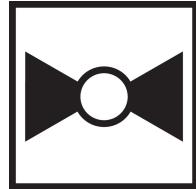




5-year warranty



## Type overview

Type	DN
B265	65

## Technical data

Functional data	Valve size [mm]	2.5" [65]
Fluid	chilled or hot water, up to 60% glycol	
Fluid Temp Range (water)	0...212°F [-18...100°C]	
Body Pressure Rating	400 psi	
Close-off pressure $\Delta$ ps	100 psi	
Flow characteristic	equal percentage	
Pipe connection type	Internal thread NPT (female)	
Servicing	maintenance-free	
Flow Pattern	2-way	
Leakage rate	0% for A – AB	
Controllable flow range	75°	
Cv	210	
Materials	Valve body	Nickel-plated brass body
Stem	stainless steel	
Stem seal	EPDM (lubricated)	
Seat	PTFE	
Characterized disc	No Disc (full flow)	
O-ring	EPDM (lubricated)	
Ball	stainless steel	
Suitable actuators	Non-Spring	ARB(X)
Spring	AFRB(X)	

## Safety notes

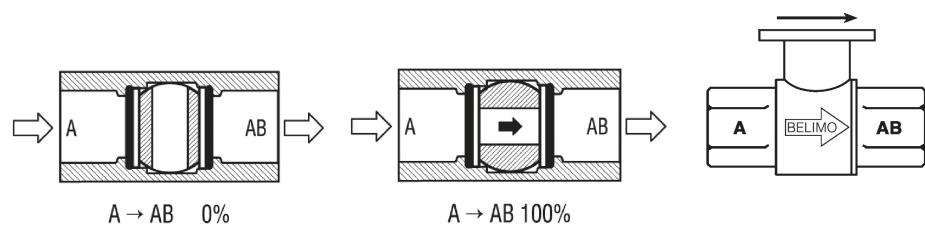


- WARNING: This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov)

## Product features

Application	This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV box reheat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.
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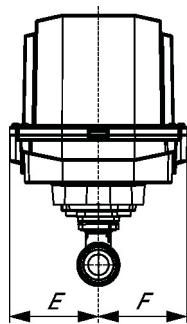
## Flow/Mounting details



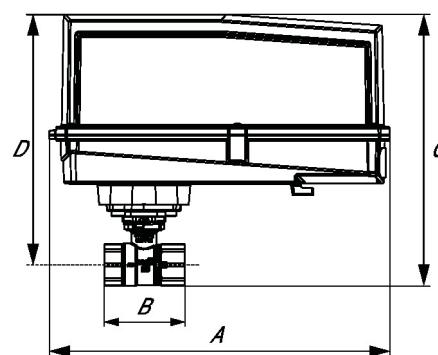
## Dimensions

Type	DN	Weight
B265	65	8.1 lb [3.7 kg]

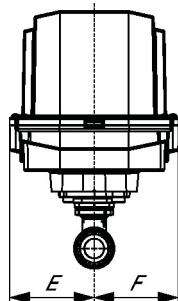
ARB, ARX			
	<b>A</b> 10.1" [257]	<b>B</b> 5.6" [141]	<b>C</b> 8.0" [203]
AFRB, AFRX			
	<b>A</b> 11.5" [293]	<b>B</b> 5.6" [141]	<b>C</b> 8.6" [219]
ARQB, ARQX			
	<b>A</b> 9.9" [251]	<b>B</b> 4.2" [107]	<b>C</b> 8.1" [206]
		<b>D</b> 6.1" [155]	<b>E</b> 2.3" [58]
		<b>F</b> 2.3" [58]	<b>H1</b> 0.8" [20]
		<b>H2</b> 0.6" [15]	



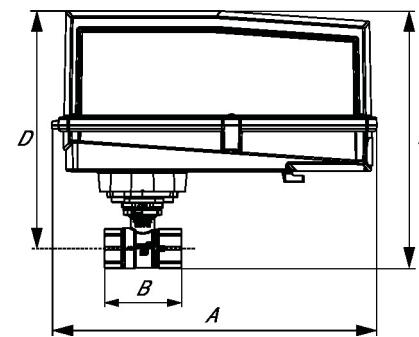
AFRB N4, AFRX N4



A	B	C	D	E	F
13.0" [330]	5.6" [141]	10.3" [262]	9.3" [235]	3.4" [86]	3.4" [86]



ARB N4, ARX N4, NRB N4, NRX N4



A	B	D	E	F
11.4" [289]	5.6" [141]	8.0" [203]	3.1" [80]	3.1" [80]

MFT/programmable, Non fail-safe, 24 V



5-year warranty



## Technical data

Electrical data		
	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	3.5 W
	Power consumption in rest position	1.3 W
	Transformer sizing	6 VA
	Electrical Connection	18 GA plenum cable, 1 m, 3 m, or 5 m with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout 0...90° rotation
Functional data		
	Operating range Y	2...10 V
	Operating range Y note	4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor)
	Input impedance	100 kΩ for 2...10 V (0.1 mA), 500 Ω for 4...20 mA, 1500 Ω for PWM, On/Off and Floating point
	Operating range Y variable	Start point 0.5...30 V End point 2.5...32 V
	Operating modes optional	variable (VDC, on/off, floating point)
	Position feedback U	2...10 V
	Position feedback U note	Max. 0.5 mA
	Position feedback U variable	VDC variable
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	90°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	Running time motor variable	90...150 s
	Noise level, motor	45 dB(A)
	Position indication	Mechanical, pluggable
Safety data		
	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02, CE acc. to 2014/30/EU
	Quality Standard	ISO 9001

## Technical data

<b>Safety data</b>	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
Ambient humidity	Max. 95% RH, non-condensing	
Ambient temperature	-22...122°F [-30...50°C]	
Storage temperature	-40...176°F [-40...80°C]	
Servicing	maintenance-free	
<b>Weight</b>	Weight	2.0 lb [0.92 kg]
<b>Materials</b>	Housing material	Galvanized steel and plastic housing

**Footnotes** †Rated Impulse Voltage 800 V, Type action 1, Control Pollution Degree 3.

## Accessories

	<b>Description</b>	<b>Type</b>
<b>Gateways</b>	Gateway MP to BACnet MS/TP	UK24BAC
	Gateway MP to Modbus RTU	UK24MOD
	Gateway MP to LonWorks	UK24LON
<b>Electrical accessories</b>	<b>Description</b>	<b>Type</b>
	Battery backup system, for non-spring return models	NSV24 US
	Battery, 12 V, 1.2 Ah (two required)	NSV-BAT
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US
<b>Tools</b>	<b>Description</b>	<b>Type</b>
	Connecting cable 10 ft [3 m], A: RJ11 6/4 ZTH EU, B: 3-pin Weidmüller and supply connection	ZK4-GEN
	Service tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices	ZTH US

## Electrical installation

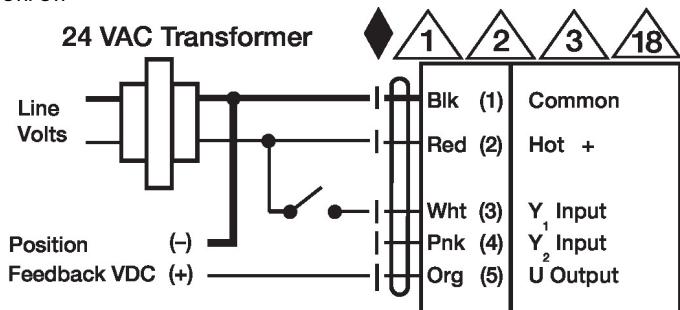
 **INSTALLATION NOTES**

-  **1** Provide overload protection and disconnect as required.
-  **2** Actuators may be connected in parallel. Power consumption and input impedance must be observed.
-  **3** Actuators may also be powered by DC 24 V.
-  **5** Only connect common to negative (-) leg of control circuits.
-  **7** A 500 Ω resistor (ZG-R01) converts the 4...20 mA control signal to 2...10 V.
-  **8** Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 V 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).
-  **16** Actuators with plenum cable do not have numbers; use color codes instead.
-  **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.

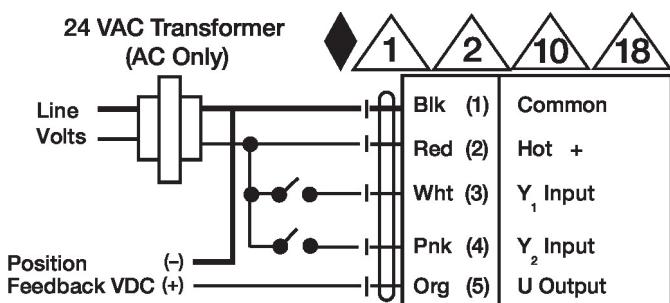
## Electrical installation

## Wiring diagrams

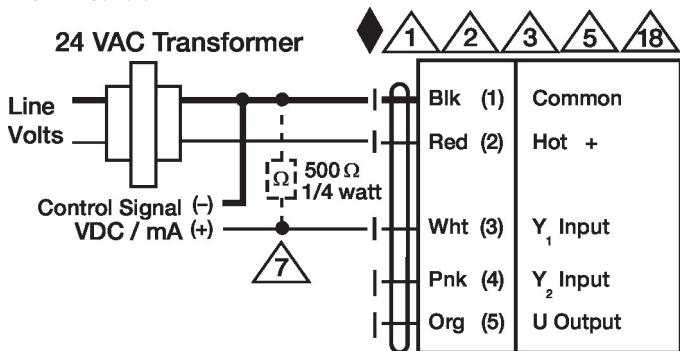
On/Off



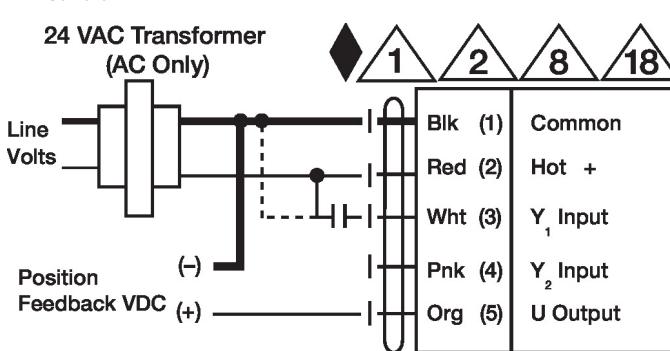
Floating Point



VDC/mA Control



PWM Control



Override Control

