

VGF3 Three-way Flanged Globe Valves

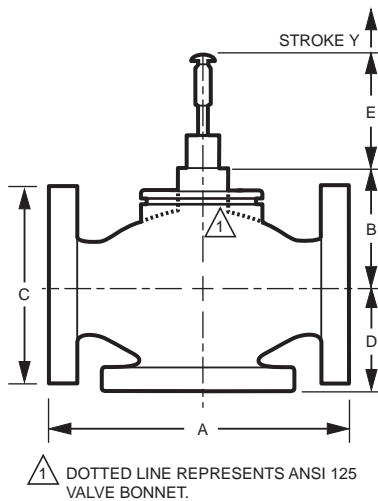


VGF Flanged Globe Valves are used for 2-position or modulating control of hot water or chilled water-glycol solutions up to 50% concentration in closed loop heating, ventilation and air conditioning (HVAC) systems. They can be operated by ML6984/7984, ML6420/6425, ML6421/7421 Electric Linear Actuators, MP953

Pneumatic Actuators, Modutrol™ Motors with Q5001 valve linkage, or MN/MS Series Direct Coupled Actuators with Q5020 or Q5022 valve linkages. Three-way bodies are available in mixing or diverting style with equal percentage and linear flow characteristics, respectively. For boiler/chiller bypass applications requiring tight close-off, use VGF31/32LD diverting valves. For outdoor temperature compensation of building supply water, or modulating control of heat exchangers, use VGF31/32EM mixing valves.

- ANSI Class 125 and Class 250 cast iron bodies with flanged end connections
- Face-to-face flange dimensions per ANSI/ISA S75.03 standard
- Sizes from 2-1/2 to 6 inches
- Stainless steel trim standard for long life span
- Self-adjusting packing
- Accurate positioning with equal percentage and linear flow characteristics to ensure precise temperature control
- Universal bonnet for direct-coupled electric and pneumatic actuators for easy mounting, or linkage coupled Modutrol™ Motors and MN/MS Series direct coupled actuators
- Constant total flow throughout full plug travel (3-way diverting models)
- Not suitable for combustible gasses

Dimensions in inches (millimeters)



MODEL NUMBER	DIMENSIONS, IN. (MM)					
	A	B	C	D	E	Y
3-WAY MIXING VALVES, ANSI CLASS 125. STEM UP TO CLOSE A-AB						
VGF31EM25	10-7/8 (276)	3 (76)	7 (178)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF31EM30	11-3/4 (298)	4-3/16 (107)	7-1/2 (191)	4-3/8 (111)		
VGF31EM40	13-7/8 (352)	5-8/16 (140)	9 (229)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF31EM50	15-3/4 (400)	5-3/8 (137)	10 (254)	5-3/4 (146)		
VGF31EM60	17-3/4 (451)	5-11/16 (145)	11 (279)	6-5/8 (168)		
3-WAY MIXING VALVES, ANSI CLASS 250. STEM UP TO CLOSE A-AB						
VGF32EM25	11-1/2 (292)	4-3/8 (112)	7-1/2 (191)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF32EM30	12-1/2 (318)	6-3/8 (161)	8-1/4 (210)	4-3/8 (111)		
VGF32EM40	14-1/2 (368)	5-7/8 (150)	10 (254)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF32EM50	16-5/8 (422)	6-3/16 (157)	11 (279)	5-3/4 (146)		
VGF32EM60	18-5/8 (473)	6-3/16 (157)	12-1/2 (318)	6-5/8 (168)		
3-WAY DIVERTING VALVES, ANSI CLASS 125. STEM DOWN TO CLOSE AB-A						
VGF31LD25	10-7/8 (276)	3 (76)	7 (178)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF31LD30	11-3/4 (298)	4-3/16 (107)	7-1/2 (191)	4-3/8 (111)		
VGF31LD40	13-7/8 (352)	5-8/16 (140)	9 (229)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF31LD50	15-3/4 (400)	5-3/8 (137)	10 (254)	5-3/4 (146)		
VGF31LD60	17-3/4 (451)	5-11/16 (145)	11 (279)	6-5/8 (168)		
3-WAY DIVERTING VALVES, ANSI CLASS 250. STEM DOWN TO CLOSE AB-A						
VGF32LD25	11-1/2 (292)	4-3/8 (112)	7-1/2 (191)	3-3/4 (95)	4-3/16 (107)	13/16 (20)
VGF32LD30	12-1/2 (318)	6-3/8 (161)	8-1/4 (210)	4-3/8 (111)		
VGF32LD40	14-1/2 (368)	5-7/8 (150)	10 (254)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)
VGF32LD50	16-5/8 (422)	6-3/16 (157)	11 (279)	5-3/4 (146)		
VGF32LD60	18-5/8 (473)	6-3/16 (157)	12-1/2 (318)	6-5/8 (168)		

M27604

Valve Type: Globe Valve

Body Pattern: Three-way

Connection Type: Flanged

Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels

Leakage Rating: Port A seat leakage: 0.5%; Port B seat leakage 1.0%; For Supply mixing control; use diverting value for boiler/chiller bypass

Maximum Safe Operating Pressure: 175 psig at 130 F (66 C) (1206 kPa at 66 C (130 F))

Maximum Differential Pressure Ratings (Close-off): 87 psi (599 kPa)

Fluid Temperature Range: 20 F to 250 F (-7 C to +120 C)

Actuation: Must be purchased separately

Stem Travel

2 1/2 and 3 inch valves: 3/4 in. (20 mm)

4 to 6 inch valves: 1 1/2 in. (39 mm)

Bonnet Size

2 1/2 and 3 inch valves: 1 3/8 in. (35 mm)

4 to 6 inch valves: 1 7/8 in. (47.6 mm)

Materials

(Body): Cast Iron ASTM A126 Class B

(Stem): Stainless Steel

(Seat): Stainless Steel

(Cartridge): Stainless Steel

(Plug/Ball/Disc): Stainless Steel

(Packing): Spring-loaded PTFE cone rings

Flanged Globe Valves

Valves with Equal Percentage Flow Characteristic

Note: For supply mixing control, use diverting valve for boiler/chiller bypass

Valve action: Mixing, step up to close A-AB

Leakage Rating: Port A seat leakage: 0.5%; Port B seat leakage: 1.0%

Product Number	Valve Size		Flow Capacity		Maximum Safe Operating Pressure		ANSI/ASME Rating	Maximum Close-off Pressure		Comments	Used With
	(inch)	DN	(Cv)	(Kv)	(psi)	(kPa)		(psi)	(kPa)		
VGF31EM25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig at 130 F	1206 kPa at 66 C	125	87 psi	599 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31EM30	3 in.	DN80	115 Cv	99 kvs	175 psig at 130 F	1206 kPa at 66 C	125	58 psi	400 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31EM40	4 in.	DN100	170 Cv	146 kvs	175 psig at 130 F	1206 kPa at 66 C	125	34 psi	234 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
VGF31EM50	5 in.	DN125	320 Cv	275 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
VGF31EM60	6 in.	DN150	370 Cv	318 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
VGF32EM25	2 1/2 in.	DN65	70 Cv	60 kvs	400 psig	2758 kPa	250	87 psi	599 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF32EM30	3 in.	DN80	115 Cv	99 kvs	400 psig	2758 kPa	250	58 psi	400 kPa	Stem up to close A-AB	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF32EM40	4 in.	DN100	170 Cv	146 kvs	400 psig	2758 kPa	250	34 psi	234 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
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VGF32EM60	6 in.	DN150	370 Cv	318 kvs	400 psig	2758 kPa	250	13 psi	90 kPa	Stem up to close A-AB	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953

Valves with Linear Flow Characteristic

Valve action: Diverting, stem down to close AB-A

Leakage Ratings: Port A seat leakage: 0.05%; Port B seat leakage: 0.1%

Product Number	Valve Size		Flow Capacity		Maximum Safe Operating Pressure		ANSI/ASME Rating	Maximum Close-off Pressure		Comments	Used With
	(inch)	DN	(Cv)	(Kv)	(psi)	(kPa)		(psi)	(kPa)		
VGF31LD25	2 1/2 in.	DN65	70 Cv	60 kvs	175 psig at 130 F	1206 kPa at 66 C	125	69 psi	475 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31LD30	3 in.	DN80	120 Cv	103 kvs	175 psig at 130 F	1206 kPa at 66 C	125	34 psi	234 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
VGF31LD40	4 in.	DN100	160 Cv	138 kvs	175 psig at 130 F	1206 kPa at 66 C	125	34 psi	234 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
VGF31LD50	5 in.	DN125	285 Cv	245 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
VGF31LD60	6 in.	DN150	380 Cv	327 kvs	175 psig at 130 F	1206 kPa at 66 C	125	13 psi	90 kPa	Stem down to close AB-A	ML6421B; ML7421B; Q5001/Modutrol IV Motor; MP953
VGF32LD25	2 1/2 in.	DN65	70 Cv	60 kvs	400 psig	2758 kPa	250	69 psi	475 kPa	Stem down to close AB-A	ML6984/ML7984; ML6420/21A/25; ML7420/21A/25; Q5020/DCA; Q5001/Modutrol IV Motor; MP953
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