

VG16 Series General Utility Service Needle Valves

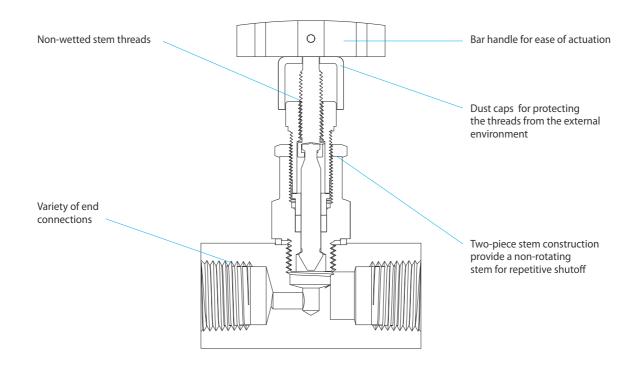
No.VG16-2 August 2017

Pressure up to 6,000 psig (413 bar)

Features



- · Compact and sturdy design.
- Sintered molded handle for the user of the handle operational convenience.
- Stainless steel spring pin in order to prevent the loosening of bonnet.
- The fluid is not in contact with the threaded stem.
- VG16 series Isolates and vents the system media in instrument air, nitrogen header, lube oil, and general utility service applications in the oil and gas, chemical, petrochemical, and other general industrial markets.



Design

- Straight and angle patterns.
- Standard PTFE packing, and optional Graphite packing for higher temperature service.
- Broad choices of end connections include reliable NPT & ISO Male & Female pipe threads.

















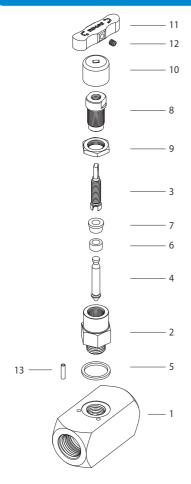








Material of Construction



	Valve Body Materials					
Component	Stainless Steel	Carbon Steel				
	Material Grade/ASTM Specification					
1. Body	SS316 / A276	Zinc plated carbon steel/AISI 1018				
2. Bonnet	SS316 / A276					
3. Stem	SS316 / A276					
4. Stem disc	S17400 SS / A564 Condition H1150D					
5. Bonnet seal ring	SS316 / A276					
6. Packing	Carbon/glass-filled PTFE or graphite					
7. Gland	SS316 / A276					
8. Packing Bolt	SS316 / A276					
9. Lock nut	Stainless steel					
10. Cap	Stainless steel					
11. Handle	Stainless steel					
12. Set screw	Stainless steel					
13. Spring pin	Stainless steel					

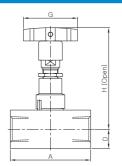
^{*} Wetted parts are listed in blue.

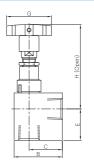
Pressure-Temperature Ratings

	Packing Material						
Temperature, °F(°C)	PTFE	Graphite					
	Working Pressure, psig(bar)						
-20 (-28) to 0 (-17)	-	6000 (413)					
0 (-17) to 100 (37)	6000 (413)	6000 (413)					
200 (93)	5160 (355)	5160 (355)					
300 (148)	4680 (322)	4680 (322)					
400 (204)	4260 (293)	4260 (293)					
450 (232)	4110 (283)	4110 (283)					
500 (260)	-	3960 (272)					
600 (315)	-	3780 (260)					
650 (343)	-	3660 (252)					

In-line pattern

Ordering Information and Table of Dimensions





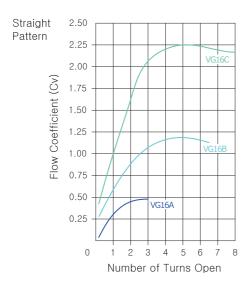
Angle pattern

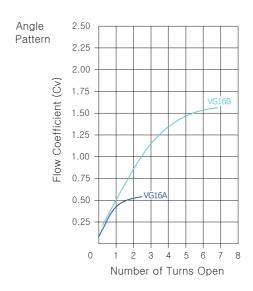
Valve Basic		End Connections		Orifice	Cv	DIMENSION, mm(in.)						
Ordering Number		Inlet	Outlet	mm(in.)	Cv	G	D	Н	Α	Е	В	С
	F-4N	1/// For	male NPT		0.45		12.7(0.50)		54.1(2.13)	-	-	-
	F-4N-A	1/4 Female NFT			0.55		-	81.2(3.20)	-	21.6(0.85)	38.1(1.50)	25.4(1.00)
	F-6N	3/8" Female NPT			0.45		12.7(0.50)		57.2(2.25)	-	-	-
	F-6N-A	3/8 Telliale Ni T			0.55		-		-	27.9(1.10)	44.5(1.75)	31.8(1.25)
	F-8N	1/2" Female NPT			0.45		16.0(0.63)	84.6(3.33)	66.8(2.63)	-	-	-
	F-8N-A				0.55		-		-	31.2(1.23)	51.0(2.00)	33.3(1.31)
	MF-4N		1/4" Female NPT	. !		45(1.77)	12.7(0.50)	81.2(3.20)	60.5(2.38)			
	MF-6N		3/8" Female NPT				16.0(0.63)					
VG16A	MF-8N SW-4P		1/2" Female NPT	F 0(0 20)			16.0(0.63)	84.6(3.33)	70.0(2.76)			
AOIDA	SW-6P		Socket weld	5.0(0.20)			12.7(0.50)		57.2(2.25)			
	SW-8P	3/8" Pipe Socket weld 1/2" Pipe Socket weld		-			16.0(0.63) 19.1(0.75)	87.6(3.45)	63.5(2.50)			
	SW-4T		Socket weld	-	0.45		19.1(0.73)	67.0(3.43)	03.3(2.30)		_	
	SW-41		Socket weld		0.43		12.7(0.50)	81.2(3.20)	50.8(2.00)		_	
	SW-8T		Socket weld	-					57.2(2.25)			
	SW-6M		Socket weld						60.5(2.38)			
	SW-8M		Socket weld									
	SW-10M		e Socket weld						51.0(2.00)			
	SW-12M	-	e Socket weld	-					57.2(2.25)			
	F-8N		male NPT		1.20		16.0(0.63)	00.0(0.07)	70.0(2.76)	-	-	-
	F-8N-A		male NPT		1.60		-	98.3(3.87)	-	31.2(1.23)	51.0(2.00)	35.1(1.38)
	F-12N	3/4" Fei	male NPT		1.20		19.1(0.75)	101/200	76.2(3.00)	-	-	-
	F-12N-A	3/4" Fei	male NPT		1.60		-	101(3.98)	-	40.6(1.60)	63.5(2.50)	38.1(1.50)
	F-16N	1" Fem	nale NPT		1.20		25.4(1.00)	100/4 25\	88.9(3.50)	-	-	-
	F-16N-A		nale NPT		1.60		-	108(4.25)	-	40.6(1.60)	70.0(2.76)	44.5(1.75)
	MF-8N		1/2" Female NPT				16.0(0.63)	98.3(3.87)	76.2(3.00)			
	MF-12N		3/4" Female NPT				19.1(0.75)	101(3.98)	79.6(3.13)			
VG16B	MF-16N	1" Male NPT	1" Female NPT	8.0(0.31)	1.20	64(2.52)	25.4(1.00)	108(4.25)	88.9(3.50)			
VGTOD	SW-8P		Socket weld				19.1(0.75)	101(3.98)	66.8(2.63)			
	SW-12P		Socket weld				22.4(0.88)	105(4.13)	82.6(3.25)			
	SW-16P		ocket weld				25.4(1.00)	108(4.25)	88.9(3.50)		-	
	SW-8T		Socket weld				16.0(0.63)	98.3(3.87)	98.3(3.87) 101(3.98) 66.8(2.63)			
	SW-12T		Socket weld									
	SW-16T SW-12M		ocket weld e Socket weld				19.1(0.75)	101(3.98)				
	SW-14M		e Socket weld				16.0(0.63) 98.3(3.87)	00 2/2 07)				
	SW-14M		e Socket weld					90.3(3.07)				
	F-12N		male NPT				22.4(0.88)	133(5.24)	82.6(3.25)			
	F-12N		nale NPT	11.0(0.43)		64(2.52)	25.4(1.00)	136(5.35)	102(4.02)	-		
	MF-12N		3/4" Female NPT				22.4(0.88)	133(5.24)	88.9(3.50)			
	MF-16N	1" Male NPT	1" Female NPT				25.4(1.00)	136(5.35)	102(4.02)	-		
VG16C	SW-12P		Socket weld				22.4(0.88)	133(5.24)				
	SW-16P		ocket weld		2.25		25.4(1.00)	136(5.35)	88.9(3.50)			
	SW-12T		Socket weld							1	-	
	SW-16T		ocket weld					133(5.24)	82.6(3.25)			
	SW-14M		e Socket weld				22.4(0.00)		95.3(3.75)			
	SW-16M		e Socket weld				22.4(0.88)		88.9(3.50)	1		
	SW-18M		e Socket weld							1		
	SW-25M	25mm Tube Socket weld		1					82.6(3.25)			

 $All\ dimensions\ shown\ are\ for\ reference\ only\ and\ are\ subject\ to\ change.\ Dimensions\ with\ DK-Lok\ nuts\ are\ in\ finger-tight\ position.$

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Flow Data @ 100°F(38°C)





Option & Accessories

Antitamper Handle

Stainless steel bar handle is standard. Optional antitamper handle is available. To order valve with factory-assembled optional antitamper handle, insert designator -AT in the ordering number. To order handle for field assembly, select desired handle ordering number from the table ("How to order").



Antitamper Key

The key can be operated with the antitamper handle. Order separately. Ordering NO. G16-KEY-AT-SA



Factory Test and Cleaning

Every valve is tested with the nitrogen gas @ 1,000 psig (68.9 bar) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.

The packing is tested for no detectable leakage. Optional hydrostatic shell test with additional cost is performed with pure water at 1.5 times the working pressure.

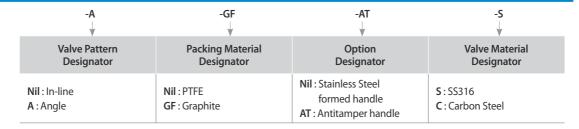
Every valve is cleaned and packaged in accordance with DK-Lok cleaning standard DC-01.

Sour Gas Service

Valves for use in sour gas are available. Valve wetted components are selected to the requirements of NACE MR0175 for sulfide stress cracking resistant materials. To order, insert -SG in the basic ordering number.

How to order

VG16A-MF4N-



Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. DK-Lok accepts no liability for any improper selection, installation, operation or maintenance.



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