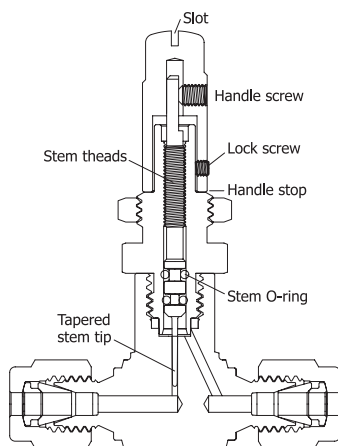
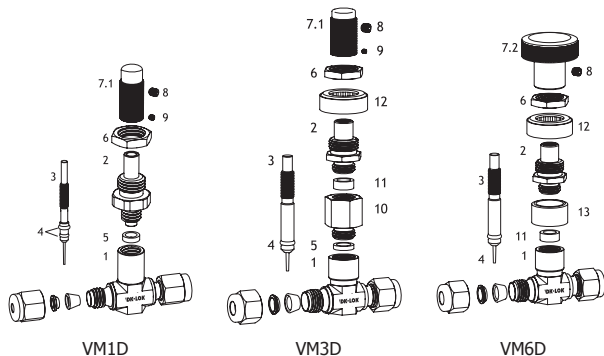


Features



- **Slotted handle**
allows flow setting adjustment with a screwdriver.
 - **Lock screw**
locks out flow setting.
 - **Stem threads**
are isolated from system fluid.
 - **Handle stop**
mechanically helps prevent damage to stem and orifice.
 - **Stem O-ring**
seals system fluids
 - **Tapered stem tip**
controls gas or liquid flow rates accurately.
 - **Body materials**
are forged stainless steel 316 or brass.
- Straight and angle patterns.
Standard Panel mounting.



Panel mount: VM1D & 3D series with standard L and optional SL handle allow valve panel mount with no handle removal.

Table 1. Material of Construction

Component	Valve Body Materials Grade/ASTM Specification	
	Stainless Steel	Brass
1. Body	F316/A182	C37700/B283
2. Bonnet	316SS/A479	C34500/B453
3. Stem	S17400/A564 for VM1D, 316SS/A479 for VM3D & VM6D	
4. Stem o-ring	FKM	Buna N
5. Body seal	PTFE	
6. Panel nut	316SS/A479	C36000/B16
7-1. Handle	300SS/A479	C36000/B16
7-2. Round handle	Aluminum 6061	
8. Handle set screw	Alloy steel	
9. Lock screw	Alloy steel	
10. Body extension	316SS/A479	C34500/B453
11. Stem guide ring	Glass-filled PTFE	
12. Bonnet sleeve	Sintered 316SS	
13. Body support ring	316SS/A479	

- Wetted components listed in **blue**.
- **Lubricant:** Molybdenum disulfide-based; silicon-based.

Factory Test

Every valve is factory tested with nitrogen gas at 68.9bar (1,000 psig) for leakage to a maximum allowable leak rate of 0.1SCCM at seat. Hydraulic shell test is optionally performed at 1.5 times the working pressure to a requirement of no detectable leakage with a liquid leak detector.

Cleaning and Packaging

Every valve is cleaned and packaged in accordance with DK-Lok Corporation cleaning standard of DC-01. Optional DC-11 cleaning for oxygen application is available on request.

Table 2. Temperature Rating

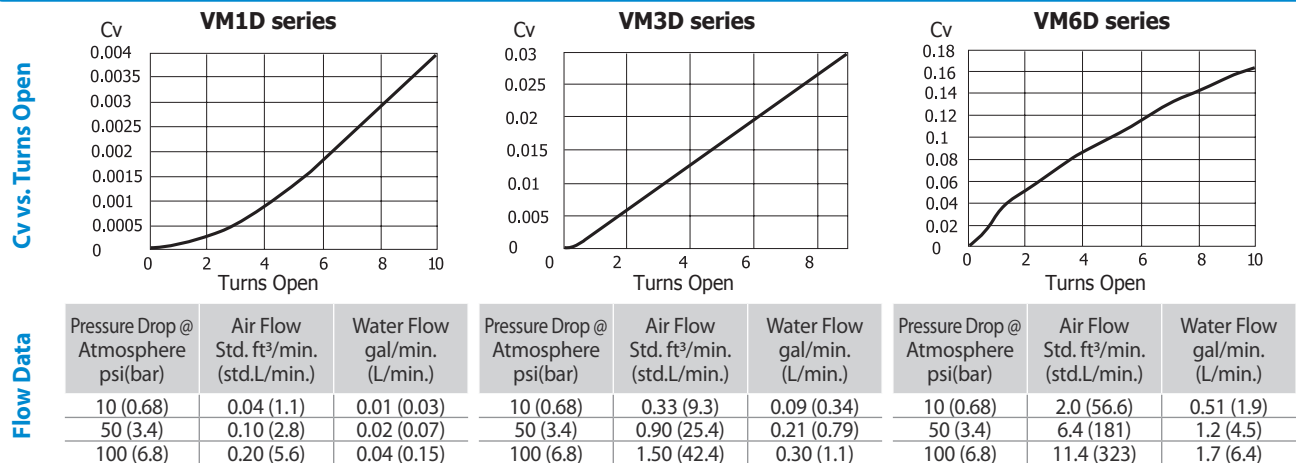
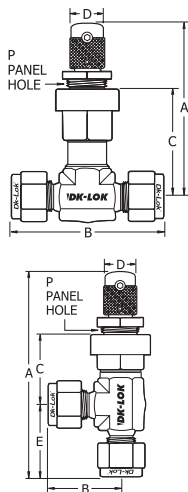
Standard O-ring material	Designator	Temperature Rating °F (°C)
FKM standard for SS316 body	VT	-10 to 400 (-23 to 204)
NBR standard for brass body	BN	-10 to 300 (-23 to 148)
Optional Kalrez®	KZ	0 to 300 (-17 to 148)

Table 3. Technical Data

Series	VM1D	VM3D	VM6D
Working pressure psig (bar)	2,000 (137)	1,000 (68.9)*	
Orifice in. (mm)	0.032 (0.81)	0.056 (1.42)	0.128 (3.25)
Stem taper	1°	3°	6°
Cv	0.004	0.03	0.16
Turns to Open	8 to 12	8 to 10	10 to 11
Internal volume cu.in (cu.mm)	0.006 (98)	0.028 (460)	0.035 (570)
Flow shut off	No	No	Yes**

* While valve is adjusted at pressure, 500 psig (34.4 bar) is max downstream pressure due to mechanical strength limit of the finepitch threads and high operation torque.

** VM6D series in use for shutoff in vacuum or gas, or for repetitive shutoff in liquid are not recommendable.

Table 4. Turns Open and Flow Data

Ordering Information and Dimensions


VM series	P	Max Panel Thickness
1D	0.45 (11.4)	0.16 (4.1)
3D	0.58 (14.7)	0.13 (3.3)
6D		

Basic Ordering Number	Angle pattern	End Connections Inlet & Outlet	Dimensions in. (mm)				
			A	B	C	D	E
VM1D-		D1T- 1/16 in. DK-Lok	2.34 (59.4)	1.56 (39.6)	0.92 (23.4)	0.38 (9.6)	-
		D2T- 1/8 in. DK-Lok		1.90 (48.3)			
		D4T- 1/4 in. DK-Lok		2.04 (51.8)			
		D3M- 3mm DK-Lok		1.90 (48.3)			
		D6M- 6mm DK-Lok		2.04 (51.8)			
	A-	D1T- 1/16 in. DK-Lok	3.22 (81.8)	0.81 (20.6)			0.88 (22.4)
VM3D-	A-	D2T- 1/8 in. DK-Lok	3.32 (84.3)	0.98 (24.9)			0.98 (24.9)
		D2T- 1/8 in. DK-Lok		2.02 (51.3)	1.56 (39.6)	0.50 (12.7)	-
		D4T- 1/4 in. DK-Lok	2.78 (70.6)	2.20 (55.9)			
		D3M- 3mm DK-Lok		2.02 (51.3)			
		D6M- 6mm DK-Lok		2.20 (55.9)			
	A-	D2T- 1/8 in. DK-Lok	3.30 (83.8)	1.01 (25.7)	1.07 (27.2)	1.13 (28.7)	1.01 (25.7)
	A-	D4T- 1/4 in. DK-Lok	3.39 (86.1)	1.10 (27.9)			1.10 (27.9)
		M2N- 1/8 in. Male NPT		1.50 (38.1)			-
		M4N- 1/4 in. Male NPT	2.78 (70.6)	1.96 (49.8)			
	A-	F2N- 1/8 in. Female NPT	2.78 (70.6)	1.94 (49.3)			
VM6D-		F2N- 1/8 in. Female NPT	3.26 (82.8)	0.98 (24.9)	1.07 (27.2)		0.97 (24.6)
		D4T- 1/4 in. DK-Lok		2.34 (59.4)	1.26 (32.0)	1.13 (28.7)	-
		D6T- 3/8 in. DK-Lok	2.82 (71.6)	2.46 (62.5)			
		D6M- 6mm DK-Lok		2.34 (59.4)			
	A-	D4T- 1/4 in. DK-Lok	3.77 (95.8)	1.17 (29.7)	1.04 (26.4)		1.17 (29.7)
		M4N- 1/4 in. Male NPT	2.82 (71.6)	2.00 (50.8)	1.26 (32.0)		-

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

Standard and Optional Handles

Lock screw handle allows locking the set flow, standard for 1D and 3D series.	Slotted handle helps flow setting adjustment with a screwdriver.
Vernier handle made out of aluminum helps ensure repeatable flow setting in readings accurate to 1/25th turn.	Adjustable-torque handle enhances control for setting flows with two top-mounted adjustment screws.

How to Order Select desired valve basic ordering number, optional handle, O-ring and body material designators.

Handle Designators	VM1D-D2T - V				- KZ	- S
	L	V	SL	A		
	Lock screw handle	Vernier handle	Slotted handle	Adjustable-Torque handle	O-ring Designators Nil : VT standard for stainless body. Nil : BN standard for brass body. • VT : Viton • BN : NBR • KZ : Kalrez	Body material Designators S : SS316 B : Brass