



CONTROL VALVES

FLANGED GLOBE VALVES VGF SERIES

DESCRIPTION

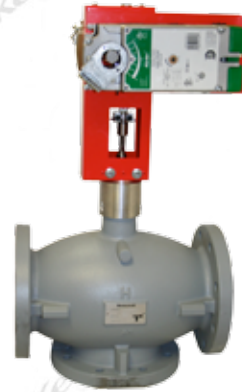
The **Kele VGF Series** is a family of two- and three-way flanged globe valves designed specifically for commercial HVAC systems. All models of the VGF Series have stainless steel trim suitable for chilled water/glycol, heating water, and steam up to 100 psig.

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

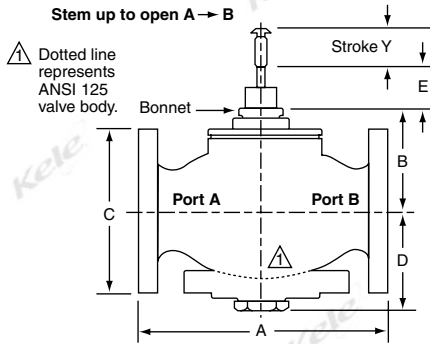
Media Compatibility	Hot or chilled water, <50% glycol, steam to 100 psig (690 kPa)
Media Temperature Range	See Table 1
Actuator Mounting	U-bolt or set screws attach to valve yoke; 2-1/2" and 3" valves: 1-3/8" yoke diameter and 3/4" stroke length; 4", 5" and 6" valves: 1-7/8" yoke diameter with 1-1/2" 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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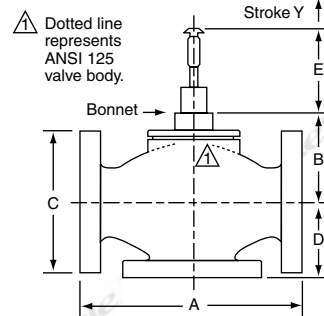
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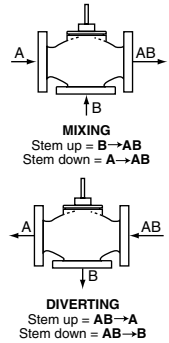
DIMENSIONS



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



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



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TABLE 3. VGF SERIES FLANGED GLOBE VALVE AND ACTUATOR COMBINATIONS AND CLOSE-OFF RATINGS

Body Type	Size	Cv	Valve Model	NON-SPRING RETURN (NSR) ACTUATORS				SPRING RETURN (SR) ACTUATORS			
				Floating	Proportional	Close Off (psd)	Linkage	Two-position	Proportional/Floating	Close off (psid)	Linkage
Two-way E = Equal % L = Linear	2.5	72	VGF21 (E OR L) S25	KA-301-2T	KA-301-P	95	Q5020A1003	(2 qty) KAS-175-2	(2 qty) KAS-175-M	112	Q5024B2230*
	3	120	VGF21 (E OR L) S30	KA-301-2T	KA-301-P	47	Q5020A1003	(2 qty) KAS-175-2	(2 qty) KAS-175-M	55	Q5024B2230*
	4	150	VGF21 (E OR L) S40	(2 qty) KA-301-2T	(2 qty) KA-301-P	47	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	27	Q5024B2240*
	5	320	VGF21 (E OR L) S50	(2 qty) KA-301-2T	(2 qty) KA-301-P	18	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	11	Q5024B2240*
Three-way mixing	6	370	VGF21 (E OR L) S60	(2 qty) KA-301-2T	(2 qty) KA-301-P	18	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	11	Q5024B2240*
	2.5	70	VGF31EM25	KA-301-2T	KA-301-P	120	Q5020A1003	(2 qty) KAS-175-2	(2 qty) KAS-175-M	141	Q5024B2230*
	3	115	VGF31EM30	KA-301-2T	KA-301-P	80	Q5020A1003	(2 qty) KAS-175-2	(2 qty) KAS-175-M	94	Q5024B2230*
	4	150	VGF31EM40	(2 qty) KA-301-2T	(2 qty) KA-301-P	47	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	27	Q5024B2240*
Three-way diverting	5	285	VGF31EM50	(2 qty) KA-301-2T	(2 qty) KA-301-P	18	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	11	Q5024B2240*
	6	365	VGF31EM60	(2 qty) KA-301-2T	(2 qty) KA-301-P	18	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	11	Q5024B2240*
	2.5	72	VGF31LD25	KA-301-2T	KA-301-P	95	Q5020A1003	(2 qty) KAS-175-2	(2 qty) KAS-175-M	112	Q5024B2230*
	3	120	VGF31LD30	KA-301-2T	KA-301-P	47	Q5020A1003	(2 qty) KAS-175-2	(2 qty) KAS-175-M	55	Q5024B2230*
Two-way pressure balanced	4	150	VGF31LD40	(2 qty) KA-301-2T	(2 qty) KA-301-P	47	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	27	Q5024B2240*
	5	320	VGF31LD50	(2 qty) KA-301-2T	(2 qty) KA-301-P	18	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	11	Q5024B2240*
	6	370	VGF31LD60	(2 qty) KA-301-2T	(2 qty) KA-301-P	18	Q5024B2240*	(2 qty) KAS-175-2	(2 qty) KAS-175-M	11	Q5024B2240*
	2.5	70	VGF21 (E OR L) P25	ML6421A1017	ML7421A1032	175	N/A	(2 qty) KAS-175-2	(2 qty) KAS-175-M	175	Q5024B2230*
Two-way pressure balanced	3	115	VGF21 (E OR L) P30	ML6421A1017	ML7421A1032	175	N/A	(2 qty) KAS-175-2	(2 qty) KAS-175-M	175	Q5024B2230*
	4	150	VGF21 (E OR L) P40	ML6421B1040	ML7421B1023	175	N/A	(2 qty) KAS-175-2	(2 qty) KAS-175-M	175	Q5024B2240*
	5	285	VGF21 (E OR L) P50	ML6421B1040	ML7421B1023	175	N/A	(2 qty) KAS-175-2	(2 qty) KAS-175-M	175	Q5024B2240*
	6	365	VGF21 (E OR L) P60	ML6421B1040	ML7421B1023	175	N/A	(2 qty) KAS-175-2	(2 qty) KAS-175-M	175	Q5024B2240*

* Q5024B2230 requires HU5024-001 Bonnet adapter
Q5024B2240 requires HU5024-002 Bonnet adapter

Bonnet Adapters	
Part #	Description
HU5024-001	Bonnet adapter 1-3/8" diameter with 1/4"-28 threads per inch (TPI) stem adapter
HU5024-002	Bonnet adapter 1-7/8" diameter with 1/2"-20 threads per inch (TPI) stem adapter

ORDERING INFORMATION

MODEL	DESCRIPTION
VGF_ /	Insert valve body model number
	KA/KAS*- or ML_
	Insert actuator model
	-NC Normally closed (for spring return only)
	-NO Normally open (for spring return only)
	BLANK For all non-spring return

* All spring return assemblies come with two actuators

Example: VGF31EM25 / KAS-175-M-NC is a three-way, 2-1/2" ANSI 125 flanged, Cv=70, equal percentage mixing valve assembled with spring return, proportional/float control actuator.

Note: Valve assemblies with KA and KAS actuators use the Q Series linkages. If ordering valve and actuator separately for field assembly, order the Q Series linkage also.

Note: Specify normally open or normally closed when ordering an assembly with KAS spring return actuator.

RELATED PRODUCTS

SSTAG
208638
R43176754-002
R43176755-005

Stainless steel tag on bead chain, 1" x 2" dogtag, custom engraved per order
Packing kit for all VGF Series flanged globe valves
Repair kit for 2-1/2" and 3" VGF Series ANSI 125 flanged valves
Repair kit for all 4" to 6" VGF Series flanged valves