



CONTROL VALVES

FLANGED GLOBE VALVES VGF SERIES

DESCRIPTION

The **Kele VGF Series** is a family of two- and three-way flanged globe valves designed specifically for commercial HVAC systems. All models of the VGF Series have stainless steel trim suitable for chilled water/glycol, heating water, and steam up to 100 psig.

The valves are available with linear or equal percentage flow characteristics. They have ASME/ANSI standard dimensions and pressure/temperature ratings, and there are models with pressure balanced trim for high close-off applications.

The **VGF Series** come assembled with Kele Revolution direct-coupled electric actuators or direct-mount Honeywell actuators, or the valves and actuators can be ordered separately.

FEATURES

- *Stainless steel trim - all models*
- *ANSI B16.3 pressure/temperature ratings*
- *ANSI 125 flanges standard, ANSI 250 special order*
- *Equal Percentage or linear flow characteristics*
- *Three-way mixing models or diverting models*
- *Pressure balanced models for high close off*
- *Available assembled with actuator or separate*
- *Spring or non-spring return assemblies*
- *Floating, two-position, or proportional control*



VGF31EM40/KAS-175-M-NC

TABLE 1. MEDIA PRESSURE/TEMPERATURE RATING

Temperature °F (°C)	System Pressure	
	ANSI Class 125 (VGF21, VGF31)	ANSI Class 250 (VGF22, VGF32)
35 to 130 (2-66)	175 psig (1206 kPa)	400 psig (2758 kPa)
Up to 200 (<93)	165 psig (1138 kPa)	370 psig (2251 kPa)
Up to 250 (<121)	150 psig (1034 kPa)	340 psig (2344 kPa)
Up to 300 (<149)	140 psig (965 kPa)	310 psig (2137 kPa)
Up to 356 (<180)	125 psig (862 kPa)	280 psig (1931 kPa)

NOTE: ANSI Class 250 valves are special order.

SPECIFICATIONS

Size	2-1/2" to 6", ANSI Flanges
Cv Range	72 to 370
Connections	Flanges per ANSI/ISA 75.03; bolt holes conform to ANSI B16.1
Stroke	3/4" (2-1/2" and 3" valves); 1-1/2" (4", 5" and 6" valves)
Body Pattern	Two-way: stem up to open Three-way mixing: stem up to open B-AB Three-way diverting: stem up to open AB-A
Flow Characteristic	Two-way: Equal percentage or linear Three-way: Linear
Rangeability	50:1
Leakage Rating	Single seat: ANSI Class III, 0.05% Pressure balanced: ANSI Class IV, 0.01%
Maximum Closeoff Pressure	Actuator dependant, see Selection Chart
Maximum Pressure Rating	See Table 1
Pressure Rating	ANSI Class 125 (Class 250 models available)
Materials Of Construction	Cast iron ASTM A126 Class B (GG25) body, stainless steel stem and trim, spring-loaded PTFE cone ring packing

Media Compatibility	Hot or chilled water, <50% glycol, steam to 100 psig (690 kPa)
Media Temperature Range	See Table 1
Actuator Mounting	U-bolt or set screws attach to valve yoke; 2-1/2" and 3" valves: 1-3/8" yoke diameter and 3/4" stroke length; 4", 5" and 6" valves: 1-7/8" yoke diameter with 1-1/2" stroke length
Compatible Actuators	Rotary Kele KA/KAS Series or Honeywell MN/MS Series with appropriate Q5024 Linkage and bonnet adapter, or direct-mount ML Series
Operating Temperature	Actuator dependant, refer to appropriate ACTUATORS & DAMPERS section or ML Series (in Control Valves) for specifications
Approvals	Actuator dependant, refer to appropriate ACTUATORS & DAMPERS section or ML Series (in Control Valves) for specifications
Warranty	1 year on valves, 5 years on rotary actuators, 1 year on direct-mount actuators

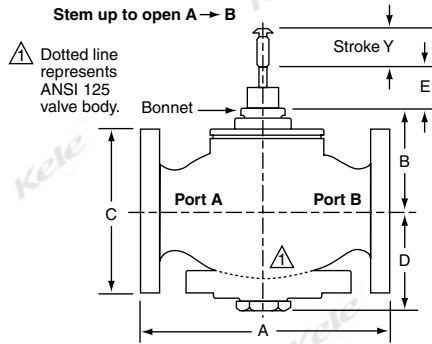
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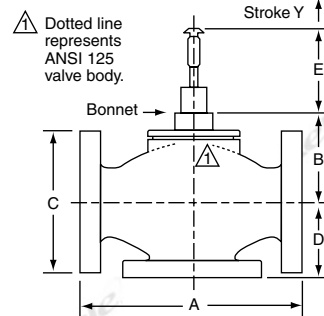
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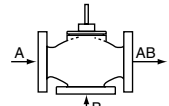
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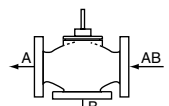
Actuator Clearances Above Bonnet	in (cm)
KA and KAS	12 (30.5)
ML 6421	14.25 (36.0)
ML 7421	14.25 (36.0)
Q5020A1003 (Requires 12" for service) Weight 6 lb (2.7 kg)	9.5 (24.1)



Three-way Valve Flow Patterns



MIXING
Stem up = B→AB
Stem down = A→AB



DIVERTING
Stem up = AB→A
Stem down = AB→B

Two-way valves, Equal Percentage or Linear, Standard or Pressure Balanced

VALVE SIZE (in)	ANSI CLASS 125 Two-way Valve Dimensions, in (mm)						Weight lb (kg)
	A	B	C	D	E	Y	
2-1/2	10-7/8 (276)	10-7/8 (276)	7 (178)	-	3-1/2 (89)	3/4 (20)	42 (19.0)
3	11-1/2 (298)	11-1/2 (298)	7-1/2 (191)	-	3-1/2 (89)	3/4 (20)	53 (24.0)
4	13-7/8 (352)	13-7/8 (352)	9 (229)	-	5-1/2 (133)	1-1/2 (38)	73 (33.1)
5	15-1/2 (400)	15-1/2 (400)	10 (254)	-	5-1/2 (133)	1-1/2 (38)	120 (54.4)
6	17-1/2 (451)	17-1/2 (451)	11 (279)	-	5-1/2 (133)	1-1/2 (38)	166 (75.3)

Three-way Valves, Mixing or Diverting

VALVE SIZE (in)	ANSI CLASS 125 Three-way Valve Dimensions, in (mm)						Weight lb (kg)
	A	B	C	D	E	Y	
2-1/2	10-7/8 (276)	3 (276)	7 (178)	3-1/2 (95)	4-3/16 (107)	3/4 (20)	42 (19.0)
3	11-3/4 (298)	4-3/16 (107)	7-1/2 (191)	4-3/8 (111)	4-3/16 (107)	3/4 (20)	53 (24.0)
4	13-7/8 (352)	5-1/2 (140)	9 (229)	5-1/8 (130)	6-11/16 (170)	1-1/2 (38)	73 (33.1)
5	15-1/2 (400)	5-3/8 (137)	10 (254)	5-1/2 (146)	6-11/16 (170)	1-1/2 (38)	120 (54.1)
6	17-1/2 (451)	5-11/16 (145)	11 (279)	6-5/8 (168)	6-11/16 (170)	1-1/2 (38)	166 (75.3)

TABLE 1. VALVE BODY SELECTION MATRIX

MODEL	
VGF	Flanged Globe Valve
Configuration (ANSI 125)	
21	Two way
31	Three way
Valve Characteristic	
E	Equal percentage
L	Linear
Body Type	
S	Standard flow (2-way valves only)
P	Pressure balanced (2-way valves only)
M	Mixing (3-way valves only)
D	Diverting (3-way valves only)
Size	
25	2.5 inch
30	3 inch
40	4 inch
50	5 inch
60	6 inch

TABLE 2. ACTUATOR SELECTION GUIDE

NON-SPRING RETURN		SPRING RETURN	
Floating/Tri-state	Proportional	Two-Position	Proportional/Floating
KA-301-2T	KA-301-P	KAS-175-2	KAS-175-M
ML6421A1017**	ML7421A1032**		
ML6421B1040**	ML7421B1023**		

** No linkage required. Direct coupled actuator