Code No. LIT-1900820
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VD-1240 Thin Line Control and VD-1241 Low Leakage Insulating Control Dampers Catalog Page

Description

The VD-1240 and VD-1241 Thin Line Control Dampers come in the standard design as well as variations to the standard design, at an additional cost. The variations include:

- Anodized finish
- Factory-installed, pneumatic and electric actuators (specific information required with order)
- Frame-mounting bracket for simple field installation of most actuators
- Switch Package to remotely indicate damper bade position (DMPR-KCO14)
- Front or rear flange frame
- Double flange frame

Refer to the *VD-1240 Thin Line Control and VD-1241 Low Leakage Insulating Control Dampers Product Bulletin (LIT-12011818)* for important product application information.

Features

- Air Movement and Control Association (AMCA) Class 1A Tested Damper provides tight seal for outdoor air applications based on AMCA regulations
- Available flanged or slip fit provides easy installation
- Aluminum airfoil blades lower pressure drop and create less noise
- Optional factory-installed actuator reduces installation and commissioning time

Sample Specifications

Furnish and install at locations shown on plans or in accordance with schedules, low leakage dampers that meet the following minimum construction standards:

- **VD-1240 Damper frame** shall be made of 4 in. (102 mm) x 1 in. (25 mm) x 6063T5 extruded aluminum channel with .081 in. (2.1 mm) minimum wall thickness. Mounting flanges on both sides of frame (optional).
- **VD-1241 Damper frame** shall be made of 8-1/8 in. (206 mm) x 1 in. (25 mm) x 6063T5 extruded aluminum channel with .081 in. (2.1 mm) minimum wall thickness. Mounting flanges on both sides of frame (optional). VD-1241 has a thermal gasket between frame sections.
- **Damper Corner** shall be reinforced with two die formed internal braces and machine staked for maximum rigidity.
- **Damper Blades** shall be 4 in. (102 mm) wide, airfoil type extruded aluminum, with integral structural reinforcing tube running full length of each blade.
- **Axles** shall be 1/2 in. (13 mm) plated steel hex.
- **Bearings** shall be non-corrosive molded synthetic. Axles shall be hexagonal to provide positive locking connection to blades and linkage (round axles are not acceptable).
- **Linkage** shall be concealed in end channel of frame.

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- **Blade Seals** shall be extruded double edge design with inflatable pocket which enables air pressure from either direction to assist in blade-to-blade seal off. Blade seals shall be mechanically locked in extruded blade slots, yet shall be easily replaceable in field. Adhesive or clip-on type blade seals are not acceptable.
- **Control shaft** shall be 6 x 1/2 in. (152 x 13 mm) diameter. Outboard support bearing supplied with all single section dampers for field-mounted actuators. Factory-installed jackshaft supplied with all multiple section dampers.
- **Finish** shall be mill.

Repair Information

If the VD-1240 or VD-1241 damper fails to operate within its specifications, replace the unit. For a replacement valve, contact the nearest Johnson Controls® representative.

Table 1: Factory Options

Letter	Description
C	Clear anodized finish (VD-1240)
E	Exact whole inch size, no undercut
F	1.5 in. L flange air entering side (cannot be used with option G)
G	1.5 in. L flange air leaving side (cannot be used with option F)
H	Double flange (cannot be used with option F or G)
I	Indicator switch
J	Field-installed jackshaft on the single panel (multiple section units broken down and shipped in sections)
M	Factory-installed jackshaft on single panel units
Q	Internal mount actuator (actuator mounted in air stream, minimum electric actuators 14 x 21 in. minimum pneumatic actuator 18 x 24 in.)

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Selection Information

Damper Selector

	Ordering Code Number	V					-	w	w	w	x	h	h	h
Application	V=Volume Control Damper													
Blade Operation	O=Opposed P=Parallel													
Blade/Frame	D= Double Frame (VD- 1241) L= Low Profile 4 in. Deep Frame (VD-1240)													
Bearing/Seal[1]	S = Standard (Synthetic/Santoprene) E = Extended (Stainless Steel/Santoprene) T = Vertical Blade (Thrust/Santoprene) (VD-1240 only)													
Actuator[2]	A = M9208-AGC-3 or M9220-AGC-3 (24 V, Floating, Spring Return) B = M9208-GGC-3 or M9220-HGC-3 (24 V, Modulating, Spring Return) C = M9208-BAC-3 or M9220-BAC-3 (120 V, Two-Position, Spring Return) D = M9208-BGC-3 or M9220-BGC-3 (24 V, Floating, Spring Return) F = M9106-AGC-2 or M9116-AGC-2 (24 V Floating, Non-Spring Return) G = M9106-GGC-2 or M9116-HGC-2 (24 V Modulating, Non-Spring Return) N = No Actuator P = D-3062-3 or D-3153-2 (Pneumatic 8 to 13 lb Spring Range)													
Width	All models: 006 to 999 (Parallel Blade), 006 to 999 (Opposed Blade), 006 to 36 (Vertical Blade), 1 in. increments													
Height	All models: 006 to 999 (Parallel Blade), 009 to 999 (Opposed Blade), 009 to 48 (Vertical Blade), 1 in. increments													
Options (Limit Two)[3]	See Factory Options for descriptions and combinations													

1. VD-1240 - When blades are run vertically the unit is shipped without side shields and does not meet the leakage performance stated in the *Technical Specifications*.
2. Actuators may restrict maximum sizes; check selector tool for valid maximum sizes. Actuators, by default, come externally mounted (outside air stream). Use option Q for internally mounted actuators.
3. If the damper is to be used in a fan application, consult Johnson Controls.

Technical Specifications

VD-1240 Thin Line and VD-1241 Low Leakage Insulating Control Dampers	
Leakage Resistance - Fully Closed	6 cfm/sq. ft maximum at 4 in. static pressure
Pressure Drop (inches WG) - Fully Open	1 in. static pressure and 1,000 fpm fully open approach velocity
Operating Torque	VD-1240: 7 lb·in./sq. ft VD-1241: 14 lb·in/sq. ft based on 2.5 in. static pressure and 1,000 fpm fully open approach velocity
Temperature Rating	Standard Operating Conditions: -72 to +275°F (-58 to +135°C) Actuator: -4 to 122°F (-20 to 50°C)
Approximate Weight	VD-1240 Damper: 7 lb/sq. ft (3.2 kg/sq. m) VD-1241 Damper: 15 lb/sq. ft (6.8 kg/sq. m) Actuator: 2.9 lb (1.32 kg) Pneumatic D-306: 1.2 lb (0.54 kg) Pneumatic D-3153: 10.0 lb (4.5 kg)

Performance Data

VD-1240 Thin Line Control Damper Performance Data

Damper Width	Maximum System Pressure	Maximum System Velocity	Leakage	
			% of Maximum Flow	CFM/sq. ft
60 in. (1,524 mm)	3.0 in. w.g.	3,000 fpm	.08%	2.5
48 in. (1,219 mm)	6.0 in. w.g.	4,000 fpm	.07%	2.7
36 in. (914 mm)	8.5 in. w.g.	4,000 fpm	.08%	3.5

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VD-1241 Low Leakage Insulating Control Performance Data

Damper Width	Maximum System Pressure	Maximum System Velocity	Leakage	
			% of Maximum Flow	CFM/sq. ft.
60 in. (1,524 mm)	3.0 in. w.g.	3,000 fpm	.08%	2.5
48 in. (1,219 mm)	6.0 in. w.g.	4,000 fpm	.07%	2.7
36 in. (914 mm)	9.0 in. w.g.	4,000 fpm	.08%	3.2
24 in. (610 mm)	11.0 in. w.g.	5,000 fpm	.07%	3.5
12 in. (305 mm)	13.0 in. w.g.	6,000 fpm	.08%	5.0

