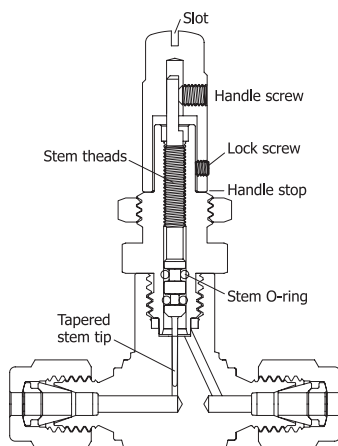
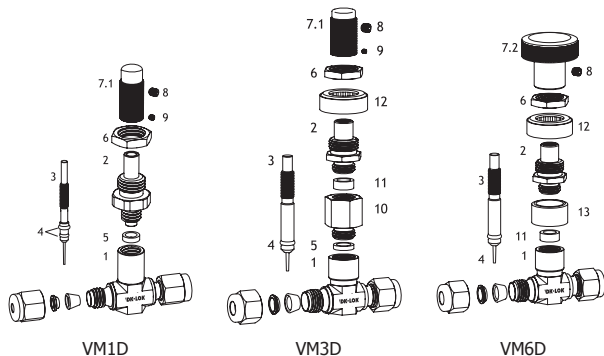


## Features



- **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**

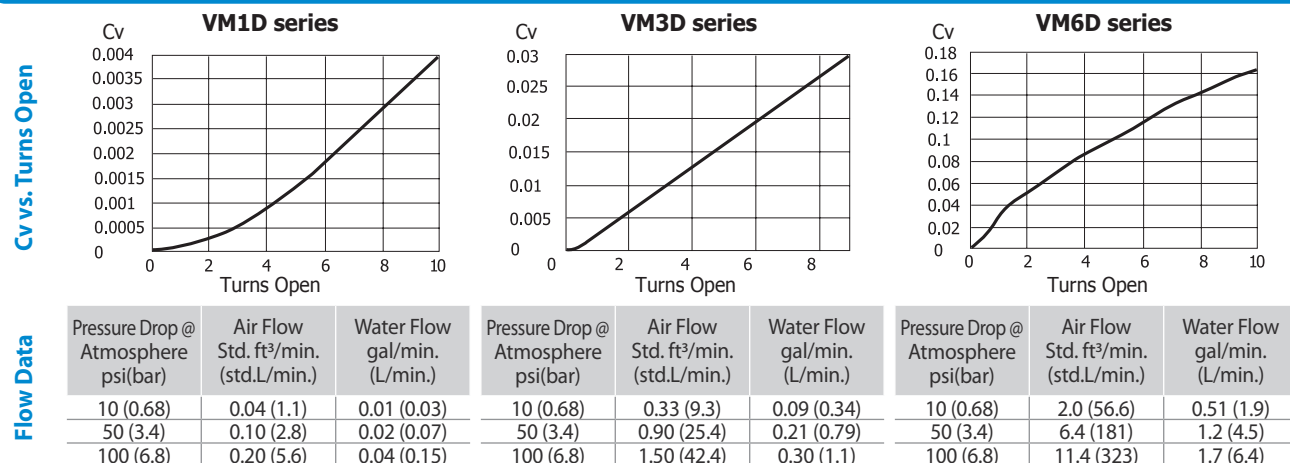
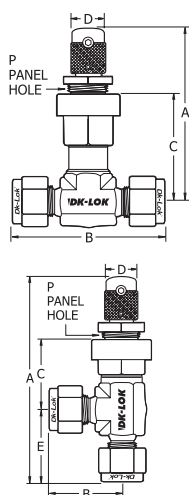
Standard O-ring material	Designator	Temperature Rating °F (°C)
FKM standard for SS316 body	VT	-10 to 400 (-23 to 204)
NBR standard for brass body	BN	-10 to 300 (-23 to 148)
Optional Kalrez®	KZ	0 to 300 (-17 to 148)

**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-		1/16 in. DK-Lok	2.34 (59.4)	1.56 (39.6)	0.92 (23.4)	0.38 (9.6)	-
		1/8 in. DK-Lok		1.90 (48.3)			
		1/4 in. DK-Lok		2.04 (51.8)			
		3mm DK-Lok		1.90 (48.3)			
		6mm DK-Lok	3.22 (81.8)	2.04 (51.8)	0.98 (24.9)	0.88 (22.4)	0.98 (24.9)
	A-	1/8 in. DK-Lok		0.81 (20.6)			
VM3D-	A-	1/8 in. DK-Lok	3.32 (84.3)	0.98 (24.9)	1.56 (39.6)	0.50 (12.7)	-
		1/8 in. DK-Lok	2.78 (70.6)	2.02 (51.3)			
		1/4 in. DK-Lok		2.20 (55.9)			
		3mm DK-Lok		2.02 (51.3)			
		6mm DK-Lok		2.20 (55.9)	1.07 (27.2)	1.13 (28.7)	-
	A-	1/8 in. DK-Lok	3.30 (83.8)	1.01 (25.7)			
	A-	1/4 in. DK-Lok	3.39 (86.1)	1.10 (27.9)			
		1/8 in. Male NPT	2.78 (70.6)	1.50 (38.1)			
		1/4 in. Male NPT		1.96 (49.8)			
		1/8 in. Female NPT	2.78 (70.6)	1.94 (49.3)	1.07 (27.2)	0.97 (24.6)	-
VM6D-	A-	1/8 in. Female NPT	3.26 (82.8)	0.98 (24.9)			
		1/4 in. DK-Lok	2.82 (71.6)	2.34 (59.4)	1.26 (32.0)	1.17 (29.7)	-
		3/8 in. DK-Lok		2.46 (62.5)			
		6mm DK-Lok	3.77 (95.8)	2.34 (59.4)	1.04 (26.4)	1.26 (32.0)	-
	A-	1/4 in. DK-Lok		1.17 (29.7)			
		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**

<b>Lock screw handle</b> allows locking the set flow, standard for 1D and 3D series.	<b>Slotted handle</b> helps flow setting adjustment with a screwdriver.
<b>Vernier handle</b> made out of aluminum helps ensure repeatable flow setting in readings accurate to 1/25th turn.	<b>Adjustable-torque handle</b> 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				- 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 : Vition • BN : NBR • KZ : Kalrez	Body material Designators S : SS316 B : Brass

Nil : L is standard for 1D and 3D series  
V : Optional to 1D,3D, and 6D series  
SL : Optional to 1D and 3D series  
A : Optional to 1D series  
Nil : Round handle (designator -R) standard for 6D series

Note : Chrome plated brass handle supplied on brass valve.