

Needle Valves - 60VM Series

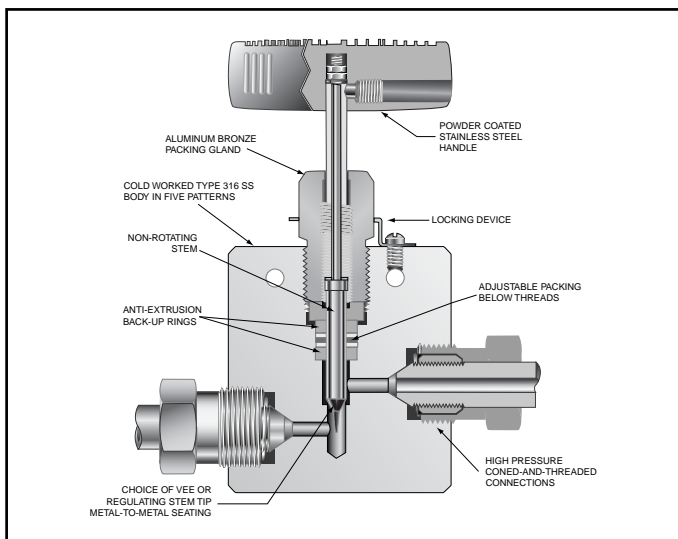
Pressures to 60,000 psi (4137 bar)

Tube Outside Diameter Size Inches	Connection Type	Orifice Size Inches (mm)	Rated C_V *	Pressure/Temperature Rating psi (bar) @ Room Temperature**
1/4	F250C	0.062 (1.57)	0.08	60,000 (4137)
3/8	F375C	0.062 (1.57)	0.09	60,000 (4137)
9/16	F562C	0.078 (1.98)	0.14	60,000 (4137)

Notes:

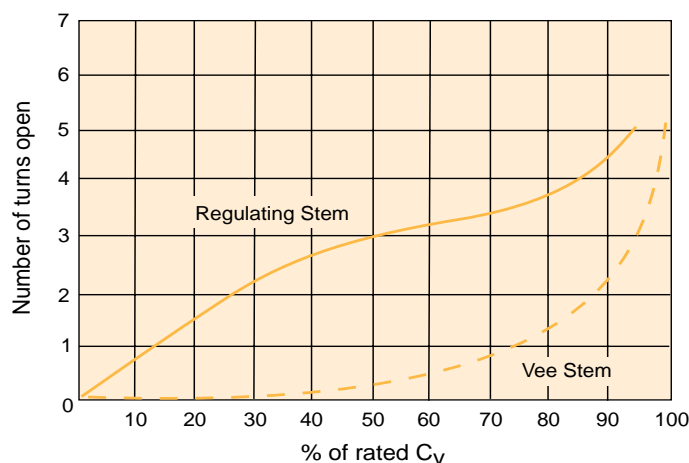
* C_V values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase C_V value 50%.

** For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



To ensure proper fit use Autoclave tubing

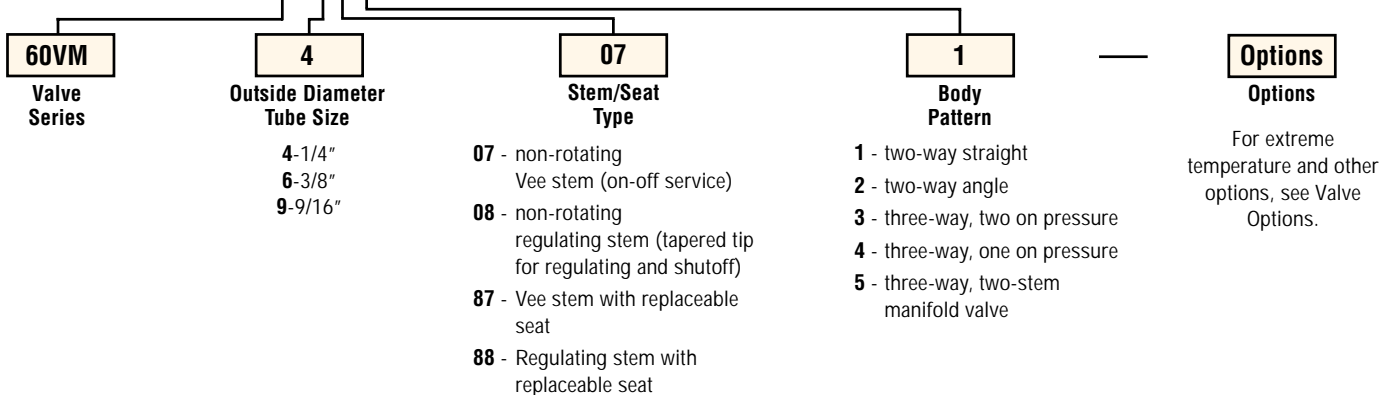
Generalized Flow Coefficient Curves (C_V)



Ordering Procedure

For complete information on available stem types, optional connections and additional valve options, see Needle Valve Options section or contact your Sales Representative. The 60VM Series valves are furnished complete with connection components, unless otherwise specified.

Typical catalog number: **60VM4071**



Valve Options

Extreme Temperatures

Standard Autoclave valves with Teflon packing may be operated to 450°F (232°C). High temperature packing is available for service from -423°F (-252°C) to 1200°F (649°C) by adding the following suffixes to catalog order number.

TG - standard valve with Teflon glass packing to 600°F (316°C).

GY - standard valve with graphite braided yarn packing to 800°F (427°C).

HT - extended stuffing box valve with graphite braided yarn packing to 1200°F (649°C).

B - standard valve with cryogenic trim material and Teflon packing to -100°F (-73°C).

LT - extended stuffing box valve with Teflon packing & Cryogenic trim materials to -423°F (-252°C).

Valve Maintenance

Repair Kits: add "R" to the front of valve catalog number for proper repair kit.
(Example: **R60VM4071**)

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Autoclave representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

Catalog Number	Stem Type	Outside Diameter Tube	Orifice Diameter	Dimensions - inches (mm)												Block Thickness	Valve Pattern
				A	B	C	D	D ₁	E	F	G	G ₁	H*	M	N		

2-Way Straight

60VM4071	VEE	1/4	0.062	2.00	1.00	0.50	1.69	1.31	2.12	3.00	1.00	0.22	4.75	0.69	0.38	1.00	See Figure 1
60VM4081	REG	(6.35)	(1.57)	(50.80)	(25.40)	(12.70)	(42.93)	(33.27)	(53.85)	(76.20)	(25.40)	(5.59)	(120.65)	(17.53)	(9.65)	(25.40)	
60VM6071	VEE	3/8	0.062	2.00	1.00	0.53	1.69	1.31	2.25	3.00	1.00	0.22	4.87	0.69	0.38	1.00	
60VM6081	REG	(9.53)	(1.57)	(50.80)	(25.40)	(13.46)	(42.93)	(33.27)	(57.15)	(76.20)	(25.40)	(5.59)	(123.70)	(17.53)	(9.65)	(25.40)	
60VM9071	VEE	9/16	0.078	2.62	1.31	0.72	1.75	1.31	2.50	3.00	1.00	0.28	5.13	0.69	0.38	1.50	
60VM9081	REG	(14.29)	(1.98)	(66.55)	(33.27)	(18.29)	(45.45)	(33.27)	(63.50)	(76.20)	(25.40)	(7.11)	(130.30)	(17.53)	(9.65)	(38.10)	

2-Way Angle

60VM4072	VEE	1/4	0.062	2.00	1.00	0.50		1.31	2.38	3.00	1.00	0.22	5.00	0.69	0.38	1.00	See Figure 2
60VM4082	REG	(6.35)	(1.57)	(50.80)	(25.40)	(12.70)		(33.27)	(60.45)	(76.20)	(25.40)	(5.59)	(127.00)	(17.53)	(9.65)	(25.40)	
60VM6072	VEE	3/8	0.062	2.00	1.00	0.53		1.31	2.62	3.00	1.00	0.22	5.25	0.69	0.38	1.00	
60VM6082	REG	(9.53)	(1.57)	(50.80)	(25.40)	(13.46)		(33.27)	(66.55)	(76.20)	(25.40)	(5.59)	(133.35)	(17.53)	(9.65)	(25.40)	
60VM9072	VEE	9/16	0.078	2.62	1.31	0.72		1.31	2.81	3.00	1.00	0.28	5.44	0.69	0.38	1.50	
60VM9082	REG	(14.29)	(1.98)	(66.55)	(33.27)	(18.29)		(33.27)	(71.37)	(76.20)	(25.40)	(7.11)	(138.18)	(17.53)	(9.65)	(38.10)	

3-Way / 2 on Pressure

60VM4073	VEE	1/4	0.062	2.00	1.00	0.50	1.69	1.31	2.12	3.00	1.00	0.22	4.75	0.69	0.38	1.00	See Figure 3
60VM4083	REG	(6.35)	(1.57)	(50.80)	(25.40)	(12.70)	(42.93)	(33.27)	(53.85)	(76.20)	(25.40)	(5.59)	(120.65)	(17.53)	(9.65)	(25.40)	
60VM6073	VEE	3/8	0.062	2.00	1.00	0.53	1.69	1.31	2.25	3.00	1.00	0.22	4.87	0.69	0.38	1.00	
60VM6083	REG	(9.53)	(1.57)	(50.80)	(25.40)	(13.46)	(42.93)	(33.27)	(57.15)	(76.20)	(25.40)	(5.59)	(123.70)	(17.53)	(9.65)	(25.40)	
60VM9073	VEE	9/16	0.078	2.62	1.31	0.72	1.75	1.31	2.50	3.00	1.00	0.28	5.13	0.69	0.38	1.50	
60VM9083	REG	(14.29)	(1.98)	(66.55)	(33.27)	(18.29)	(45.45)	(33.27)	(63.50)	(76.20)	(25.40)	(7.11)	(130.30)	(17.53)	(9.65)	(38.10)	

G - Packing gland mounting hole drill size

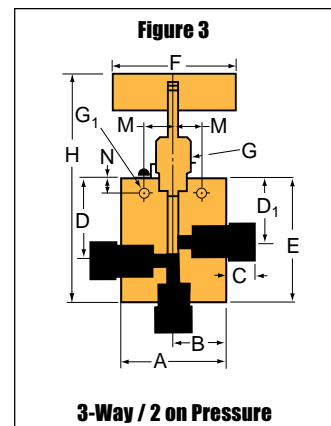
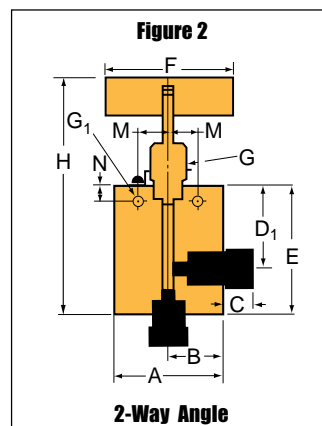
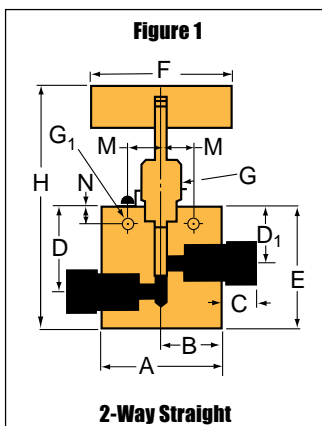
G₁ - Bracket mounting hole size

Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change.

* H Dimension is with stem in the closed position.

For prompt service,
Autoclave stocks select products.
Consult factory.



Catalog Number	Stem Type	Outside Diameter Tube	Orifice Diameter	Dimensions - inches (mm)												Block Thickness	Valve Pattern
				A	B	C	D	D ₁	E	F	G	G ₁	H*	M	N		

3-Way / 1 on Pressure

60VM4074	VEE	1/4	0.062	2.00	1.00	0.50	1.31		2.38	3.00	1.00	0.22	5.00	0.69	0.38	1.00	See Figure 4
60VM4084	REG	(6.35)	(1.57)	(50.80)	(25.40)	(12.70)	(33.27)		(60.45)	(76.20)	(25.40)	(5.59)	(127.00)	(17.53)	(9.65)	(25.40)	
60VM6074	VEE	3/8	0.062	2.00	1.00	0.53	1.31		2.62	3.00	1.00	0.22	5.25	0.69	0.38	1.00	
60VM6084	REG	(9.53)	(1.57)	(50.80)	(25.40)	(13.46)	(33.27)		(66.55)	(76.20)	(25.40)	(5.59)	(133.35)	(17.53)	(9.65)	(25.40)	
60VM9074	VEE	9/16	0.078	2.62	1.31	0.72	1.31		2.81	3.00	1.00	0.28	5.44	0.69	0.38	1.50	
60VM9084	REG	(14.29)	(1.98)	(66.55)	(33.27)	(18.29)	(33.27)		(71.37)	(76.20)	(25.40)	(7.11)	(138.18)	(17.53)	(9.65)	(38.10)	

2-Way Angle / Replaceable Seat

60VM4872	VEE	1/4	0.062	2.00	1.00	0.50	1.31	2.12	2.62	3.00	1.00	0.22	6.28	0.69	0.38	1.00	See Figure 5
60VM4882	REG	(6.35)	(1.57)	(50.80)	(25.40)	(12.70)	(33.27)	(53.85)	(66.55)	(76.20)	(25.40)	(5.59)	(159.51)	(17.53)	(9.65)	(25.40)	
60VM6872	VEE	3/8	0.062	2.00	1.00	0.53	1.31	2.36	2.62	3.00	1.00	0.22	6.52	0.69	0.38	1.00	
60VM6882	REG	(9.53)	(1.57)	(50.80)	(25.40)	(13.46)	(33.27)	(59.94)	(66.55)	(76.20)	(25.40)	(5.59)	(165.60)	(17.53)	(9.65)	(25.40)	
60VM9872	VEE	9/16	0.078	2.62	1.31	0.72	1.31	2.68	2.62	3.00	1.00	0.28	6.90	0.69	0.38	1.50	
60VM9882	REG	(14.29)	(1.98)	(66.55)	(33.27)	(18.29)	(33.27)	(68.07)	(66.55)	(76.20)	(25.40)	(7.11)	(175.26)	(17.53)	(9.65)	(38.10)	

3-Way / 2-Stem Manifold

60VM4075	VEE	1/4	0.062	2.00	1.00	0.50	1.72	1.31	3.44	3.00	1.00	0.22	6.07	0.69	0.38	1.00	See Figure 6
60VM4085	REG	(6.35)	(1.57)	(50.80)	(25.40)	(12.70)	(43.69)	(33.27)	(87.38)	(76.20)	(25.40)	(5.59)	(154.18)	(17.53)	(9.65)	(25.40)	
60VM6075	VEE	3/8	0.062	2.00	1.00	0.53	1.88	1.31	3.75	3.00	1.00	0.22	6.37	0.69	0.38	1.00	
60VM6085	REG	(9.53)	(1.57)	(50.80)	(25.40)	(13.46)	(47.75)	(33.27)	(95.25)	(76.20)	(25.40)	(5.59)	(161.80)	(17.53)	(9.65)	(25.40)	
60VM9075	VEE	9/16	0.078	2.62	1.31	0.72	2.06	1.31	4.12	3.00	1.00	0.28	6.37	0.69	0.38	1.50	
60VM9085	REG	(14.29)	(1.98)	(66.55)	(33.27)	(18.29)	(52.32)	(33.27)	(104.65)	(76.20)	(25.40)	(7.11)	(161.80)	(17.53)	(9.65)	(38.10)	

G - Packing gland mounting hole drill size
G₁ - Bracket mounting hole size
Panel mounting drill size: 0.22" all valves.

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