D-4073 Pneumatic Piston Damper Actuator Catalog Page

Description

Figure 1: D-3031 Pneumatic Piston Damper Actuator



The D-4073 Pneumatic Actuator is a multipurpose positioning device used to accurately position small dampers primarily on unit ventilators, VAVs, 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 airflow control dampers, in interior locations, up to a maximum area of 6.75 sq. ft for proportional volume control and 11.7 sq. ft for two-position actuation, provided that the torque requirements are compatible with the specific application.

The D-4073 is a direct replacement for existing D-3073 actuators and a functional replacement for former D-251 actuators.

Refer to the *D-4073 Pneumatic Actuator Product Bulletin (LIT-2681074)* for important product application information.

Features

- two-way swivel connection ensures non-binding movement and full power delivery
- glass-reinforced polymer housing, which is lightweight and corrosion- and chemical-resistant
- telescoping linkage for fast and flexible installation

Applications

When an 8 to 13 psig spring range is used with proportional control, the damper size is limited to 6.75 sq. ft maximum. As a two-position control, damper size is limited to 11.7 sq. ft.

Three nominal spring ranges are available:3 to 7 psi, 5 to 10 psi, and 8 to 13 psi. The control air pressure for normal HVAC operation is 0 to 20 psig.

The D-4073 incorporates several internal and external features that add functional flexibility. A two-way swivel connection on the actuator cylinder head provides non-binding movement. All actuators have a telescoping piston rod for easy linkage of the damper for attachment points up to 8-3/4 in. (222 mm) away from the face of the actuator. A swivel ball joint and slotted crankarm connector are furnished on all actuators for optional methods of linkage to the damper.

A stop screw kit is available for special applications to limit the power stroke of the actuator when required. A 4 ft (122 cm) linkage rod is also available for special applications to reach extended linkage when required.

Where precision sequential operation is desired, or additional positioning power is necessary, use a D-9502 pilot positioner. Up to four more D-4073 actuators may be subordinated from one pilot positioner for coupled dampers.

Repair information

If the D-4073 Pneumatic Actuator fails to operate within its specifications, replace the unit. For a replacement actuator, contact the nearest Johnson Controls® representative.

Selection chart

Table 1: Selection chart

Code number	Nominal spring range, psig (kPa)
D-4073-1	8 to 13 (56 to 91) with D-9502 and universal mounting bracket
D-4073-2	8 to 13 (56 to 91) with universal mounting bracket
D-4073-3	5 to 10 (35 to 70) with universal mounting bracket
D-4073-4	8 to 13 (56 to 91) with D-9502 and auxiliary mounting bracket
D-4073-5	8 to 13 (56 to 91) with auxiliary mounting bracket
D-4073-6	5 to 10 (35 to 70) with auxiliary mounting bracket
D-4073-7	3 to 7 (21 to 49) with auxiliary mounting bracket
D-4073-6001	3 to 7 (21 to 49) body only
D-4073-6002	5 to 10 (35 to 70) body only
D-4073-6003	8 to 13 (56 to 91) body only

Johnson Controls

Accessories

Table 2: Acessories

Code number	Description	Weight,lb (kg)
D-3073-100	Rubber boot kit (includes ball joint and cover)	0.2 (0.10)
D-3153-104	Stop screw kit	0.5 (0.23)
D-3073-105	Mounting post kit, 5 per kit	0.5 (0.23)
D-3073-604	Ball joint - weather resistant	0.5 (0.23)
D-3153-103	Rod - 8-3/4 in. (222 mm) replacement	1.0 (0.45)
D-3153-106	Auxiliary mounting bracket	1.0 (0.45)
D-3153-111	E-rings for pivot post, 10 per kit	0.5 (0.23)
D-3153-112	Mounting nuts for pivot post, 10 per kit	0.5 (0.23)
DMPR-KC050	Crankarm: 7/16 in. shaft radius adjustable to 2-3/4 in. radius	0.5 (0.23)
DMPR-KC051	Crankarm: 3/8 in. shaft radius adjustable to 2-3/4 in. radius	0.5 (0.23)
DMPR-KC053	Crankarm: 1/2 in. shaft radius adjustable to 2-3/4 in. radius	0.5 (0.23)
DMPR-KC054	Blade arm kit	1.3 (0.59)
DMPR-KC102	Rod - 4 ft (122 cm)	2.0 (0.91)
DMPR-KC251	Universal mounting bracket	3.5 (1.13)
DMPR-KC300	Swivel ball joint	0.5 (0.23)
D-9502-12	Proportional pilot positioner kit	2.0 (0.91)

Note: Refer to reference bulletins in the *Pneumatic Control Manual (FAN 717.1)* for models applying to unit ventilators and other types of units.

Technical specifications

Table 3: Technical Specifications

D-4073 Pneumatic Piston Damper Actuator	
Stroke	3 in. (76 mm)
Control air pressure	0 to 20 psig for HVAC25 psig (175 kPa) maximum

Table 3: Technical Specifications

D-4073 Pneumatic Piston Damper Actuator	
Air connections	1/8 in. NPT straight barbed fitting for 5/32 or 1/4 in. O.D. polytubing (furnished)
Ambient operating conditions	-20 to 150°F (-29 to 66°C)
Effective diaphragm area	6.7 in^2 (45 cm^2)
Housing material	Glass-reinforced polymer, UL 94 HB flame class rating
Dimensions	3-7/8 in. diameter x 11 in. Long
Shipping weight, lb (kg)	D-4073-1 7.9 (3.6) D-4073-3 6.4 (2.9) D-4073-5 4.9 (2.2) D-4073-7 4.9 (2.2)D-4073-2 6.4 (2.9) D-4073-4 6.4 (2.9) D-4073-6 4.9 (2.2)

Table 4: Maximum Force[1] Values at 20 psig (140 kPa) Supply

Spring range, psig (kPa)	Stroke	Force, lb (Newton)	Torque output for 90° rotation
8 to 13	Power	47 (209)	71 lb·in (8.0 N·m)
(56 to 91)	Return	54 (240)	81 lb·in (9.1 N·m)
5 to 10	Power	67 (298)	101 lb·in (11.3 N·m)
(35 to 70)	Return	34 (151)	51 lb·in (5.8 N·m)
3 to 7	Power	87 (388)	131 lb·in (14.8 N·m)
(21 to 49)	Return	20 (89)	30 lb·in (3.4 N·m)

1 Force calculated using 6.7 lb/psig available actuator force

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS	JOHNSON CONTROLS	JOHNSON CONTROLS
C/O CONTROLS PRODUCT MANAGEMENT	VOLTAWEG 20	507 E MICHIGAN ST
NO. 32 CHANGJIANG RD NEW DISTRICT	6101 XK ECHT	MILWAUKEE WI 53202
WUXI JIANGSU PROVINCE 214028	THE NETHERLANDS	USA
CHINA		

© 2021 Johnson Controls. All rights reserved. All specifications and other information shown were current as of document revision and are subject to change without notice.
www.johnsoncontrols.com

Johnson Controls