



VEX110 Needle Valves

Bar Stock Union Bonnet High Pressure Needle Valve
 Maximum Working Pressure 10 000 psig (689 bar)

Spec. sheet #: VEX110-6

September, 2004

Features

- Premium multiple four (4) sealing mechanism.
- Unique pressure reacting sealing system eliminates the need of packing adjustment.
- Sealing cup swells up in system pressure for leak-tight operation.
- Backseat stem design prevents stem blowout.
- High precision machining provides low valve operating torque.
- Stem packing below the threads prevents thread lubricant washout and media contamination.

Temperature and Pressure Ratings

Valve Material	Optional Valve O-ring Designator	Standard Sealing Cup Material	Temp. Rating °C (°F)	Pressure Rating @ 38 °C (100°F)
S316	KZ*	PEEK	- 30 ~ 250 (-22 ~ 482)	689 bar (10 000 psi)
	VT*		-30~204 (-22 ~399)	

*KZ: Kalrez (Perfluoroelastomer), TM Dupont

*VT: Viton (Vinylidene fluoride-based fluoroelastomer), TM Dupont

Material of Construction

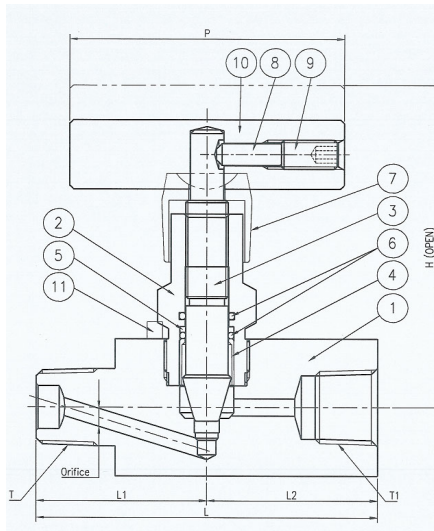
#	Component	Material / ASTM
1	Body	S316/ A479, A276
2	Bonnet	S316/ A479, A276
3	Stem	S316/ A479, A276
4	Sealing Cup	Standard
5	Packing	Polyetheretherketon-PEEK
6	Upper & Lower O-ring seal	Kalrez or Viton
7	Handle guide	Poly Oxy Methylene-Copolymer- POM C
8	Handle pin	S316/ A479, A276
9	Set screw	
10	Bar Handle	
11	Bonnet Locking Pin	

Lubrication: Molybdenum disulfide lubricant

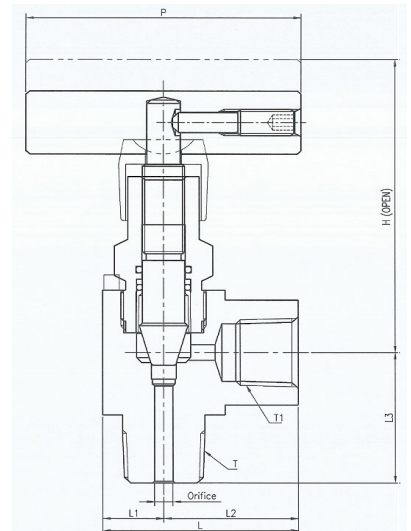
Note: 1. Wetted components are marked in **blue**.

2. Sealing system is marked in **Red**.

In-line pattern



Angle pattern



Ordering Information and Table of Dimensions

Basic Ordering Number	End Connections		Orifice mm (in.)	Cv	Dimensions, mm (inch)						
	Inlet	Outlet			L	L1	L2	L3	H	P	
In-line pattern VEX110B-	MF-4N-*-S	1/4" Male NPT	1/4" Female NPT	4.76 (0.19)	0.75	88.9	44.45	44.45	-	90.0	71.5
	MF-6N-*-S	3/8" Male NPT	3/8" Female NPT			(3.5)	(1.75)	(1.75)	-	(3.54)	(2.81)
	MF-8N-*-S	1/2" Male NPT	1/2" Female NPT			-	-	-	-	-	-
Angle pattern VEX110B-	MF-4N-A-*-S	1/4" Male NPT	1/4" Female NPT			50.8	15.87	34.93	36.6	90.0	71.5
	MF-6N-A-*-S	3/8" Male NPT	3/8" Female NPT			(2.0)	(0.62)	(1.38)	(1.44)	(3.54)	(2.81)
	MF-8N-A-*-S	1/2" Male NPT	1/2" Female NPT			-	-	-	-	-	-

*Ordering information

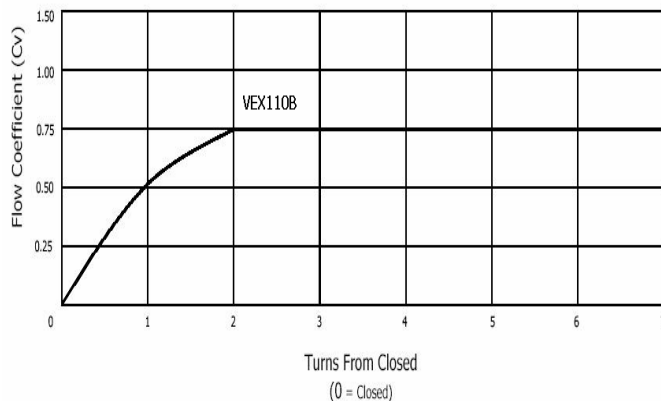
To order valve with Viton o-ring, insert the designator "VT" to the valve ordering number.

Example: VEX110B-MF-4N-VT-S.

To order valve with Kalrez o-ring, insert the designator "KZ" to the valve ordering number.

Example: VEX110B-MF-8N-A-KZ-S

Flow Coefficient at Turns Open



Flow Data

Cv is measured at the valve. Restrictions in end connections may reduce the flow.

Factory Test

Every valve is tested with the nitrogen @ 68 bar (1000psig) at the seat to a maximum allowable leak rate of 0.1 scc/min. The packing is tested for no detectable leakage.



Model Shown: Angle Pattern VEX110B-MF-8N-A-VT-S



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