

Technical Data Sheet

Butterfly Motorized Valve [AM/GM/GK/DKRX Actuator] 24V

Valves are supplied by Belimo to AERCO's specification.

- 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

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 Cv values provide for an economical control valve solution for larger flow applications.

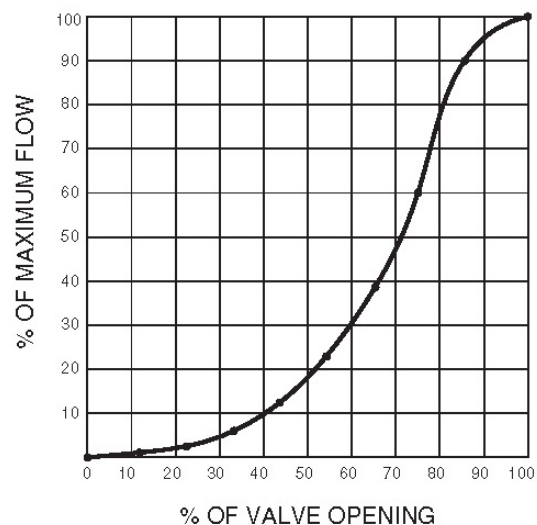
Jobsite Note

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 F6/F7 HD/ HDU Butterfly Valves.



Valve Technical Data	
Service	chilled, hot water, 60% glycol
Flow Characteristic	modified equal percentage
Action	90° rotation
Type of End Fitting	for use with ANSI Class 125/150 flanges
Materials	Body Body finish Disc Seat Shaft O-ring Upper bushing Middle bushings Lower bushing
Media Temperature Range	-22°F to 250°F [-30°C to 120°C]
Operation Ambient Temperature Range	-22°F to 122°F [-30°C to 50°C]
Body Pressure Rating	ASME/ANSI Class 125/150 (200 psi at -30°F to 275°F)
Range ability	10:1 (for 30° to 70° range)
Maximum Velocity	12 FPS

Flow Pattern



Application Notes

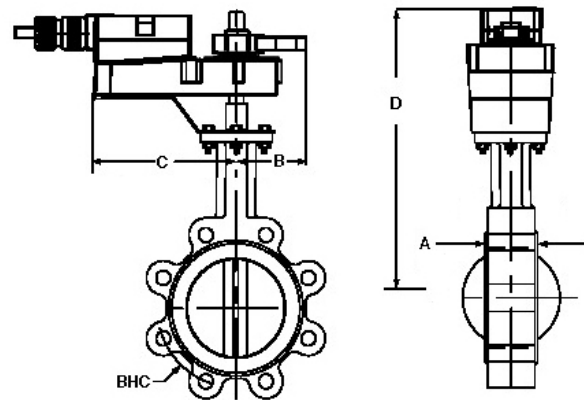
1. Valves are rated at 50 psi differential pressure in the closed position.
2. Valves are furnished with lugs tapped for use with ANSI Class 125/150 flanges. Installation flanges and hardware are not included.
3. 2-way assemblies are furnished assembled and tested, ready for installation.

Actuator Technical Data							
Power Supply	24VAC ±20% 50/60Hz 24VDC ±10%						
Power consumption AMX GMX GKX DKRX	Running (Holding) 3.5 W (1.3 W) 4.5 W (1.5 W) 12 W (3 W) 12 W (3W)						
Transformer sizing AMX GMX GKX/DKRX	6 VA Class 2 power source 7 VA Class 2 power source 21 VA Class 2 power source						
Electrical connection	18 GA plenum rated cable ½" conduit connector protected NEMA 2 (IP54) 3 ft [1m] DKRX = Screw Terminal (for 22 to 12 AWG wire) 92084-8/9/10 include Molex Connector 39-01-2061						
Overload protection	electronic throughout 0 to 95 rotation (DKRX:90°)						
Operation range Y	2 to 10 VDC, 4 to 20mA (default) variable (VDC, floating point, on/off)						
Input impedance	100kΩ (0.1 mA), 500Ω 1500Ω (floating point, on/off)						
Feedback output U	2 to 10VDC, 0.5mA max, VDC variable						
Angle of rotation	max. 95° (DKRX 90°), adjustable with mechanical stop electronically variable						
Torque AMX GMX GKX DKRX	180 in-lb [20 Nm] 360 in-lb [40 Nm] 360 in-lb [40 Nm] 720 in-lb [80 Nm]						
Direction of rotation	reversible with cw/ccw switch						
Fail-safe position (GKX/DKRX Models)	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	90 seconds (default) , AMX variable (90 to 350 sec), GMX variable (75 to 300 sec), GKX variable (90 to 150 sec), DKRX=(75 to 290 sec)						
fail-safe (GKX/DKRX Models)	35 seconds						
Humidity	5 to 95% RH non-condensing						
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(AMX/GMX/GKX); DKRX = Polycarbonate						
Agency list	cULus acc. to UL 60730-1A/-2-14 (ALL MODELS) CAN/CSA E60730-1:02 (AMX/GMX/GKX); CAN/CSA E60730-1 (DKRX) Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14" (DKRX) acc. to 2004/108/EEC and 2006/95/EC (AMX/GMX/GKX)						
Noise level	max 45dB(A)						
Servicing	maintenance free						
Quality standard	ISO 9001						
Specifications							
*C-More/Edge [i] BST enabled							
**Edge [ii] Controller Applications							
AERCO P/N	Size	Valve Model	Actuator Model	Cv	Max GPM	COP	Weight (lbs)
92084-3	3"	F680HDU	AMX24-MFT	302	264	50	13
92084-4	4"	F6100HDU	GMX24-MFT	600	470	50	24
92084-5 92084-8* 92084-11**	3"	F680HDU	GKX24-MFT	302	264	50	15
92084-6 92084-9* 92084-12**	4"	F6100HDU	GKX24-MFT	600	470	50	25
92084-7 92084-10* 92084-13**	6"	F6150HDU	DKRX24-MFT-T	1579	1058	50	45

Actuator Operation

The actuator is electronically protected against overload. The AMX, GMX, and GKX series actuators provide 95° (DKRX:90°) of rotation and a visual indicator shows the position of the actuator. When reaching the damper or actuator end position the actuator automatically stops. The gear can be manually disengaged by pressing the button located on the actuator cover. The AMX, GMX, GKX, and DKRX actuators use a brushless DC motor, which is controlled by an Application Specific Integrated Circuit (ASIC). The ASIC monitors and controls the actuators rotation and provides a digital rotation sensing (DRS) function to prevent damage to the actuator in a stall condition. Power consumption is reduced in a holding mode. The GKX 24-MFT, and DKRX24-MFT actuator provides electrical power off operation for reliable fail safe application. Auxiliary switches or feedback potentiometers are provided and fastened directly onto the actuator body for signaling and switching functions. Complete wiring diagrams can be found in AERCO's Technical Instructions Document TID-0028.

Dimensions



Dimensions (inches)

AERCO P/N	A	B	C	D (Max)	BHC	No. of Holes	Lug Bolt
92084-3	1.78	7	7	16	6	4	5/8-11UNC
92084-4	1.92	9	9	21	7.5	8	5/8-11UNC
92084-5/8	1.69	9	9	21.03	6	4	5/8-11UNC
92084-6/9	1.92	9	9	21.53	7.5	8	5/8-11UNC
92084-7/10	2.19	7.34	6.77	21.52	9.50	8	3/4-10UNC

Dimension "A" is compressed, add .125" for relaxed state.

Dimension "D" allows for actuator removal without the need to remove the valve from the pipe.

Max GPM = Maximum US gallons of water per minute, at room temperature, that will flow through the fully open valve without exceeding design velocity limits.

COP = Close-Off Pressure stated in psi. This is the maximum differential pressure the valve will close-off against while maintaining a bubble tight seal.

Proposal/Submittal Information

Size	AERCO P/N	System Data		
		GPM	Pressure (psig)	Temp (F)



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