions		
Series	Part No.					Inlet	Outlet	D	H	L
GT1V GTY1V	F-	4N	Full	6.4mm (0.252)	2.6	1/4" Female NPT	1/4" Female NPT	64	100	70
	F-	6N	Reduced			3/8" Female NPT	3/8" Female NPT			
	H-	6T				3/8" Hy-Lok	3/8" Hy-Lok			78
	H-	8T				1/2" Hy-Lok	1/2" Hy-Lok			83
	SW-	4P	Full			1/4" Pipe Weld	1/4" Pipe Weld			70
	SW-	6P	Reduced			3/8" Pipe Weld	3/8" Pipe Weld			
GT2V GTY2V	F-	6N	Full	10.0mm (0.394)	6.1	3/8" Female NPT	3/8" Female NPT	89	140	86
	F-	8N	Reduced			1/2" Female NPT	1/2" Female NPT			100
	H-	8T				1/2" Hy-Lok	1/2" Hy-Lok			
	H-	12T				5/8" Hy-Lok	5/8" Hy-Lok			86
	SW-	6P	Full			3/8" Pipe Weld	3/8" Pipe Weld			
	SW-	8P	Reduced			1/2" Pipe Weld	1/2" Pipe Weld			
GT3V GTY3V	F-	8N	Full	12.7mm (0.5)	11.3	1/2" Female NPT	1/2" Female NPT	110	170	100
	F-	12N	Reduced			3/4" Female NPT	3/4" Female NPT			115
	H-	12T				3/4" Hy-Lok	3/4" Hy-Lok			
	H-	16T				1" Hy-Lok	1" Hy-Lok			125
	SW-	8P	Full			1/2" Pipe Weld	1/2" Pipe Weld			100
	SW-	12P	Reduced			3/4" Pipe Weld	3/4" Pipe Weld			
GT4V GTY4V	F-	12N	Full	19.0mm (0.748)	26.3	3/4" Female NPT	3/4" Female NPT	140	210	127
	F-	16N	Reduced			1" Female NPT	1" Female NPT			146
	H-	16T				1" Hy-Lok	1" Hy-Lok			
	SW-	12P				Full	3/4" Pipe Weld			3/4" Pipe Weld
	SW-	16P	Reduced			1" Pipe Weld	1" Pipe Weld			

Dimensions in millimeters(inches) are for reference only, subject to change.
 Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable
 Ordering information refer to page 30

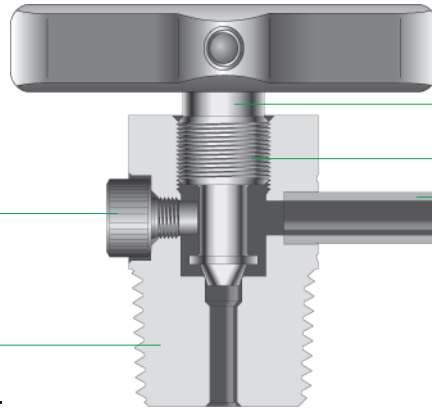
Features

Back Stop Screw

- Back stop screw prevents accidental remove of stem

Variety of End Connections

- include Hy-Lok tube fitting, male/female NPT/ISO/SAE threads.



Stem with Bar Handle

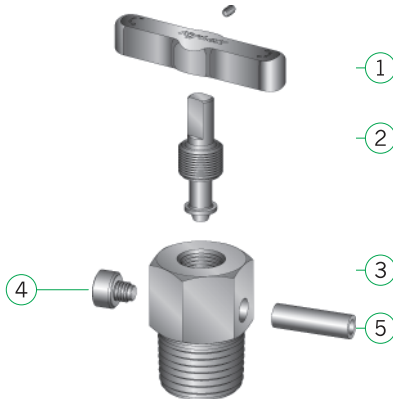
- available in Hex. Head Stem

Stem Thread and Tips

- are rolled and electroless nickel plated for maximum service life.

Bleed Tube

- available in barbed vent tube

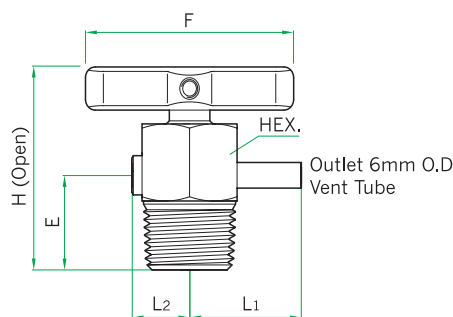


Materials of Construction

Description	Grade / ASTM Specification		
	Valve Body Materials		
	SS316	Carbon Steel	Alloy 400
1 Handle	SS316		
2 Stem	SS316 / A479		Alloy 400 / B164
3 Body	SS316 / A479	1020 / A108 ^①	Alloy 400 / B164
4 Back Stop Screw	Stainless Steel		Alloy 400 / B164
5 Bleed Tube	SS316 / A269		Alloy 400 / B165

① Chrome 6-free plated for corrosion resistance

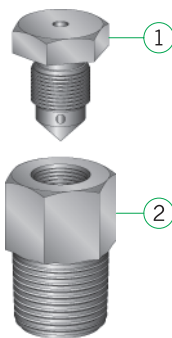
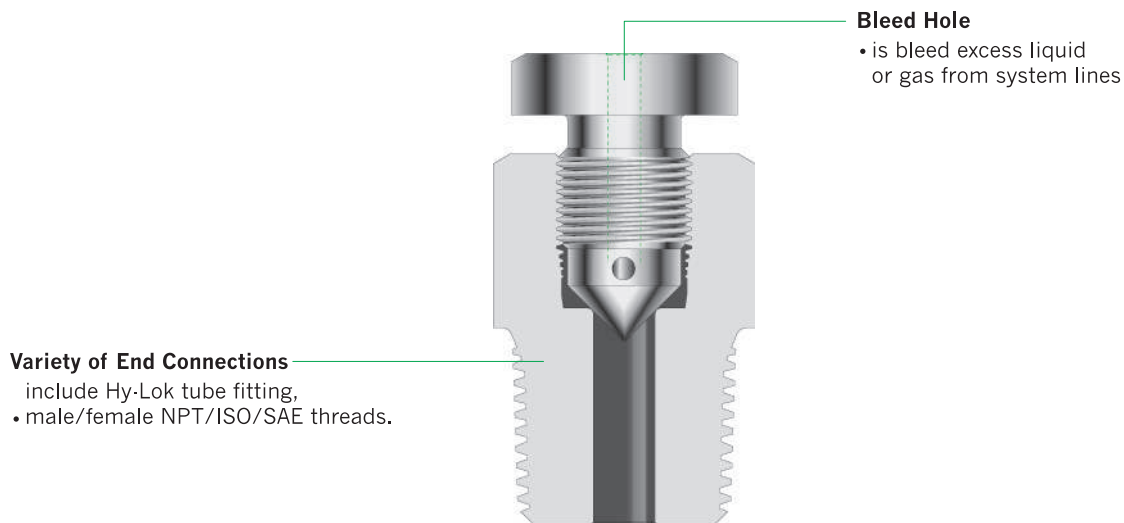
Table of Dimensions



Basic Part No.	Orifice (Cv)	Inlet End Connections	Dimensions					
			L1	L2	E	F	H	HEX.
BLV	3.2 (0.126)	1/8" Male NPT	23,9 (0.94)	14,3 (0.56)	19,1 (0.75)	32 (1.26)	41,0 (1.61)	15,8 (5/8)
		1/4" Male NPT						
		3/8" Male NPT						
		1/2" Male NPT					44,0 (1.73)	
		SAE 7/16-20	26,1 (1.03)	15,1 (0.59)	20,8 (0.82)	45 (1.77)	41,5 (1.63)	22,2 (7/8)
		SAE 3/4-16					42,7 (1.68)	

Dimensions in millimeters(inch) are for reference only, subject to change
Ordering information refer to page 30.

Features

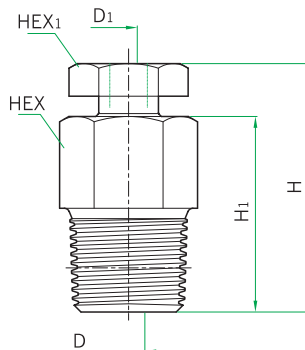


Materials of Construction

Description		Grade / ASTM Specification		
		Valve Body Materials		
		SS 316	Carbon Steel	Alloy 400
1	Body	SS316 / A479	1020 / A108 ^①	Alloy 400 / B164
2	Stem	SS316 / A479	1020 / A108	Alloy 400 / B164

① Chrome 6-free plated for corrosion resistance

Table of Dimensions



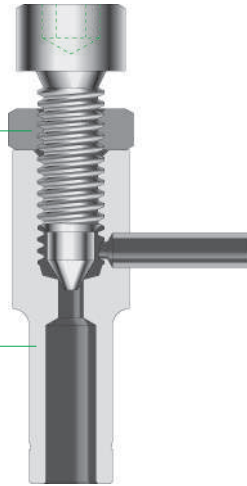
Basic Part No.		Inlet End Connections	Dimensions					
			H	H ₁	D	D ₁	HEX	HEX ₁
VP	M 4N	1/4" Male NPT	42,7 (1.68)	33 (1.30)	6 (0.24)	3,2 (0.13)	22 (0.87)	19 (0.75)
	M 6N	3/8" Male NPT						
	M 8N	1/2" Male NPT	45,7 (1.80)	36 (1.42)				
	M 12N	3/4" Male NPT	43,7 (1.72)	34 (1.34)			27 (1.06)	
	M 16N	1" Male NPT	46,6 (1.83)	36,9 (1.45)			34,9 (1.37)	

Dimensions in millimeters(inch) are for reference only, subject to change
Ordering information refer to page 30.

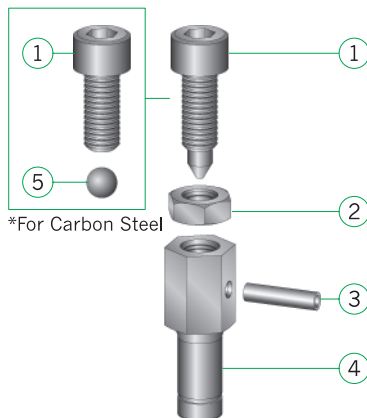
Features

- **Locking Nut**
prevents Stem Bolt from loosening.

- **Variety of End Connections**
Size range from 6mm to 28mm for Tubing and 1/8" to 1/2" for Piping system



- **Bleed Tube**
• is bleed excess liquid or gas from system lines



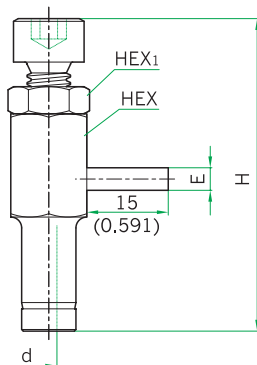
*For Carbon Steel

Materials of Construction

Description		Grade / ASTM Specification	
		Valve Body Materials	
		SS 316	Carbon Steel ^①
1	Stem Bolt	Stainless Steel	Carbon Steel
2	Lock Nut	SS316 / A276	1020 / A108
3	Vent Tube	SS316 / A269	A179
4	Body	SS316 / A479	1020 / A108
5	Ball	-	Carbon Steel

① Chrome 6-free plated for corrosion resistance

Table of Dimensions



Basic Part No.	Inlet End Connections	Dimensions						Basic Part No.	Inlet End Connections	Dimensions					
		H	d	E	HEX	HEX ₁				H	d	E	HEX	HEX ₁	
BAP	-06 6mm Tube Stub	56 (2.20)						BAP	-81 6A(10.5mm) JIS Pipe Stub	57 (2.24)	3 (0.12)		14 (0.55)	13 (0.51)	
	-08 8mm Tube Stub		3 (0.12)	4 (0.16)	14 (0.55)	13 (0.51)			-82 8A(13.8mm) JIS Pipe Stub	72 (2.83)		4 (0.16)			
	-10 10mm Tube Stub	57 (2.24)							-83 10A(17.3mm) JIS Pipe Stub	74 (2.91)		4 (0.16)	27 (1.06)	19 (0.75)	
	-12 12mm Tube Stub	58 (2.28)							-84 15A(21.7mm) JIS Pipe Stub	76 (2.99)		4 (0.16)			
	-15 15mm Tube Stub								-85 20A(27.2mm) JIS Pipe Stub	79 (3.11)		6 (0.24)	30 (1.18)		
	-16 16mm Tube Stub	74 (2.91)							-01R 1/8" PT	51 (2.00)	3 (0.12)		4 (0.16)		
	-18 18mm Tube Stub								-02R 1/4" PT	53 (2.09)					
	-20 20mm Tube Stub	75 (2.95)	4 (0.16)	6 (0.24)	27 (1.06)	19 (0.75)			-03R 3/8" PT	54 (2.13)	4 (0.16)		14 (0.55)	13 (0.51)	
	-22 22mm Tube Stub	76 (2.99)							-04R 1/2" PT	69 (2.72)		6 (0.24)			
	-25 25mm Tube Stub														
	-28 28mm Tube Stub	78 (3.07)				30 (1.18)									

Dimensions in millimeters(inch) are for reference only, subject to change
Ordering information refer to page 30.

Features

Variety of End Connections

- Size range from 1/8" to 1/2" Tubing & Piping system

Bleed Tube

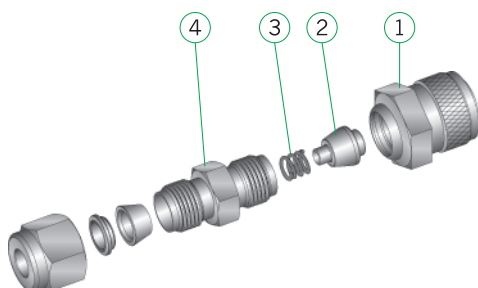
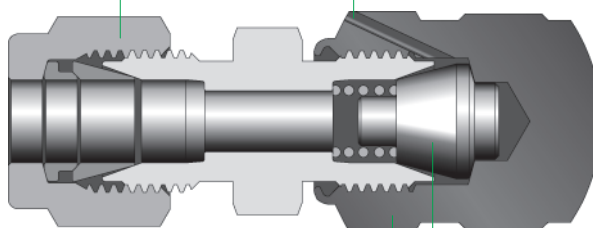
- is bleed excess liquid or gas from system lines

Knured Cap

- is swaged to body to prevent accidental disassembly

Poppet

- available in PTFE poppet

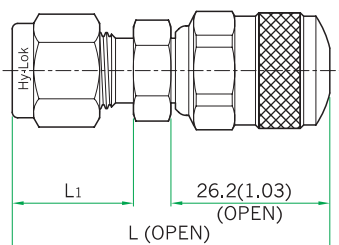


Materials of Construction

Description		Grade / ASTM Specification		
		Valve Body Materials		
		SS 316	Carbon Steel ^①	Brass
1	Knured Cap	SS316 / A479	Carbon Steel	B16
2	Poppet	SS316 / A479		
3	Spring	Stainless Steel		
4	Body	SS316 / A479	1020 / A108	B16

① Chrome 6-free plated for corrosion resistance

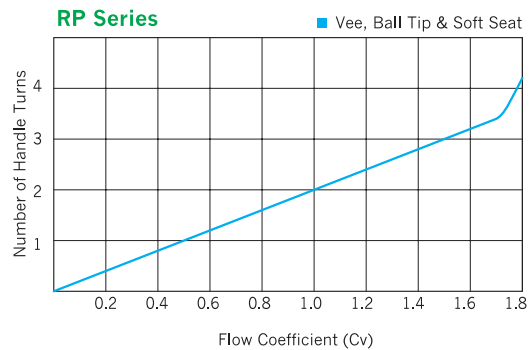
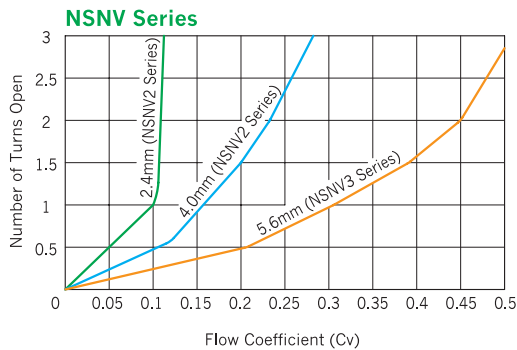
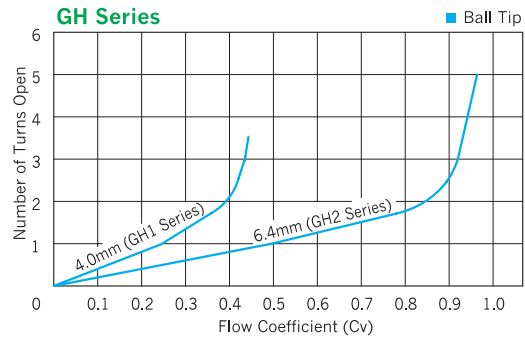
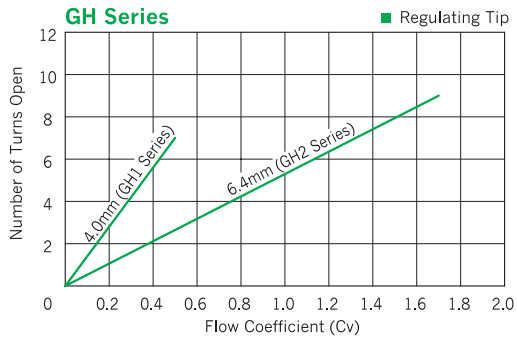
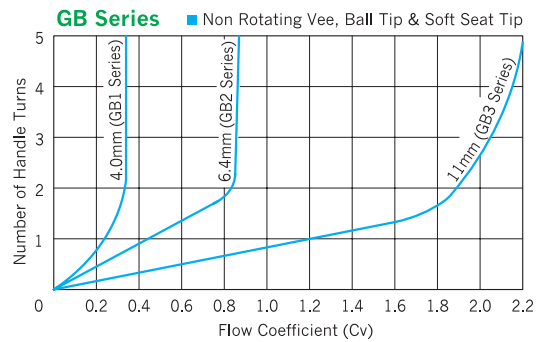
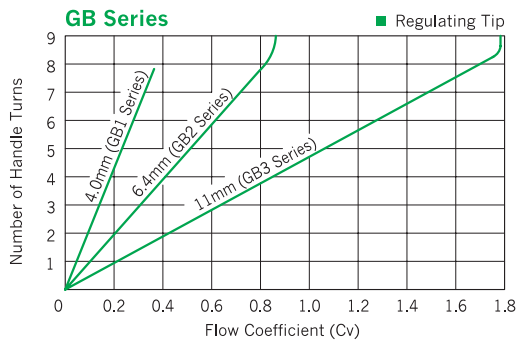
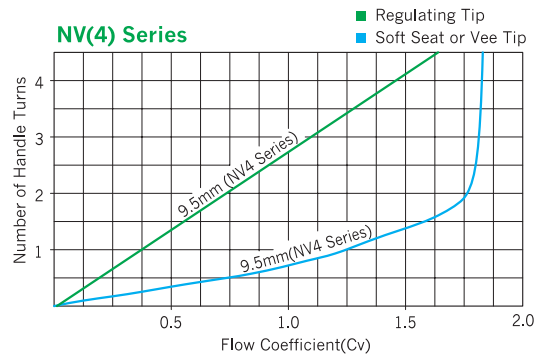
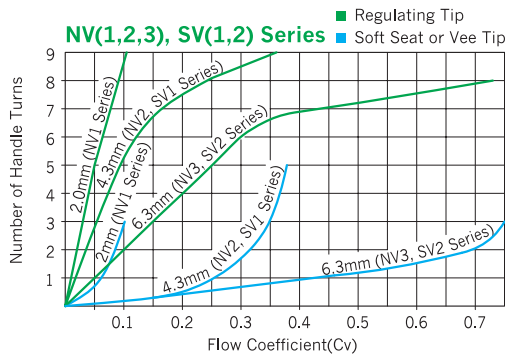
Table of Dimensions



Basic Part No.		Inlet End Connections		Dimensions		Basic Part No.		Inlet End Connections		Dimensions	
				L	L1					L	L1
PV	F	-2N	1/8" Female NPT	39,6 (1,56)	13,5 (0,53)	PV	H	-2T	1/8" Hy-Lok	46,7 (1,84)	15,24 (0,59)
	F	-4N	1/4" Female NPT	44,4 (1,75)	18,3 (0,72)		H	-4T	1/4" Hy-Lok	49,3 (1,94)	17,78 (0,69)
	F	-6N	3/8" Female NPT	46,0 (1,81)	19,8 (0,78)		H	-6T	3/8" Hy-Lok	51,6 (2,03)	19,3 (0,75)
	F	-8N	1/2" Female NPT	50,3 (1,98)	24,6 (0,97)		H	-8T	1/2" Hy-Lok	55,6 (2,19)	21,84 (0,88)
	M	-2N	1/8" male NPT	41,1 (1,62)	9,7 (0,38)		H	-6M	6mm Hy-Lok	49,3 (1,94)	17,7 (0,69)
	M	-4N	1/4" male NPT	46,0 (1,81)	14,2 (0,56)		H	-8M	8mm Hy-Lok	50,8 (2,0)	18,6 (0,72)
	M	-6N	3/8" male NPT	46,7 (1,84)			T	-4T	1/4 Tube Stub	47,5 (1,87)	16,0 (0,63)
	M	-8N	1/2" male NPT	53,1 (2,09)	19,1 (0,75)		T	-6T	3/8" Tube Stub	49,3 (1,94)	17,5 (0,69)
	M	-4U	1/4", 7/16-20	42,9 (1,69)	9,7 (0,38)		T	-8T	1/2" Tube Stub	54,6 (2,15)	23,1 (0,91)
	M	-8U	1/2", 3/4-16	46,0 (1,81)	11,2 (0,44)						

Dimensions in millimeter(inch) are for reference only, subject to change
 Dimensions shown with Hy-Lok nuts in finger-tight position, where applicable
 Ordering information refer to page 30.

Flow Coefficient (CV) VS Number of Handle Turns



Testing

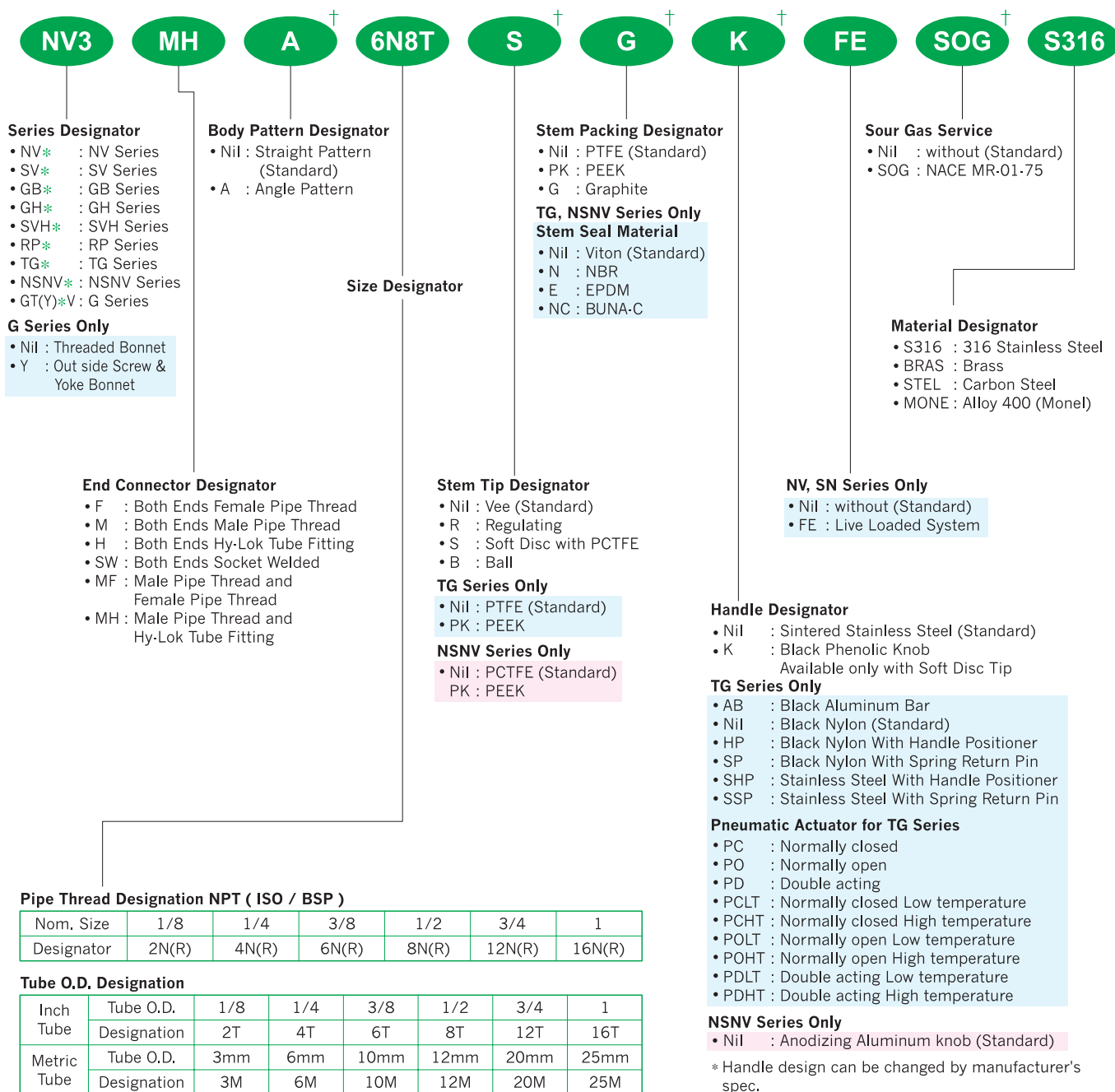
- 100% factory tested.
- Each needle valve is tested with nitrogen @ 69 bar (1000 psig) to Max. leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure as an option.
- Optional tests are available upon request.

Sour Gas Service

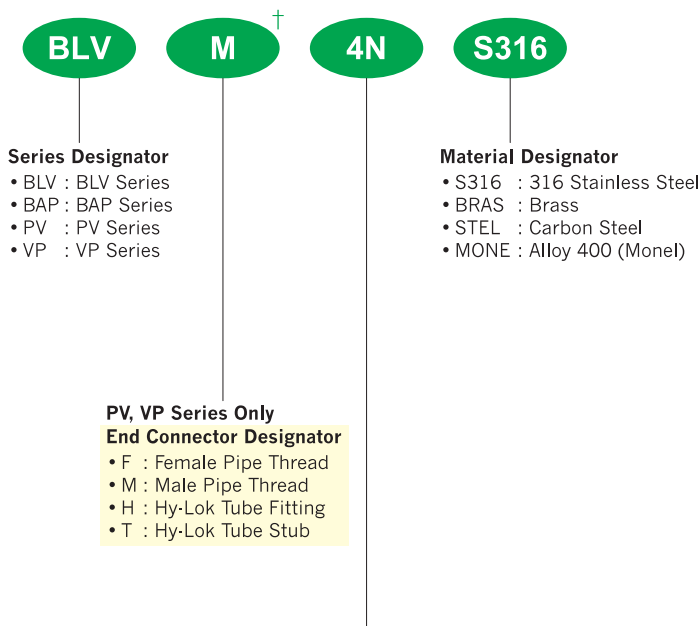
- Valves are available in materials which comply with standard NACE MR-01-75 latest revision relating to metallic materials offering optimum resistance to sulfide stress cracking

Ordering Information

• For Needle & Toggle Valves



• For Bleed & Purge Valves



Pipe Thread Designation NPT (ISO / BSP)

Nom. Size	1/8	1/4	3/8	1/2	3/4	1
Designator	2N(R)	4N(R)	6N(R)	8N(R)	12N(R)	16N(R)

Tube O.D. Designation

Inch Tube	Tube O.D.	1/8	1/4	3/8	1/2	3/4	1
	Designation	2T	4T	6T	8T	12T	16T
Metric Tube	Tube O.D.	3mm	6mm	10mm	12mm	20mm	25mm
	Designation	3M	6M	10M	12M	20M	25M

Note [†] : No designator is required for standard
e.g. BLV · 8N · S316

⚠ CAUTION

Packing adjustment may be required during the valves service life.
Valves that have not been cycled for a period of time may have a higher initial actuation torque.

SAFETY in VALVE SELECTION

Proper installation, materials compatibility, operation and maintenance of the valve is the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.



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