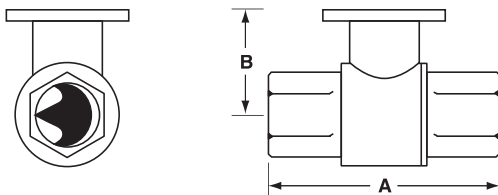




Technical Data	
Service	chilled or hot water, 60% glycol
Flow characteristic	A-port equal percentage
Controllable Flow Range	75°
Sizes	½", ¾", 1", 1¼", 1½", 2", 2½", 3"
Type of end fitting	NPT female ends
Materials:	
Body	forged brass, nickel plated
Ball	stainless steel
Stem	stainless steel
Seats	PTFE
Characterizing disc	Tefzel®
Packing	2 EPDM O-rings, lubricated
Body pressure rating	
600 psi	½" - 1¼" (B230)
400 psi	1¼" (B231) - 3"
Media temp. range	0°F to 250°F [-18°C to 120°C]
Close off pressure	
200 psi	½" - 2" (B250)
100 psi	2" (B251) - 3"
Maximum differential pressure (ΔP)	50 psi for typical applications
Leakage	0% for A to AB
External leakage	according to EN 12266-1:2003
C _v rating	A-port: see product chart for values

Tefzel® is a registered trademark of DuPont

Dimensions



2WayValve-B207-B220

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])	
	Inches	DN [mm]	A	B
B207-B211	½"	15	2.41" [61.1]	1.39" [35.2]
B212-B216	½"	15	2.38" [60.4]	1.78" [45.2]
B217-B221	¾"	20	2.73" [69.3]	1.87" [47.4]
B222-B225	1"	25	3.09" [78.4]	1.87" [47.4]
B229-B230	1¼"	32	3.72" [94.6]	1.87" [47.4]
B231-B232	1¼"	32	3.72" [94.6]	2.04" [51.9]
B238-B240	1½"	40	3.88" [98.5]	2.04" [51.9]
B248-B250	2"	50	4.21" [107.0]	2.27" [57.7]
B251-B254	2"	50	4.93" [125.2]	2.73" [69.5]
B261-B265	2½"	65	5.55" [140.9]	2.73" [69.5]
B277-B280	3"	80	5.82" [147.9]	2.73" [69.5]

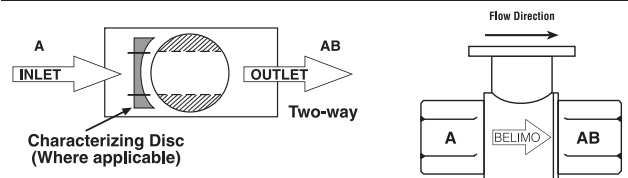
Application

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 re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

C _v	Valve Nominal Size		Type	Suitable Actuators		
	Inches	DN [mm]	2-Way NPT	Non-Spring	Spring	
0.3	½"	15	B207	TR Series	LR Series	TF Series
0.46	½"	15	B208			
0.8	½"	15	B209			
1.2	½"	15	B210			
1.9	½"	15	B211			
3	½"	15	B212			
4.7	½"	15	B213			
7.4	½"	15	B214			
10	½"	15	B215			
16	½"	15	B216			
4.7	¾"	20	B217	NR...N4 Series	LF Series	
7.4	¾"	20	B218			
10	¾"	20	B219			
14	¾"	20	B220			
24	¾"	20	B221*			
7.4	1"	25	B222			
10	1"	25	B223			
19	1"	25	B224			
30	1"	25	B225*			
10	1¼"	32	B229			AR Series
19	1¼"	32	B230*			
25	1¼"	32	B231			
37	1¼"	32	B232*			
19	1½"	40	B238			
29	1½"	40	B239			
37	1½"	40	B240*			
29	2"	50	B248			
46	2"	50	B249			
57	2"	50	B250*			
65	2"	50	B251	AR...N4 Series		
85	2"	50	B252			
120	2"	50	B253			
240	2"	50	B254*			
60	2½"	65	B261			
75	2½"	65	B262			
110	2½"	65	B263			
150	2½"	65	B264			
210	2½"	65	B265*			
70	3"	80	B277			
130	3"	80	B278			
170	3"	80	B280*			

*Models without characterizing disc

Flow Patterns





Models

ARB24-SR-T N4	
ARB24-SR-T N4H	w/built in heater
ARX24-SR-T N4	
ARX24-SR-T N4H	w/built in heater

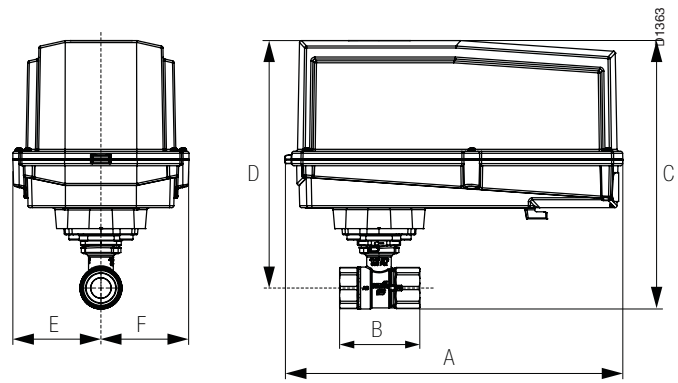
Technical Data

Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 10%
Power consumption	running 2.5 W / heater 23 W holding 0.4 W
Transformer sizing	5 VA (class 2 power source) / heater 20 VA
Electrical connection	screw terminal (for 26 tp 14 GA wire)
Overload protection	electronic throughout 0° to 95° rotation
Operating range Y	2 to 10 VDC, 4 to 20 mA
Input impedance	600 Ω
Angle of rotation	90°, adjustable with mechanical stop
Direction of rotation	reversible with switch
Position indication	visual pointer
Manual override	external push button
Running time	90 seconds constant independent of load
Humidity	100% RH
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 type	UL Type 4X/NEMA 4X/IP66 & IP67
Housing material	Polypropelene
Agency listings†	cULus according to UL 60730-1A/-2-14, CAN/CSA E60730-1, CSA C22.2 No. 24-93, CE according to 89/336/EEC.
Quality standard	ISO 9001

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

*Cannot be used with the CCV-EXT-KIT

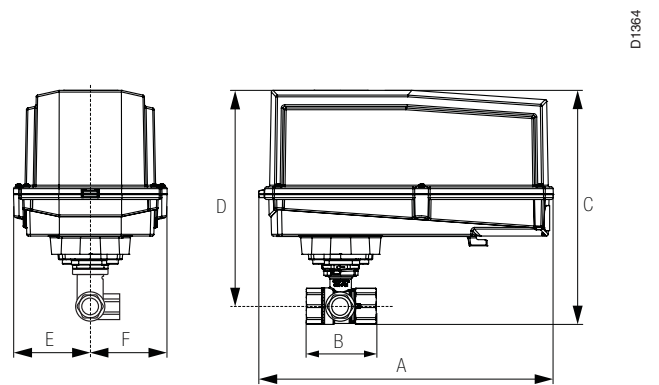
Dimensions with 2-Way Valve



ARB N4, ARX N4, NRB N4, NRX N4

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])	
	Inches	DN [mm]	A	B
B231-B232	1¼"	32	3.72" [94.6]	2.04" [51.9]
B238-B240	1½"	40	3.88" [98.5]	2.04" [51.9]
B248-B250	2"	50	4.21" [107.0]	2.27" [57.7]
B251-B254	2"	50	4.93" [125.2]	2.73" [69.5]
B261-B265	2½"	65	5.55" [140.9]	2.73" [69.5]
B277-B280	3"	80	5.82" [147.9]	2.73" [69.5]

Dimensions with 3-Way Valve



D1364

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])		
	Inches	DN [mm]	A	B	C
B329-B331	1¼"	32	3.96" [100.6]	2.27" [57.7]	2.14" [54.3]
B338-B341	1½"	40	4.39" [111.6]	2.51" [63.7]	2.40" [61.1]
B347-B352	2"	50	4.90" [124.5]	2.73" [69.5]	2.74" [69.7]

P10419 - 09/13 - Subject to change. © Belimo Aircontrols (USA), Inc.

Wiring Diagrams

✂ INSTALLATION NOTES

- ⚠ **CAUTION Equipment damage!**
Actuators may be connected in parallel.
Power consumption and input impedance must be observed.
- ⚠ **3** Actuators may also be powered by 24 VDC.
- ⚠ **5** Only connect common to neg. (-) leg of control circuits.

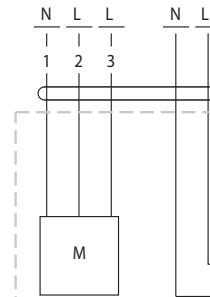
📄 APPLICATION NOTES

- ◆ The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC, up to 2 actuators may be connected in parallel.

- ⚠ **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.

Wiring Diagrams

with actuator types ...3

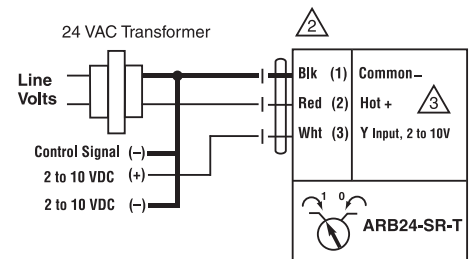


Legend:
M = actuator
T (°C) = Thermostat
H = Heating

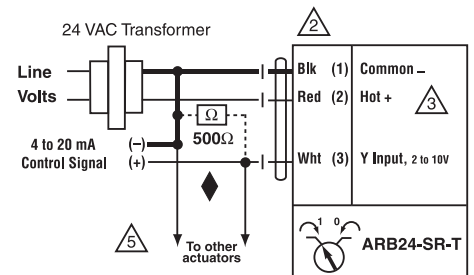
Note

- The following points must be taken into account with independent, external wiring:
- All contact between the cables or wires that are introduced and the heating element is to be avoided.
 - Where necessary, use cables with sufficient numbers of wires, e.g. so that the heating and the actuator can be supplied separately with voltage.

Heater wiring



2 to 10 VDC control



4 to 20 mA control