B6400VB-350, 4”, V Ball Control Valve

Carbon Steel Body, Hardened Chrome Plated, Stainless Steel Ball and Stem

Product Features

Fast quarter turn open or closed operation, Stainless steel ball and stem, Positive shut-off, Two piece body construction

Application

Water-side control of air handling apparatus in ventilation and air-conditioning system.
Water/Steam control in heating systems.
300:1 rangeability.

The dimensions and drilling of end flanges conform to the American cast iron flange standard, Class 150 (ANSI B16.1).

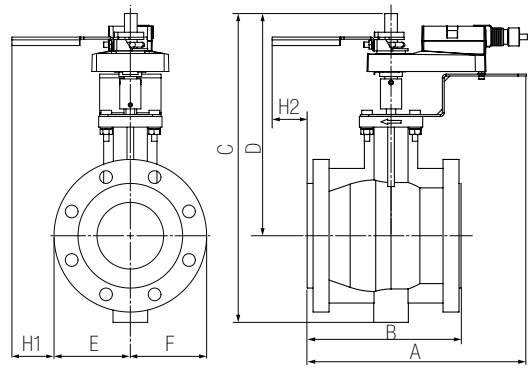
Suitable Actuators

	Non-Spring	Electronic Fail-Safe
B6400VB-350	SY2, GMB(X)	GKB(X)

Technical Data

Service	chilled or hot water, up to 60% glycol, steam
Flow Characteristic	equal percentage
Controllable Flow Range	75°
Size [mm]	4” [100]
End Fitting	NPT female ends (1”to 2”); ISO flange (3”to 6”)
Body	WCC Grade Carbon steel
Ball	stainless steel
Stem	stainless steel
Stem Packing	spring loaded Teflon® V-ring
Ball Seat	Teflon®
Body Pressure Rating [psi]	ASME/ANSI Class 150
Max Inlet Pressure (Steam)	200 psi
Media Temperature Range (Water)	-22°F to 380°F [-30°C to 193°C]
Media Temperature Range (Steam)	-22°F to 380°F [-30°C to 193°C]
Maximum Differential Pressure (Steam)	100 psi
Max Differential Pressure (Water)	150 psi
Maximum Differential Pressure Steam (Rotary Actuator)	100 psi
Close-Off Pressure	150 psi
Close-Off Pressure (Steam)	200 psi
Rangeability	300:1
Cv	350
Weight	57.3 lb [26 kg]
Leakage	ANSI Class IV
Servicing	Repack/Rebuild kits available

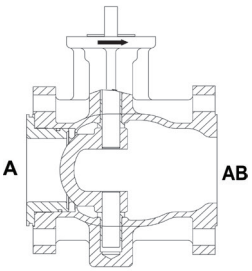
Dimensions (Inches [mm])



GMB, GMX

A	B	C	D	E	F	H1	H2
12.6” [320]	9” [229]	18.23” [463]	13.13” [334]	4.5” [114]		0.75” [20]	0.5” [15]

Flow Pattern



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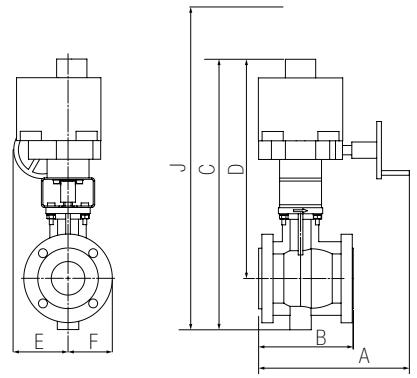
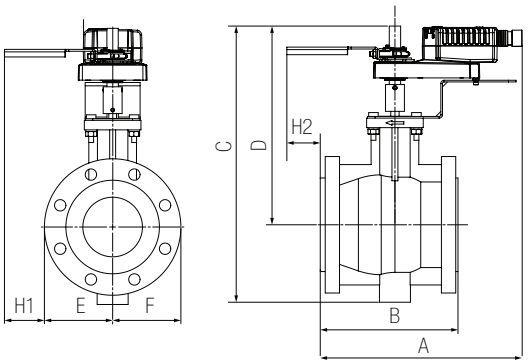
Dimensions (Inches [mm])



SY2

A	B	C	D	E	F	J
14.37” [365]	9” [229]	24.71” [628]	19.61” [498]	5.15” [131]	4.5” [114]	32.21” [818]

Dimensions (Inches [mm])



GKB, GKX

A	B	C	D	E	F	H1	H2
13.16” [334]	9” [229]	18.23” [463]	13.13” [334]	4.5” [114]	4.5” [114]	1.18” [30]	0.5” [15]

GKX24-MFT-X1

Modulating, Electronic Fail-Safe, 24 V, for 2 to 10 VDC or 4 to 20 mA Control Signal

Technical Data	
Power Supply	24 VAC ± 20%, 50/60 Hz, 24 VDC ± 10%
Power Consumption Running	12 W
Power Consumption Holding	3 W
Transformer Sizing	21 VA (class 2 power source)
Electrical Connection	18 GA plenum rated cable with 1/2" conduit connector protected NEMA 2 (IP54) 3ft [1m] 10 ft [3m] and 16 ft [5m]
Overload Protection	electronic throughout 0° to 95° rotation
Operating Range Y	2 to 10 VDC, 4 to 20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor), variable (VDC, floating point, on/off)
Input Impedance	100 k Ω for 2 to 10 VDC (0.1 mA), 500 Ω for 4 to 20 mA, 1500 Ω for PWM, floating point and On/Off
Feedback Output U	2 to 10 VDC, 0.5 mA max, VDC variable
Angle of Rotation	max. 95°, adjustable with mechanical stop
Direction of Rotation (Motor)	reversible with built-in switch
Direction of Rotation (Fail-Safe)	reversible with switch
Position Indication	reflective visual indicator (snap on)
Manual Override	external push button
Running Time (Motor)	150 sec (default), variable (95 to 150 sec)
Running Time (Fail-Safe)	35 sec
Bridge Time	programmable 0 to 10 sec (2 sec default) delay before fail-safe activates
Pre-charging Time	5 to 20 seconds
Humidity	5 to 95% RH non condensing (EN 60730-1)
Ambient Temperature Range	-22°F to 122°F [-30°C to 50°C]
Storage Temperature Range	-40°F to 176°F [-40°C to 80°C]
Housing	NEMA 2, IP54, UL enclosure type 2
Housing Material	UL94-5VA
Agency Listings†	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2004/108/EC and 2006/95/EC
Noise Level (Motor)	<45 dB (A)
Noise Level (Fail-Safe)	<45 dB (A)
Servicing	maintenance free
Quality Standard	ISO 9001
Weight	4 lb [1.8 kg]

†Rated Impulse Voltage 800V, Type of action 1.AA, Control Pollution Degree 3

Wiring Diagrams

INSTALLATION NOTES

(A) Actuators with appliance cables are numbered.

1 Provide overload protection and disconnect as required.

3 Actuators may also be powered by 24 VDC.

5 Only connect common to negative (-) leg of control circuits.

7 A 500 Ω resistor (ZG-R01) converts the 4 to 20 mA control signal to 2 to 10 VDC.

8 Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.

10 For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller; the actuator internal common reference is not compatible.

12 IN4004 or IN4007 diode. (IN4007 supplied, Belimo part number 40155).

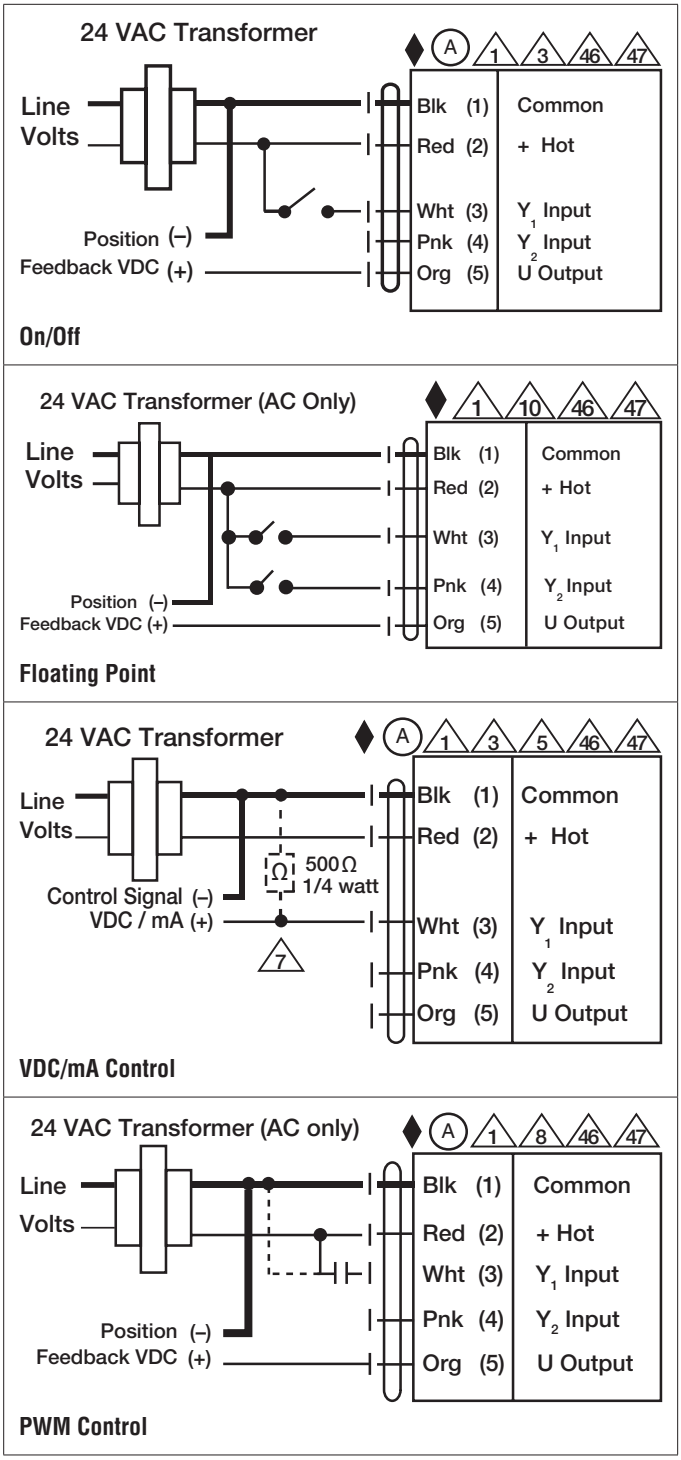
46 Actuators may be controlled in parallel. Current draw and input impedance must be observed.

47 Master-Slave wiring required for piggy-back applications. Feedback from Master to conrol input(s) of Slave(s).

◆ Meets cULus requirements without the need of an electrical ground connection.

! 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.



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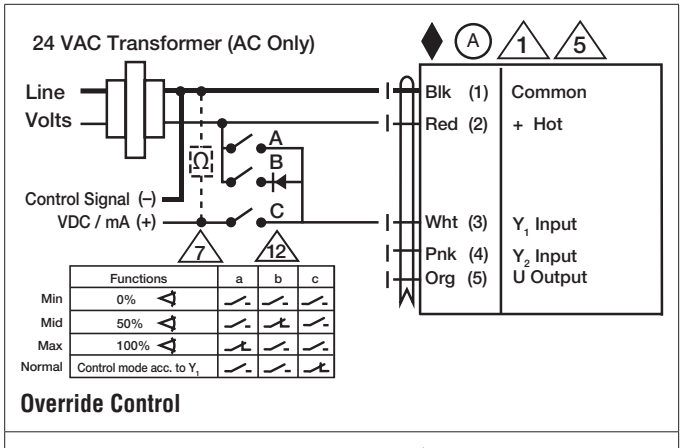
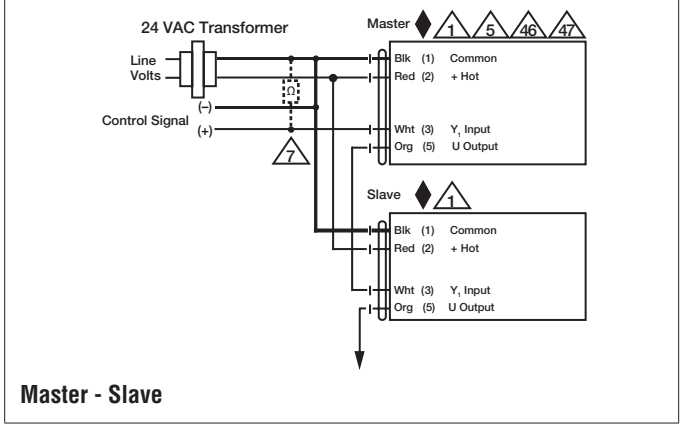


Override Control



Master - Slave