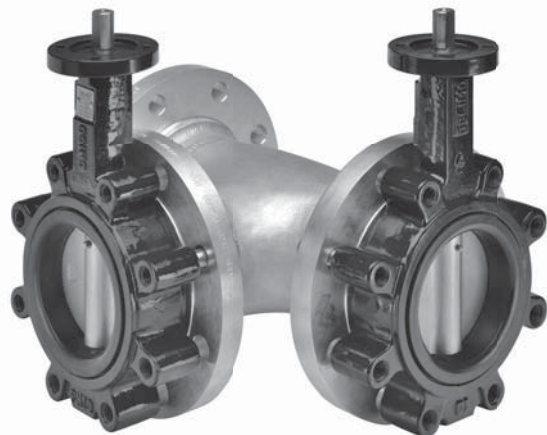




Technical Data	
Service	chilled, hot water, 60% glycol
Flow characteristic	modified linear
Controllable flow range	82°
Sizes	2" to 12"
Type of end fitting	for use with ANSI 125/150 flanges
Materials	
Body	ductile iron ASTM A536
Body finish	epoxy powder finish
Disc	304 stainless steel
Seat	EPDM standard
Shaft	416 stainless steel
O-ring	EPDM
Bushings	RPTFE
Media temperature range	-22°F to 250°F [-30°C to 120°C]
Body pressure rating	ASME/ANSI Class 125
Close-off pressure	50 psi
Rangeability	10:1 (for 30° to 70° range)
Maximum velocity	12 FPS
Leakage	bubble tight

- 50 psi bubble tight shut-off
- Long stem design allows for 2" insulation
- Valve face-to-face dimensions comply with API 609 & MSS-SP-67
- Completely assembled and tested, ready for installation
- Tees comply with ASME/ANSI B16.1 Class 125 flanges

Application

These valves are designed to meet the needs of HVAC and commercial applications requiring bubble tight shut off for liquids. Typical applications include chiller isolation, cooling tower isolation, change-over systems, large air handler coil control, bypass and process control applications. The large C_v values provide for an economical control valve solution for larger flow applications. Designed for use in Victaulic piping systems when mated to Victaulic 41 series flange nipples.

Jobsite Note

Valves should be stored in a weather protected area prior to construction. Complete installation recommendations can be found in Belimo's Installation and Maintenance Instructions for F7...HDU Butterfly Valves.

Valve		Nominal Size		Type	Suitable Actuators			Electronic Fail-Safe
C _v 90°	C _v 60°	IN	DN [mm]	3-way	Spring	Non-Spring		
115	44	2"	50	F750HDU	AF Series	AM	GM Series	GK Series
196	75	2½"	65	F765HDU				
302	116	3"	80	F780HDU				
600	230	4"	100	F7100HDU	SY Series	GM Series	SY Series	GK Series
1022	392	5"	125	F7125HDU				
1579	605	6"	150	F7150HDU				
3136	1202	8"	200	F7200HDU				
5340	2047	10"	250	F7250HDU				
8250	3062	12"	300	F7300HDU				

Valve	Size	C _v	MOD							ON/OFF	
			10°	20°	30°	40°	50°	60°	70°	80°	90°
F750HDU	2"	115	.06	3	7	15	27	44	70	105	115
F765HDU	2½"	196	.10	6	12	25	45	75	119	178	196
F780HDU	3"	302	.20	9	18	39	70	116	183	275	302
F7100HDU	4"	600	.30	17	36	78	139	230	364	546	600
F7125HDU	5"	1022	.50	29	61	133	237	392	620	930	1022
F7150HDU	6"	1579	.80	45	95	205	366	605	958	1437	1579
F7200HDU	8"	3136	2	89	188	408	727	1202	1903	2854	3136
F7250HDU	10"	5340	3	151	320	694	1237	2047	3240	4859	5340
F7300HDU	12"	8250	4	234	495	1072	1911	3062	5005	7507	8250

F7 Series 3-Way, HDU Butterfly Valve Resilient Seat, 304 Stainless Disc



Maximum Dimensions (Inches)

Valve	Size	Cv 90°	A	B	C	D(Max)	BHC	No. of Holes	Lug Bolt	Actuator	Close-Off (PSI)	
F750HDU	2"	115	4.50	6.15	6.15	15.50	4.75	4	5/8-11 UNC	AF	50	Spring Return
F765HDU	2½"	196	5.00	6.76	6.76	16.00	5.50	4	5/8-11 UNC	2*AF	50	
F780HDU	3"	302	5.50	7.28	7.28	16.25	6.00	4	5/8-11 UNC		50	
F780HDU	3"	302	5.50	7.28	7.28	21.00	6.00	4	5/8-11 UNC	GK	50	Electronic Fail-Safe
F7100HDU	4"	600	6.50	8.55	8.55	21.75	7.50	8	5/8-11 UNC		50	
F7125HDU	5"	1022	7.50	9.64	9.64	22.25	8.50	8	3/4-10 UNC	2*GK	50	
F7150HDU	6"	1579	8.00	10.19	10.19	22.75	9.50	8	3/4-10 UNC		50	Non-Spring Return
F750HDU	2"	115	4.50	6.65	6.15	15.50	4.75	4	5/8-11 UNC	AR	50	
F765HDU	2½"	196	5.00	6.76	6.76	16.00	5.50	4	5/8-11 UNC		50	
F780HDU	3"	302	5.50	7.28	7.28	21.00	6.00	4	5/8-11 UNC	GM	50	
F7100HDU	4"	600	6.50	8.54	8.54	21.75	7.50	8	5/8-11 UNC		50	
F7125HDU	5"	1022	7.50	9.64	9.64	22.25	8.50	8	3/4-10 UNC	2*GM	50	
F7150HDU	6"	1579	8.00	10.19	10.19	22.75	9.50	8	3/4-10 UNC		50	
F750HDU	2"	115	4.50	6.15	6.15	15.50	4.75	4	5/8-11 UNC	SY1...	50	
F765HDU	2½"	196	5.00	6.76	6.76	16.00	5.50	4	5/8-11 UNC		50	
F780HDU	3"	302	5.50	7.28	7.28	21.00	6.00	4	5/8-11 UNC		50	
F7100HDU	4"	600	6.50	8.55	8.55	21.75	7.50	8	5/8-11 UNC	SY2...	50	
F7125HDU	5"	1022	7.50	9.64	9.64	22.25	8.50	8	3/4-10 UNC		50	
F7150HDU	6"	1579	8.00	10.19	10.19	22.75	9.50	8	3/4-10 UNC		50	
F7200HDU	8"	3136	9.00	11.37	11.37	24.25	11.75	8	3/4-10 UNC	SY3...	50	
F7250HDU	10"	5340	11.00	13.58	13.58	30.00	14.25	12	7/8-9 UNC		50	
F7300HDU	12"	8250	12.00	15.01	15.01	32.00	17.00	12	7/8-9 UNC	SY4...	50	

AF maximum actuator ambient temperature is 122°F.

SY... maximum actuator ambient temperature is 150°F.

Model SY1... does not have hand wheel-override is via 8mm wrench on bottom side of actuator.

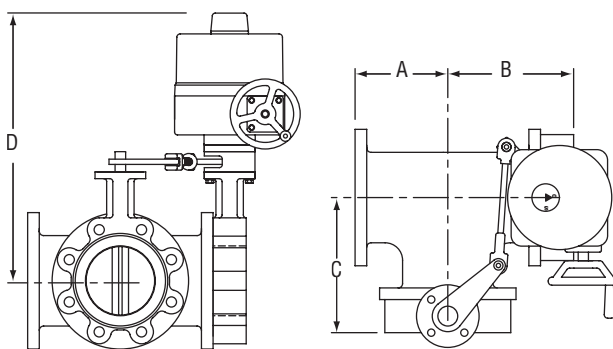
Application Notes

- Valves are rated at 50 psi differential pressure in the closed position.
- Valves are furnished with lugs tapped for use with ANSI Class 125/150 flanges. Installation flanges and hardware are not included.
- 3-way assemblies are furnished assembled and tested, ready for installation.

All 3-way assemblies require the customer to specify the 3-way configuration prior to order entry to guarantee correct placement of valves and actuators on the assembly.

- Dimension "D" allows for actuator removal without the need to remove the valve from the pipe.
- Weather shields are available, dimensional data upon request.
- Dual actuated valves have single actuators mounted on each valve shaft.
- Bolts supplied are for shipping purposes only. Upon installation replace with an appropriate SAE grade 5 or better hardware.
- Belimo SY Series actuators are NEMA 4X rated.

Dimensions



HS DWGP15

050904 - 02/12 - Subject to change. © Belimo Aircontrols (USA), Inc.



MFT CE LISTED 94 05 TEMA MD, A C RES, EDIRC



Models

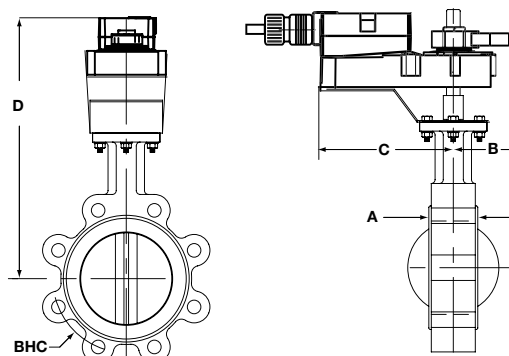
GKRX24-MFT-X1
GKX24-MFT-X1

Technical Data	GKX24-MFT-X1
Power supply	24VAC ±20% 50/60Hz 24VDC ±10%
Power consumption	12W (3W)
Transformer sizing	21VA (class 2 power source)
Electrical connection	18 GA plenum rated cable ½" conduit connector protected NEMA 2 (IP54) 3 ft [1m] 10 ft [3m] 16 ft [5m]
Overload protection	electronic throughout 0 to 95° rotation
Operation range Y	2 to 10 VDC, 4 to 20mA (default) variable (VDC, PWM, floating point, on/off)
Input impedance	100 kΩ (0.1 mA), 500 Ω 1500 Ω (PWM, floating point, on/off)
Feedback output U	2 to 10VDC, 0.5mA max, VDC variable
Angle of rotation	max. 95°, adjustable with mechanical stop electronically variable
Direction of rotation	reversible with  switch
Fail-safe position	adjustable with dial or tool 0 to 100% in 10% increments
Position indication	reflective visual indicator (snap-on)
Manual override	external push button
Running time	
normal operation	95 seconds (default), variable 90 to 150 seconds
fail-safe	35 seconds
Humidity	5 to 95% RH non-condensing (EN 60730-1)
Ambient temperature	-22°F to +122°F [-30°C to +50°C]
Storage temperature	-40°F to +176°F [-40°C to +80°C]
Housing	NEMA2, IP54, UL enclosure type 2
Housing material	UL94-5VA
Agency list	cULus acc. to UL 60730-1A/-2-14 CAN/CSA E60730-1:02 CE acc. to 2004/108/EEC and 2006/95/EC
Noise level	< 45dB(A)
Servicing	maintenance free
Quality standard	ISO 9001

Note: GKR Actuators are on 2-way valves

GKX Actuators are on 3-way valves

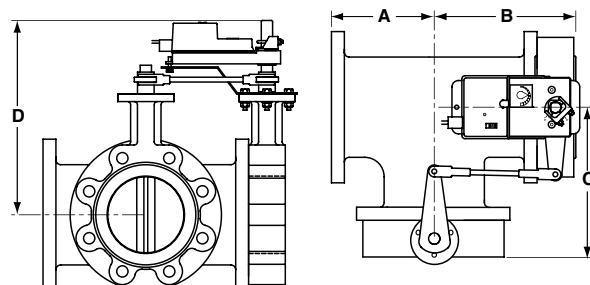
Dimensions with 2-Way Valve



AM_GM_LineRevised

Dimensions (Inches)						Non-Fail Safe (psi)	
Valve	Size	A	B	C	D(Max)	BHC	GK
F680HD	3"	1.69	9.00	9.00	21.03	6.00	200
F6100HDU	4"	1.92	9.00	9.00	21.53	7.50	50
F6125HDU	5"	2.08	9.00	9.00	22.53	8.50	50
F6150HDU	6"	2.19	9.00	9.00	22.56	9.50	50
F650-150SHP	2"	1.75	9.00	9.00	20.03	4.75	285
F665-150SHP	2½"	1.88	9.00	9.00	20.53	5.50	285
F680-150SHP	3"	1.92	9.00	9.00	21.03	6.00	285
F6100-150SHP	4"	2.13	9.00	9.00	21.53	7.50	150
F650-300SHP	2"	1.75	9.00	9.00	20.03	5.00	285
F665-300SHP	2½"	1.88	9.00	9.00	20.53	5.88	285
F680-300SHP	3"	1.92	9.00	9.00	21.03	6.63	285
F6100-300SHP	4"	2.13	9.00	9.00	21.53	7.88	150
F6100VIC	4"	4.63	8.63	8.63	16.00	-	200

Dimensions with 3-Way Valve



Single_Butterfly

Dimensions (Inches)						Non-Fail Safe (psi)	
Valve	Size	A	B	C	D(Max)	BHC	GK 2*GK
F780HDU	3"	5.50	7.20	7.20	16.78	6.00	200
F7100HDU	4"	2.05	8.00	8.00	17.00	7.50	50
F7125HDU	5"	2.14	8.00	8.00	17.50	8.50	50
F7150HDU	6"	2.19	8.00	8.00	22.50	9.50	50
F750-150SHP	2"	4.50	6.25	6.25	17.03	4.75	150
F765-150SHP	2½"	5.00	6.88	6.88	17.53	5.50	150
F780-150SHP	3"	5.50	7.42	7.42	18.03	6.00	150
F765VIC	2½"	3.77	6.88	6.88	15.00	-	50
F780VIC	3"	3.77	7.42	7.42	15.00	-	200
F7100VIC	4"	4.63	8.63	8.63	16.00	-	50

Wiring Diagrams

INSTALLATION NOTES

- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.
- 4 Position feedback cannot be used with Triac sink controller. The actuator internal common reference is not compatible.
- 5 Control signal may be pulsed from either the Hot (source) or the Common (sink) 24 VAC line.
- 8 Contact closures A & B also can be triacs.
- 9 For triac sink the common connection from the actuator must be connected to the hot connection of the controller.

APPLICATION NOTES

Meets UL requirements without the need of an electrical ground connection.

The ZG-R01 500 Ω resistor may be used.

WARNING Live Electrical Components!
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

NOTE: Wiring diagrams shown are for single actuator mounted solutions

