

# Field Set

## P2... Series Pressure Independent Characterized Control Valves

### Chrome Plated Brass Ball and Brass Stem, NPT Female Ends



Valve is supplied at maximum flow in the full open position only. Field adjustment is necessary to achieve lower flow.

#### Application

The Pressure Independent Characterized Control Valve is typically used in air handling units on heating and cooling coils, and fan coil unit heating or cooling coils. Some other common applications include unit ventilators and VAV re-heat coils. This valve is suitable for use in a hydronic system with constant or variable flow.

Technical Data	
Service	chilled or hot water, 60% glycol
Flow characteristic	equal percentage
Size	½", ¾", 1"
Type of end fitting	female, NPT
Materials	
Body	forged brass, nickel plated
Ball	chrome plated brass
Stem	chrome plated brass
Seat O-rings	Viton
Seat	fiberglass reinforced Teflon® PTFE
Characterizing disc	½" & ¾" brass 1" TEFZEL®
Packing	2 EPDM O-rings, lubricated
Diaphragm	½" & ¾" silicone and Nomex 1" polyester reinforced silicone
Regulator components	stainless steel/brass/Nitrile
Spring	stainless steel
Body pressure rating	600 PSI
Media temp. range	
LRB24-SA	0°F to 212°F [-18°C to +100°C]
KRB24-3	0°F to 176°F [-18°C to +80°C]
Close off pressure	200 PSI
Leakage	ANSI Class IV (0.01% of rated valve capacity at 50 psi differential)
Rangeability	100 : 1
Differential pressure	5 to 50 psi operating range
Valve accuracy	± 5%*
Weight of valve body	½" = 2.52 lbs [1.14 kg] ¾" = 2.52 lbs [1.14 kg] 1" = 4.98 lbs [2.26 kg]

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\*See page 3 of the PICCV Technical Documentation for more details.

Valve Model	GPM Range	Valve Nominal Size			Suitable Actuators	
		Inches	DN mm	Close-off PSI	Non-Spring Return	
P2050B010	0...(0.5-1.5)	½	15	200	KRB24-3	LRB24-SA
P2050B025	0...(1.6-3.0)	½	15	200		
P2050B055	0...(3.0-5.6)	½	15	200		
P2075B100	0...(5.7-10)	¾	20	200		
PICCV-25-016	0...(11-16)	1	25	200		
PICCV-25-021	0...(17-21)	1	25	200		

Valve Model	GPM Range	Valve Nominal Size			Suitable Actuators	
		Inches	DN mm	Close-off PSI	Non-Spring Return	
P2050B010-P	0...(0.5-1.5)	½	15	200	KRB24-3	LRB24-SA
P2050B025-P	0...(1.6-3.0)	½	15	200		
P2050B055-P	0...(3.0-5.6)	½	15	200		
P2075B100-P	0...(5.7-10)	¾	20	200		
PICCV-25-016-P	0...(11-16)	1	25	200		
PICCV-25-021-P	0...(17-21)	1	25	200		

(-P) optional, ΔP verification across valve using PT ports.

Valve Model	GPM Range	Valve Nominal Size			Suitable Actuators	
		Inches	DN mm	Close-off PSI	Non-Spring Return	
P2050B010-F	0...(0.5-1.5)	½	15	200	KRB24-3	LRB24-SA
P2050B025-F	0...(1.6-3.0)	½	15	200		
P2050B055-F	0...(3.0-5.6)	½	15	200		
P2075B100-F	0...(5.7-10)	¾	20	200		
PICCV-25-016-F	0...(11-16)	1	25	200		
PICCV-25-021-F	0...(17-21)	1	25	200		

(-F) optional, flow verification using ΔP across orifice.

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# Field Set KRB24-3 Actuator, On/Off, Floating Point



## Models

KRB24-3

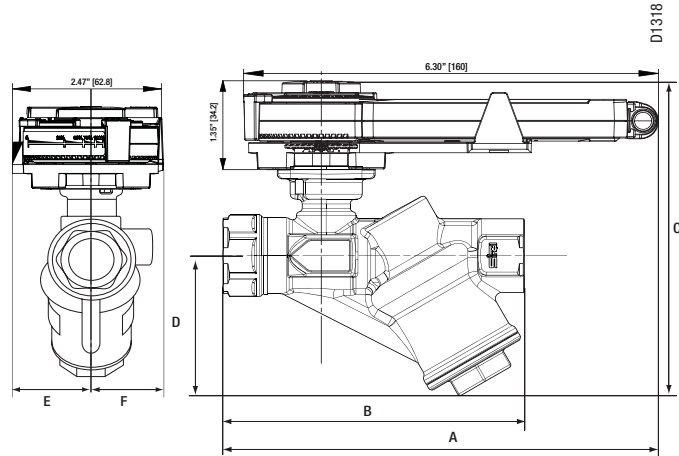


Technical Data	
Power supply	24 VAC ± 20% 50/60 Hz 24 VDC ± 20%
Power consumption	1.0 W (0.2 W resting)
Transformer sizing	1.5 VA (Class 2 power source)
Electrical connection	3 ft., 18 GA appliance rated cable protected NEMA 2 (IP54)
Overload protection	electronic throughout rotation
Control	on/off, floating point
Angle of rotation	without end stop; limitless with end stop; 315° fix 287.5° max. with two end stops
Torque	18 in-lbs [2 Nm]
Direction of rotation	by electrical installation
Position indication	reflective visual indicator (snap-on), with magnet
Manual override	disengage with magnet
Running time	75 seconds, constant independent of load
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	NEMA 2, IP54
Noise level	<45dB(A)
Servicing	maintenance free
Quality standard	ISO 9001
Weight	0.4 lbs [0.18 kg]

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

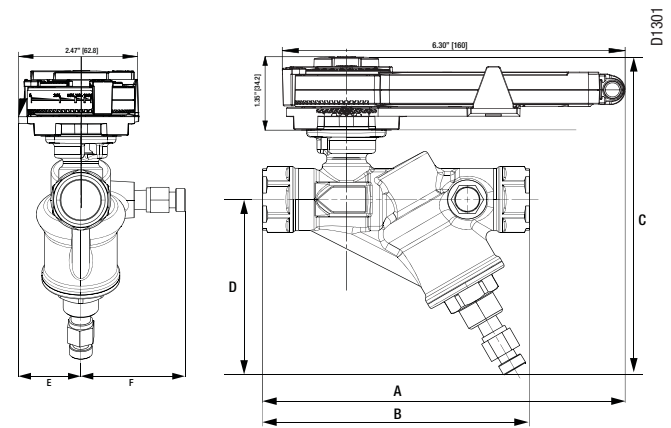
**Valve is supplied at maximum flow in the full open position only. Field adjustment is necessary to achieve lower flow.**

## Dimensions (Inches [mm])



Valve Nominal Size		Dimensions (Inches [mm])					
In.	DN [mm]	A	B	C	D	E	F
½"	15	6.56" [167]	4.47" [114]	5.09" [129]	2.34" [59]	1.35" [34]	1.25" [32]
¾"	20	6.8" [173]	5.4" [137]	5.09" [129]	2.34" [59]	1.35" [34]	1.25" [32]

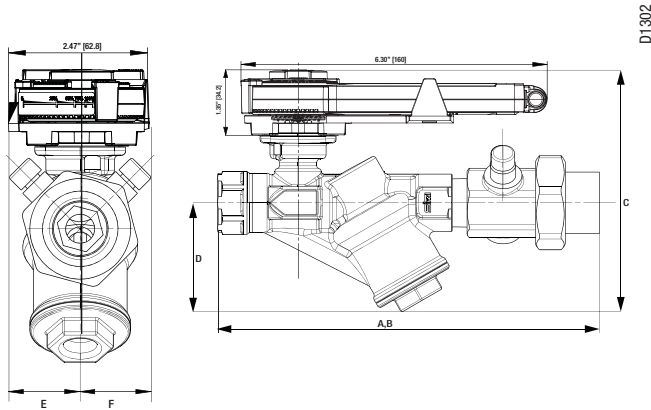
## Dimensions with PT Port (Inches [mm])



Valve Nominal Size		Dimensions (Inches [mm])					
In.	DN [mm]	A	B	C	D	E	F
½"	15	6.56" [167]	4.47" [114]	6.43" [163]	3.54" [90]	1.35" [34]	2.4" [61]
¾"	20	6.8" [173]	5.4" [137]	6.43" [163]	3.54" [90]	1.35" [34]	2.4" [61]

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**Dimensions with Orifice\* (Inches [mm])**



D1302

**Valve  
Nominal Size                      Dimensions (Inches [mm])**

In.	DN [mm]	A	B	C	D	E	F
½"	15	7.6" [193]	7.6" [193]	5.09" [129]	2.34" [59]	1.35" [34]	1.25" [32]
¾"	20	8.53" [217]	8.53" [217]	5.09" [129]	2.34" [59]	1.35" [34]	1.25" [32]

**Typical Specification**

Actuators shall have brushless DC motor technology and be protected from overload at all angles of rotation. Actuators shall have manual override on the cover. Run time shall be constant and independent of torque. Actuators shall have a 5-year warranty, and be manufactured under ISO 9001 International Quality Control Standards. Actuators shall be as manufactured by Belimo.

**SAFETY NOTES**

The actuator is not allowed to be used outside the specified field application.

Assembly must be carried out by trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly.

The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.

The cable must not be removed from the device.

The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

**Wiring Diagrams**

**INSTALLATION NOTES**

- 1 Provide overload protection and disconnect as required.
- 2 **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.

**APPLICATION NOTES**

**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.

