

D-3031 Pneumatic Actuator

The D-3031 Pneumatic Actuator is designed primarily for damper positioning on small terminal units. Models, furnished with 1 in. (25 mm) stroke, 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 is the unit replacement for D-160 and D-251 #2S actuators.

Installation

The D-3031 is designed for either swivel (Fig. 3) or rigid (Fig. 4) type face mounting to operate normally open or normally closed dampers. The actuator can be rotated as required to locate the air connection in the preferred position. Refer to Installation Data D-3031-A for mounting bracket details and arrangements.

Stroke Adjustment (See Fig. 5)

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

⚠ WARNING: The following solvents will harm polycarbonate: Acetone, all chlorinated solvents (Perchloroethylene, Trichloroethylene, Chloroethene NU T-9999-3, and others), Benzene, Carbontetrachloride, 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.



Fig. 1: D-3031 Pneumatic Actuator

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

Specifications

Product	D-3031 Pneumatic 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 to 10 PSIG (35 to 70 kPa)
	D-3031-4	8 to 13 PSIG (56 to 91 kPa)
Piston Rod	Threaded, 5/16 in. Diameter	
Ambient Temperature Limits	- 20 to 150F (- 29 to 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
Mounting	Rigid or Swivel Type	
Accessories (Order Separately)	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 lbs	

The performance specifications are nominal and conform to acceptable industry standards. 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.

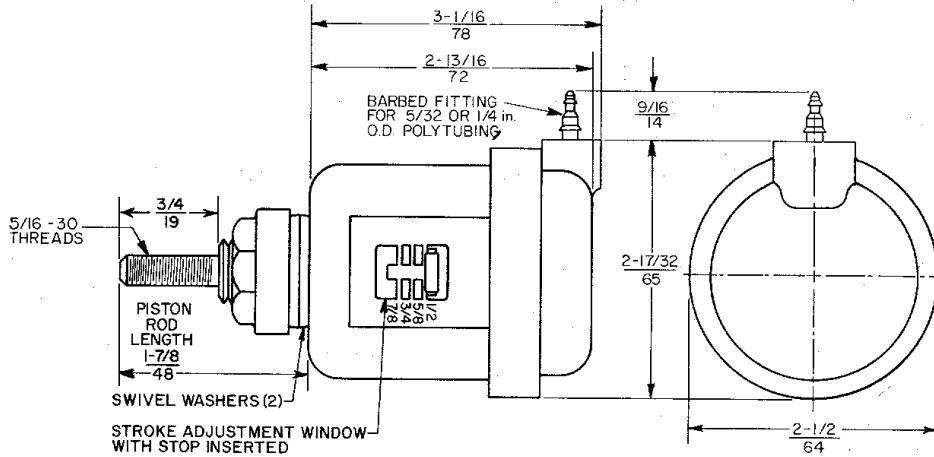


Fig. 2: Dimensions $\frac{\text{in.}}{\text{mm}}$

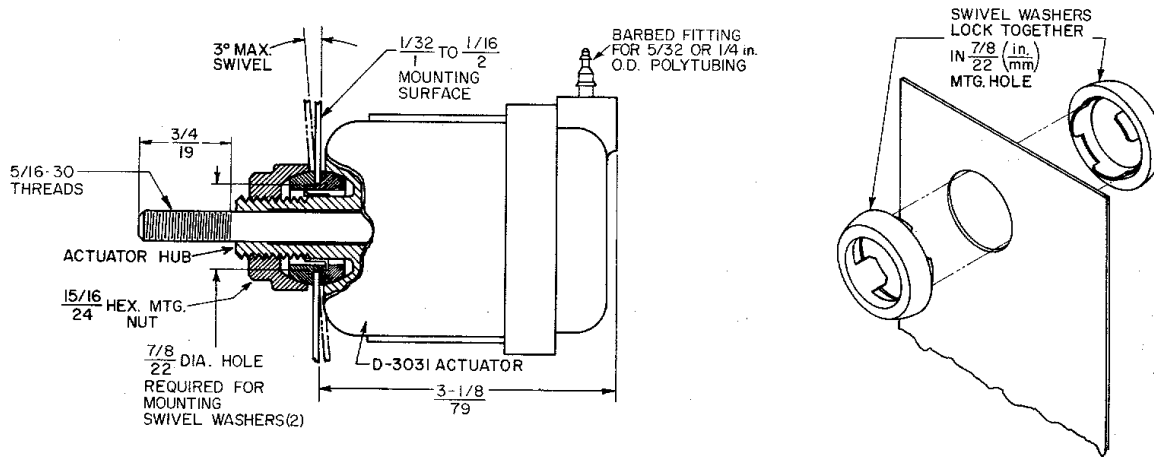


Fig. 3: Swivel Type Face Mounting Detail
Dimensions $\frac{\text{in.}}{\text{mm}}$

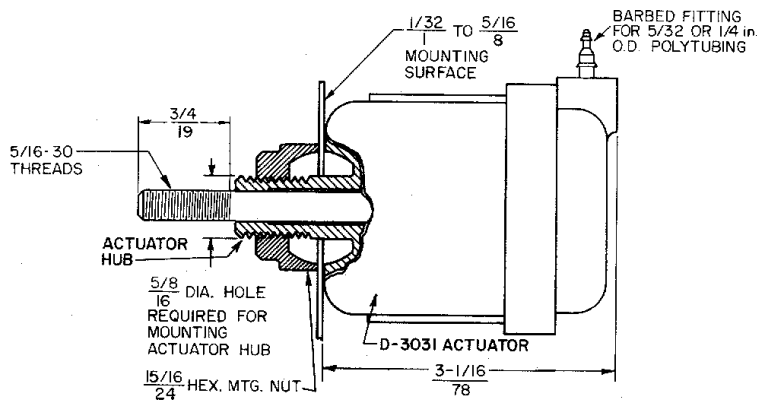


Fig. 4: Rigid Type Face Mounting Detail
Dimensions $\frac{\text{in.}}{\text{mm}}$

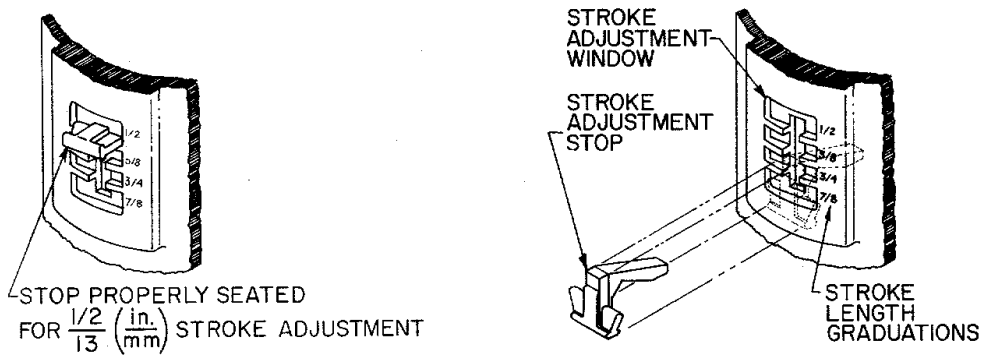


Fig. 5: Stroke Adjustment Details (see notes below)

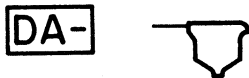
Note 1: Insert stops (1 each side) into adjustment windows as shown and rotate the stop so that it rests against the inside wall of the D-3031 body with its elongated end facing the actuator hub.

Note 2: Use of a pair of pliers is recommended for inserting and removing the stops.

Repair Information

If the D-3031 fails to operate within its specifications, unit replacement is required; field repairs cannot be made.

Application and Drawing Identification



See BEIMS 45-2.03-1.

Notes



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Printed in U.S.A.