

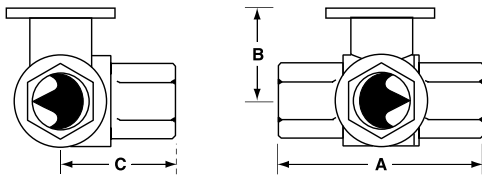
B3 Series, Three Way, Characterized Control Valve Stainless Steel Ball and Stem



| Technical Data | |
|------------------------------------|---|
| Service | chilled or hot water, 60% glycol |
| Flow characteristic | A-port equal percentage B-port modified for constant common port flow |
| Action | 90° rotation |
| Sizes | ½", ¾", 1", 1¼", 1½", 2" |
| 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" - 1" |
| 400 psi | 1¼" - 2" |
| Media temp. range | 0°F to 212°F [-18°C to 100°C] |
| Close off pressure | |
| 200 psi | ½" - 2" |
| Maximum differential pressure (ΔP) | 30 psi for typical applications |
| Leakage | 0% for A to AB <2.0% for B to AB |
| External leakage | according to EN 12266-1:2003 |
| C _v rating | A-port: see product chart for values B-port: 70% of A to AB C _v |

Tefzel® is a registered trademark of DuPont

Dimensions



3Way Valve-B307-B320

| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|------------|--------------------|---------|--------------------------|--------------|--------------|
| | Inches | DN [mm] | A | B | C |
| B307-B311 | ½" | 15 | 2.41" [61.1] | 1.39" [35.2] | 1.20" [30.6] |
| B312-B315 | ½" | 15 | 2.38" [60.4] | 1.78" [45.2] | 1.29" [32.8] |
| B317-B320 | ¾" | 20 | 2.73" [69.3] | 1.87" [47.4] | 1.47" [37.3] |
| B322-B325 | 1" | 25 | 3.09" [78.4] | 1.87" [47.4] | 1.59" [40.3] |
| 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] |

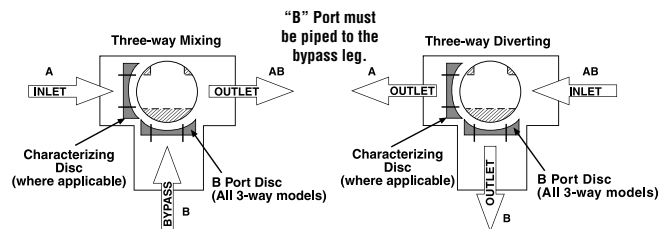
Application

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 or constant flow.

| C _v | Valve Nominal Size | | Type | Suitable Actuators | | |
|----------------|--------------------|---------|-----------|--------------------|----------------|----------------|
| | Inches | DN [mm] | 3-Way NPT | Non-Spring | Spring | |
| 0.3 | ½" | 15 | B307 | TR Series | LR Series | NR...M4 Series |
| 0.46 | ½" | 15 | B308 | | | |
| 0.8 | ½" | 15 | B309 | | | |
| 1.2 | ½" | 15 | B310 | | | |
| 1.9 | ½" | 15 | B311 | | | |
| 3 | ½" | 15 | B312 | | | |
| 4.7 | ½" | 15 | B313 | | | |
| 10 | ½" | 15 | B315* | | | |
| 4.7 | ¾" | 20 | B317 | | | |
| 7.4 | ¾" | 20 | B318 | | | |
| 24 | ¾" | 20 | B320* | TF Series | LF Series | |
| 7.4 | 1" | 25 | B322 | | | |
| 10 | 1" | 25 | B323 | | | |
| 30 | 1" | 25 | B325* | | | |
| 10 | 1¼" | 32 | B329 | | | |
| 19 | 1¼" | 32 | B330 | | | |
| 25 | 1¼" | 32 | B331 | | | |
| 19 | 1½" | 40 | B338 | | | |
| 29 | 1½" | 40 | B339 | | | |
| 37 | 1½" | 40 | B340 | | | |
| 46 | 1½" | 40 | B341 | AR Series | AR...M4 Series | |
| 29 | 2" | 50 | B347 | | | |
| 37 | 2" | 50 | B348 | | | |
| 46 | 2" | 50 | B349 | | | |
| 57 | 2" | 50 | B350 | | | |
| 68 | 2" | 50 | B351 | | | |
| 83 | 2" | 50 | B352 | | | |

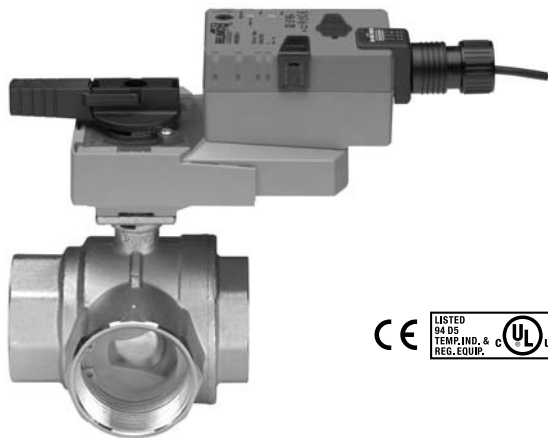
*Models without characterizing disc

Flow Patterns



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LRQ...24-1 Quick Running Actuators, On/Off



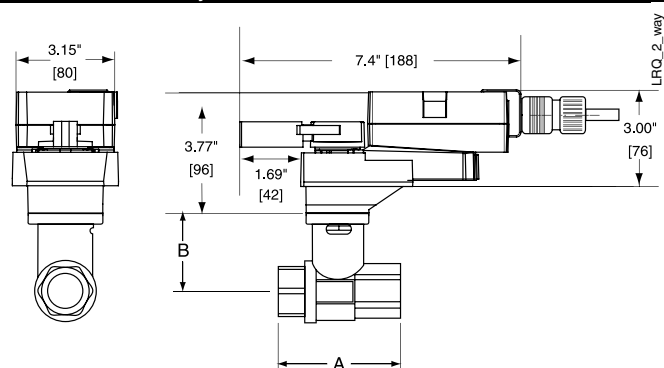
Models

LRQB24-1 Basic Version
LRQX24-1 Flexible Version

Technical Data

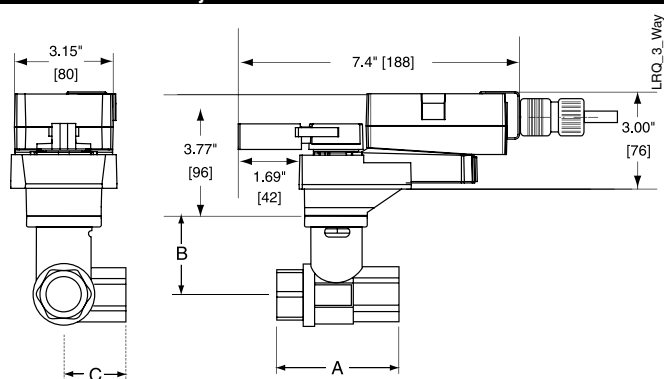
| | |
|-----------------------|--|
| Control | on/off |
| Power supply | 24 VAC ± 20% 50/60 Hz 24 VDC ± 10% |
| Power consumption | running 12 W holding 1.5 W |
| Transformer sizing | 18 VA (Class 2 power source) 20A @ 5ms max |
| Electrical connection | ½" conduit connector 18 GA plenum rated cable LRQB24-1 3 ft [1m] LRQX24-1 3 ft [1m], 10 ft [3m], 16 ft [5m] |
| Overload protection | electronic throughout 0 to 95° rotation |
| Input impedance | 600 Ω |
| Angle of rotation | max 95°, adjustable with mechanical stop |
| Direction of rotation | reversible with switch |
| Position indication | handle |
| Manual override | external push button |
| Running time | LRQB24-1 5 seconds constant of independent load LRQX24-1 5 or 10 seconds constant of independent 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 |
| Housing material | UL94-5VA |
| Agency listings† | cULus according to UL 60730-1A/-2-14, CAN/CSA E60730-1:02, CE according to 2004/108/EC and 2006/95/EC for line voltage and/or -S versions |
| Noise level | <52 dB(A) |
| Quality standard | ISO 9001 |

Dimensions with 2-Way Valve



| 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-B215 | ½" | 15 | 2.38" [60.4] | 1.78" [45.2] |
| B217-B220 | 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] |

Dimensions with 3-Way Valve



| Valve Body | Valve Nominal Size | | Dimensions (Inches [mm]) | | |
|------------|--------------------|---------|--------------------------|--------------|--------------|
| | Inches | DN [mm] | A | B | C |
| B307-B311 | ½" | 15 | 2.41" [61.1] | 1.39" [35.2] | 1.20" [30.6] |
| B312-B315 | ½" | 15 | 2.38" [60.4] | 1.78" [45.2] | 1.29" [32.8] |
| B317-B320 | ¾" | 20 | 2.73" [69.3] | 1.87" [47.4] | 1.47" [37.3] |
| B322-B325 | 1" | 25 | 3.09" [78.4] | 1.87" [47.4] | 1.59" [40.3] |

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Wiring Diagrams

✂️ **INSTALLATION NOTES**

- 1 Provide overload protection and disconnect as required.
- 3 Actuators may also be powered by 24 VDC.

📄 **APPLICATION NOTES**

- ◆ Meets cULus or UL and CSA 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.

