

D-3031 Pneumatic Piston Damper Actuator

Product Bulletin

D-3031 Series

Code No. LIT-2681050P

Issued January 10, 2012

Supersedes September 1, 1984

Refer to the [QuickLIT Web site](#) for the most up-to-date version of this document.

Description

The D-3031 Pneumatic Piston Damper Actuator is designed primarily for damper positioning on small terminal units. Models are furnished with 1 in. (25 mm) stroke, and have two movable adjustment stops to facilitate adjusting the stroke in 1/8 in. increments.

The D-3031 features a polycarbonate top and body and a threaded 5/16 in. (8 mm) diameter piston rod for convenient linkage attachment.

The D-3031 replaces the unit replacement for the D-160 and D-251 #2S actuators.

Installation

The D-3031 is designed for to operate normally open or normally closed dampers using either swivel (Figure 3) or rigid (Figure 4) type face mounting. The actuator can be rotated to locate the air connection in the preferred position.

Refer to *Installation Data D-3031-A* for mounting and bracket details and arrangements.

Features

- high power-to-size ratio for locations in confined spaces
- swivel or rigid mounting options for flexible mounting configurations
- optional mounting kits to cover any application and replacement of obsolete units
- barbed fitting for 5/32 in. or 1/4 in. Outside Diameter (O.D.) tubing

Applications

The D-3031 has a maximum stroke of 1 in. without stops. Two stroke adjustment stops are provided for limiting the stroke in 1/8 in. increments from 7/8 to 1/2 in. When the stop is properly seated in the stroke adjustment window, its elongated section should face the hub end of the actuator and rest against the inside wall of the body (Figure 5).

Note: Both stops must be inserted at the same stroke setting.



Figure 1: D-3031 Pneumatic Actuator

Repair Information

The D-3031 Pneumatic Piston Damper Actuator is a sealed unit and field repair cannot be made. If the D-3031 fails to operate within specifications, replace the unit. For a replacement unit, contact the nearest Johnson Controls® representative.



WARNING: Risk of Personal Injury and Property Damage.

Do not install the D-3031 Pneumatic Piston Damper Actuator in any application using corrosive solvents or refrigerants. Use of the D-3031 Pneumatic Piston Damper Actuator with corrosive solvents or refrigerants may weaken the structure of the actuator resulting in a release of pressure which could cause property damage, severe personal injury, or death.

IMPORTANT: Clean with mild soap and water only. If other solvents are to be used, consult with factory for compatibility with polycarbonate.

IMPORTANT: The following solvents will harm polycarbonate: Acetone, all chlorinated solvents (Perchloroethylene, Trichloroethylene, Chloroethene NU T-9999-3, and others), Benzene, Carbon tetrachloride, Ethylacrylate (Leak Detector #7-P), Ethylene Dichloride, Freon (refrigerant and spray can propellant), Hydrochloric Acid (concentrated), Methyl Alcohol, Methylene Chloride, Nitro Cellulose Lacquer, Toluene, some synthetic compressor oils, and Xylene.

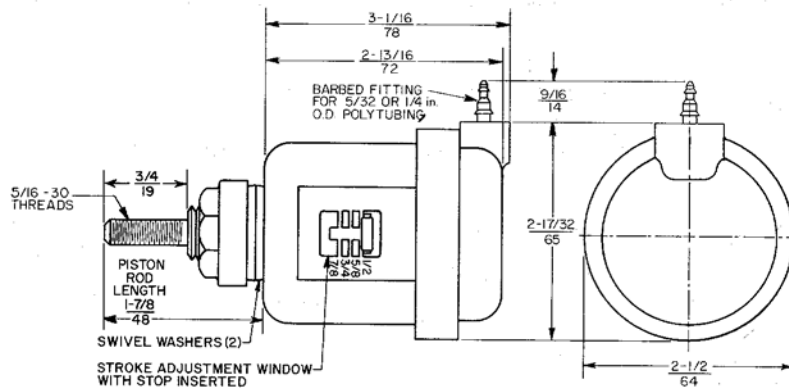


Figure 2: Dimensions, in. (mm)

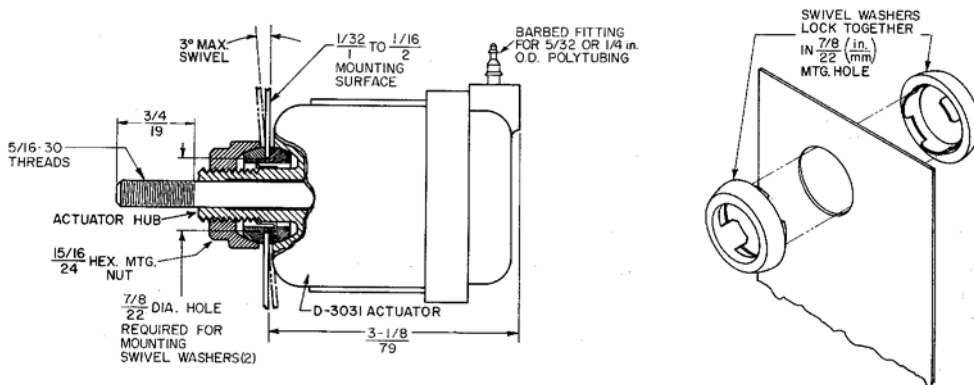


Figure 3: Swivel Type Face Mounting Detail Dimensions, in. (mm)

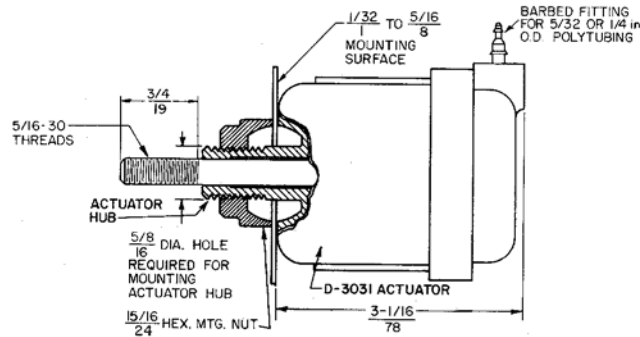


Figure 4: Rigid Type Face Mount Detail Dimensions, in. (mm)

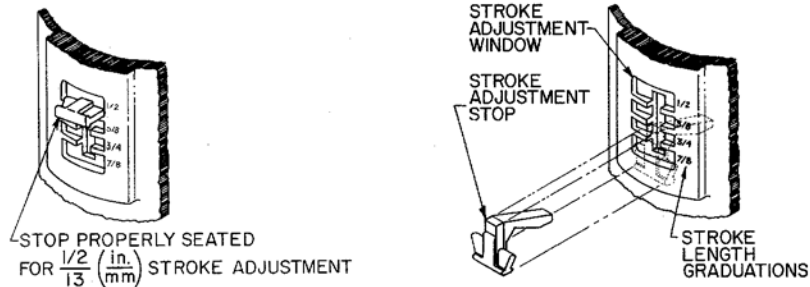


Figure 5: Stroke Adjustment Detail, See Notes

Note: Insert stops (1 each slide) into adjustment window as shown; rotate the stop so that it rests against the inside wall of the D-3031 body with its elongated end facing the actuator hub.

Note: Use of a pair of pliers is recommended for inserting and removing stops.

Technical Specifications

Product		D-3031 Pneumatic Piston Damper Actuator
Stroke		1 in. (25 mm); Adjustable with stops to 7/8, 3/4, 5/8, and 1/2 in. (22, 19, 16 and 13 mm)
Effective Diaphragm Area		2.8 Sq. in. (18 cm ²)
Spring Ranges	D-3031-3	5–10 PSIG (35–70 kPa)
	D-3031-4	8–13 PSIG (56–91 kPa)
Piston Rod		Threaded, 5/16 in. Diameter
Ambient Temperature Limits		-20–150°F (-29–66°C)
Control Pressure		15 or 20 PSIG (105 or 140 kPa); 25 PSIG (175 kPa) Maximum
Air Connection		Barbed Fitting for 5/32 or 1/4 in. O.D. Poly tubing
Materials	Actuator & Nut	Polycarbonate
	Stops	Nylon
	Swivel Washers	Oilon
	Diaphragm	Synthetic Elastomer
	Rod & Spring	Steel

Technical Specifications

Mounting		Rigid or Swivel Type
Accessories	D-3031-100	Bracket Accessory Kit
	D-3031-101	Mounting Plate Kit
	D-3031-102	Linkage Kit
	D-251-2202	Shaft Extension Kit
Shipping Weight		0.5 lb



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