

BD-1600 Balancing/Zone Control Damper

Description

The BD-1600 Balancing/Zone Control Damper is designed for manual balancing or automated zone control of airflow in heating, ventilating, and air conditioning systems. The BD-1600 is not a leakage-rated damper. It is available in 1 in. increments.

The rigid frames are constructed of formed 16 gauge (1.6 mm) galvanized steel, mechanically joined with linkage concealed in the end channel to eliminate noise and friction.

Johnson Controls® BD-1600 dampers have no components that require routine scheduled maintenance.

Refer to the *BD-1600 Balancing/Zone Control Product Bulletin (LIT-12012355)* for important product application and single point of contact information.

Features

- three working-day standard shipping, next working-day shipping available
- three-year warranty on materials and workmanship
- standard factory assembly of multi-section dampers
- standard factory installed jackshafts on multi-section dampers

Repair Information

If the BD-1600 Balancing/Zone Control Damper fails to operate within its specifications, replace the unit. For a replacement BD-1600 Damper, contact the nearest Johnson Controls representative.

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Selection Chart

BD-1600 Balancing/Zone Control Damper

	Code Number/ Character	FIELD														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Application	B = Balancing															
Blade Operation	O = Opposed P = Parallel															
Blade/Frame Type	T = Triple-Vee shaped 16 gauge (1.6 mm) galvanized steel blade with 16 gauge (1.6 mm) galvanized steel channel frame															
Bearings/Seals	S = Synthetic bearings, no seals															
Actuator	A = M9208-AGC or M9220-AGC (24 V, floating, spring return) B = M9208-GGC or M9220-GGC (24 V, modulating, spring return) C = M9208-BAC or M9220-BAC (120 V, two-position, spring return) D = M9208-BGC or M9220-BGC (24 V, two-position, spring return) F = M9106-AGC or M9116-AGC (24 V, floating, non-spring return) G = M9106-GGC or M9116-HGC (24 V, modulating, non-spring return) M = Manual locking quadrant N = None P = D-3062-3 or D-3151-3 (pneumatic 8 to 13 lb spring range)															
Width Dimensions	www = 005 to 999 in., 1 in. increments															
Height Dimensions	hhh = 005 to 999 in., 1 in. increments															
Options (Up to 2)	E = Exact whole inch size, no undercut F = 1.5 in. L flange front side (cannot be used with options G or H) G = 1.5 in. L flange back side (cannot be used with options F or H) H = Double flange (cannot be used with options F or G) I = Indicator switch J = Field-installed jackshaft on single section (multiple section units broken down and shipped in sections) M = Factory-installed jackshaft on single section units Q = Internal mount actuator back side (minimum electric actuator 14 in. x 21 in. [36 cm x 53 cm], minimum pneumatic actuator 8 in. x 21 in. [20 cm x 53 cm]) V = Transition (round/oval)															
Ordering Code Number		B	O	T	S	C	-	w	w	w	x	h	h	h	-	-

BD-1600 Balancing/Zone Control Damper (Continued)

Technical Specifications

BD-1600 Balancing/Zone Control Damper

Performance Data for Damper Width of 48 in. (122 cm) ¹		
Maximum System Pressure		2.5 in. wg
Maximum System Velocity ²		1,500 fpm
Leakage ³	% of Maximum Flow	2.67
	cfm/sq ft	40
Performance Data for Damper Width of 36 in. (91 cm) ¹		
Maximum System Pressure		3.0 in. wg
Maximum System Velocity ²		1,500 fpm
Leakage ³	% of Maximum Flow	2.67
	cfm/sq ft	40
Performance Data for Damper Width of 24 in. (61 cm) ¹		
Maximum System Pressure		4.0 in. wg
Maximum System Velocity ²		1,500 fpm
Leakage ³	% of Maximum Flow	3.33
	cfm/sq ft	50
Performance Data for Damper Width of 12 in. (30 cm) ¹		
Maximum System Pressure		5.0 in. wg
Maximum System Velocity ²		1,500 fpm
Leakage ³	% of Maximum Flow	4.33
	cfm/sq ft	65
Pressure Drop—Fully Open ⁴	1,000 fpm	0.045 in. wg
Minimum Temperature		-40°F (-40°C)
Maximum Temperature		240°F (116°C)
Maximum Size ⁵	Single Section	48 in. wide x 72 in. high (122 cm x 183 cm)
	Multiple Section Assembly	Unlimited ⁶
Minimum Size	Single Blade	5 in. wide x 5 in. high (13 cm x 13 cm)
	Two Blades, Parallel or Opposed Action, Concealed Linkage	5 in. wide x 8 in. high (13 cm x 20 cm) (Optional)

1. Dampers may tolerate higher pressures and velocities than those listed here. Conservative ratings are presented intentionally in an effort to avoid misapplication.
2. The BD-1600 is structurally designed for velocities of 2,000 fpm and greater. Turbulence may produce objectionable noise in some conditions with velocities greater than 1,500 fpm.
3. Leakage information based on pressure differential of 1 in. wg tested per AMCA Publication 500, *Test Methods for Louvers, Dampers, and Shutters*.
4. Pressure drop data obtained using a 24 in. x 24 in. (61 cm x 61 cm) damper.
5. Maximum section width varies with static pressure. Consult Johnson Controls, Inc. if the application involves pressures in excess of 2.5 in. wg or air velocities in excess of 2,000 fpm.
6. If ordering an assembly greater than 999 in (2537 cm) in width or height, the assembly must be ordered using a Ruskin-01 quote.