

D-3062 Pneumatic Actuator

The D-3062 Pneumatic Actuator is a multipurpose positioning device used to accurately position small dampers primarily on Variable Air Volume (VAV), terminal units and small ventilating dampers in response to output signals of a pneumatic controller or electro-pneumatic transducer.

The actuator is also recommended for use on other air flow control dampers, in interior locations, with a up to a maximum area of 4 square feet for proportional volume control and 6.25 square feet for two position actuation provided that the torque requirements are compatible with the specific application.

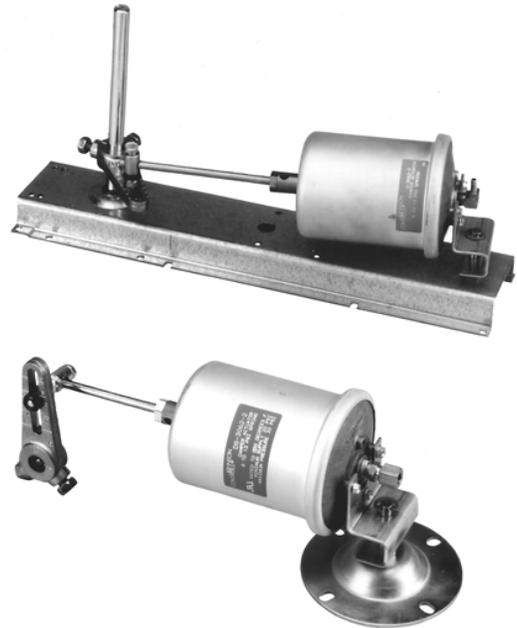


Figure 1: D-3062

Features and Benefits	
<input type="checkbox"/> High Power to Size Ratio	Location in confined spaces
<input type="checkbox"/> All-Aluminum Housing	Lightweight, non-combustible
<input type="checkbox"/> Telescoping Linkage	Fast, flexible installation
<input type="checkbox"/> Front or Rear Mounting Options	Flexible mounting configuration
<input type="checkbox"/> Optional Mounting Kits	Covers any application or replacement of obsolete units

Application

When used with proportional control, the damper size is limited to 4 square feet maximum.

As a 2-position control, damper size is limited to 6.25 square feet. As determined by testing using Johnson Controls D-1300 dampers, width and height are limited to 30 inches maximum.

Four nominal spring ranges are available:

3-7 psi (D-3062-1), 5-10 psi (D-3062-2),
8-13 psi (D-3062-3), and 11-15 psi (D-3062-4).

The control air pressure for normal HVAC operation is 0-20 psig. The minimum control pressure for safety damper ventilation mode is 20 psi with the maximum pressure of 30 psi. When used for both proportional and smoke applications, a separate air signal should be provided to override normal HVAC operations and enact safety damper functions.

Note: The D-3062 is not able to be configured for frame mounting in normally open damper applications.

Operation

Air pressure from a pneumatic controller is applied to the diaphragm of the actuator, which moves the piston against the forces of the internal spring and the load. The external load force shifts the operating range from the nominal spring range. The piston will move to a position where the applied force and the spring plus external forces are in equilibrium.

Installation

The D-3062 can be mounted in a variety of positions to operate VAV boxes as well as normally open or normally closed dampers. The actuator housing has provisions for both front and rear mounting and features a telescoping rod for linkage adaptation (Figure 2).

The extension rod is reversible. It is threaded on one end as shown in Figure 2. The other end is not threaded.

Figures 3 and 4 illustrate the two common mounting kits available for various applications and mounting arrangements. All mounting kits are ordered separately; refer to Table 2 for ordering details. Other brackets not illustrated are available for custom applications. Refer to the installation instructions packaged with the mounting kits for complete recommended procedures.

A 1/8 inch NPT straight barbed fitting for 5/32 or 1/4 inch O.D. polytubing is furnished for standard HVAC installation. Compression fitting F-200-3 for 1/4 inch O.D. copper tubing is required for 250°F (121°C) safety applications. The compression fitting is ordered separately.

Repair Information

Field repairs must not be made. For a replacement D-3062, contact the nearest Johnson Controls representative.

Table 1: Maximum Actuator Force at 20 psig (140 kPa)

Nominal Spring Range psig (kPa)	Stroke	Force lb (Newton)	Torque Output for 90° Rotation	D-3062-Suffix
3 to 7 (21 to 49)	Power	85.8 (382)	85.8 in·lb (9.69 N·m)	-1
	Return	19.8 (88)	19.8 in·lb (2.24 N·m)	
5 to 10 (35 to 70)	Power	66 (294)	66 in·lb (7.45 N·m)	-2
	Return	33 (147)	33 in·lb (3.73 N·m)	
8 to 13 (56 to 91)	Power	46.2 (206)	46.2 in·lb (5.22 N·m)	-3
	Return	52.8 (235)	52.8 in·lb (5.96 N·m)	
11 to 15 (77 to 105)	Power	33 (147)	33 in·lb (3.73 N·m)	-4
	Return	72.6 (323)	72.6 in·lb (8.20 N·m)	

Note: Force is calculated using 6.6 lb/psig available actuator force.
D-3062-41 includes the D-3062-100 mounting kit.

Dimensions

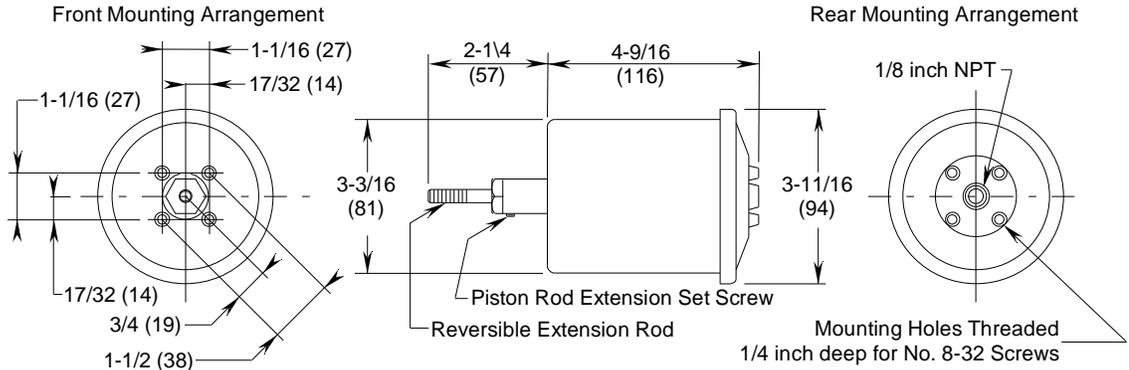


Figure 2: D-3062 Dimensions, inches (mm)

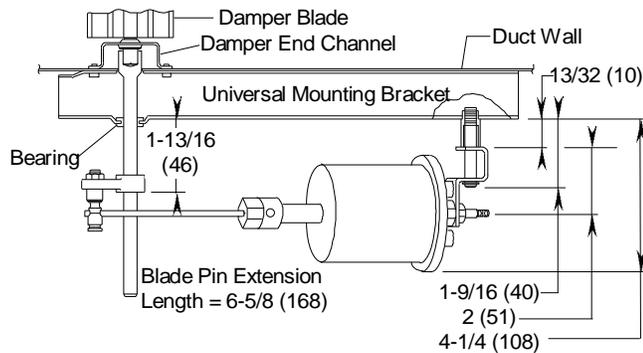


Figure 3: D-3062 with Universal Mounting Kit (D-3062-100), inches (mm)

The D-3062-100 mounting kit contains all parts required for the actuator to be mounted inside or outside the duct for use with D-1300 series dampers.

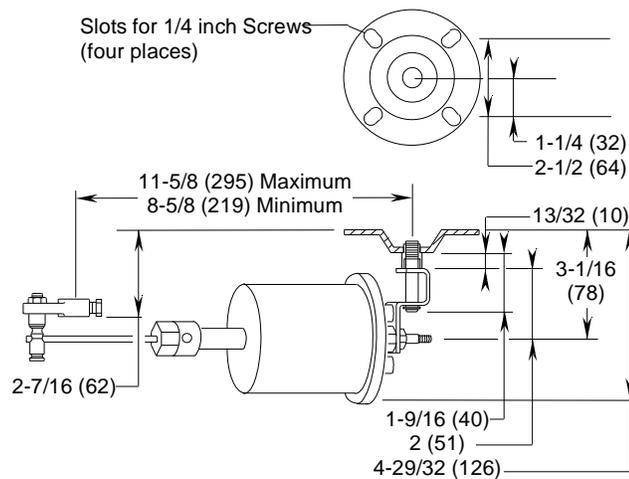


Figure 4: D-3062 with Auxiliary Mounting Kit (D-3062-101), inches (mm)

Table 2: Accessories

Description	Weight, lb (Kg)	Code Number
Universal Mounting Kit for Type "W" (N.O. or N.C.) and Type "F" (N.C. only) mounting on D-1300 series dampers (see Figure 3).	3.5 (1.59)	D-3062-100
Auxiliary Mounting Kit for multi-position swivel mounting (see Figure 4).	0.8 (0.36)	D-3062-101
Small Damper Mounting Kit for limited space requirement mounting replaces #2 D-251.	0.8 (0.36)	D-3062-102
Unit Vent Mounting Kit for direct replacement of Johnson Controls D-3000, Robertshaw® M593 Series Actuators, Krueter MCP8030, Barber-Colman MK693.	1.3 (0.59)	D-3062-103
Mounting Kit for mounting to RD-2000 9 to 16 inch round damper	1.0 (0.45)	D-3062-105
Crank Arm: 1/2 inch adjustable to 2-3/4 inch radius	0.5 (0.23)	D-3153-101
Crank Arm: 3/8 inch adjustable to 2-3/4 inch radius	0.5 (0.23)	D-3153-108
Crank Arm: 7/16 inch adjustable to 2-3/4 inch radius	0.5 (0.23)	D-3153-109
Swivel Ball Joint	0.5 (0.23)	D-9999-154
Push-Pull Ball Joint	0.5 (0.23)	D-3062-600
Clevis - fork type	0.5 (0.23)	D-3062-104
Clevis Pin No. 6	0.5 (0.23)	D-9999-152
Twist Lock, Pin No. A	0.5 (0.23)	D-9999-153
Rod - 1/4-20 threaded one end	0.5 (0.23)	D-3062-106
Rod - spade end	0.5 (0.23)	D-3062-108
Push-Pull Ball Joint and Nut, 5 per bag	1.0 (0.45)	D-3062-107
Ball Joint - weather resistant	0.5 (0.23)	D-3073-604

Note: Mounting kits include bracket, linkage, and all necessary mounting hardware.

Specifications

Product	D-3062 Pneumatic Actuators
Stroke	2 inches (51 mm)
Control Air Pressure	0-20 psig for HVAC 20 psig (137 kPa) minimum for safety damper functions 30 psig (205 kPa) maximum
Air Connections	1/8 inch NPT straight barbed fitting for 5/32 or 1/4 inch O.D. polytubing (furnished). Compression fitting for 1/4 inch O.D. copper tubing (F-200-3, order separately).
Ambient Operating Conditions (HVAC)	-20 to 150°F (-29 to 66°C)
Effective Diaphragm Area	6.6 inch ² (43 cm ²)
Materials	Body - Aluminum, Diaphragm - Synthetic elastomer
Dimensions (H x W x D)	See Figure 2.
Shipping Weight, lb (Kg)	1.2 (0.54)

For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

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