

## MP909E and H Pneumatic Damper Actuators

### SPECIFICATION DATA



### FEATURES

- Low friction shaft bearing
- Close tolerance on operating range and stroke
- Versatile mounting and connecting hardware
- Cost efficient mounting to Honeywell dampers
- Nonoverlapping spring ranges for sequencing
- Corrosion resistant materials
- Reliable—long life
- Models available for use with UL classified leakage rated (smoke) dampers

### GENERAL

The MP909E and H Pneumatic Damper Actuators control dampers, variable volume terminal units, and mixing boxes. The MP909H is an MP909E with a positive positioner.



## SPECIFICATIONS

### Models:

- MP909E Actuator without positioner
- MP909H Actuator with positioner

### Maximum Safe Air Pressure:

MP909E: 29 psi (200 kPa)

MP909H: 25 psi (172 kPa), limited by positioner

### Operating Range:

MP909E: See following table

MP909H: Span of 3, 5, or 10 psi (21, 34, or 69 kPa), nonadjustable. Provided with 10 psi feedback spring; 5 psi feedback spring included; 3 psi feedback spring available

### Startpoint Pressure (MP909H):

Adjustable 1.5 to 13 psi (10.3 to 90 kPa)

### Ambient Temperature Range:

MP909E: -28 to 160F (-33 to 70C)

MP909H: -20 to 160F (-29 to 70C), limited by positioner

### Mounting:

Trunnion and right angle bracket

### Net Force Exerted:

Model	Operating Range psi (kPa)	Stroke in. (mm)	Net Force in Pounds (N) Exerted at Various Pressures		
			0 psi (0 kPa)	18 psi (124 kPa)	20 psi (140 kPa)
MP909E	3-13 (21-90)	4.0 (100)	19.8 (88)	33 (147)	46.2 (206)
	5-10 (34-69)		33 (147)	53 (236)	66 (294)
	2.5-6.5 (17-45)	3.1 (80)	16.5 (73)	76 (338)	89 (396)
	5-10 (34-69)		33 (147)	53 (236)	66 (294)
9-13 (62-90)	59.4 (264)		33 (147)	46.2 (206)	
MP909H	All spans <sup>1</sup>	4.0 (100)	33 (147)	53 (236)	66 (294)

<sup>1</sup>MP909H has 5-10 psi (34-69 kPa) operating spring range.

### Air Connections:

MP909E: Combination 5/32-in. (4 mm) and 1/4-in. (6 mm) push-on barb

MP909H:

Positioner: 5/32-in. (4 mm) push-on barb (pilot), 1/4-in. (6 mm) push-on barb (main and branch)

Actuator: combination 5/32-in (44 mm) and 1/4-in. (6 mm) push-on barb

UL listed actuators: Special high temperature plastic tubing pigtails that allow connection to 1/4-in. (6 mm) O.D. copper tubing

### Diaphragm:

Neoprene, rolling type

Effective area 6.6 in<sup>2</sup> (40 cm<sup>2</sup>)

### Body Material and Finish:

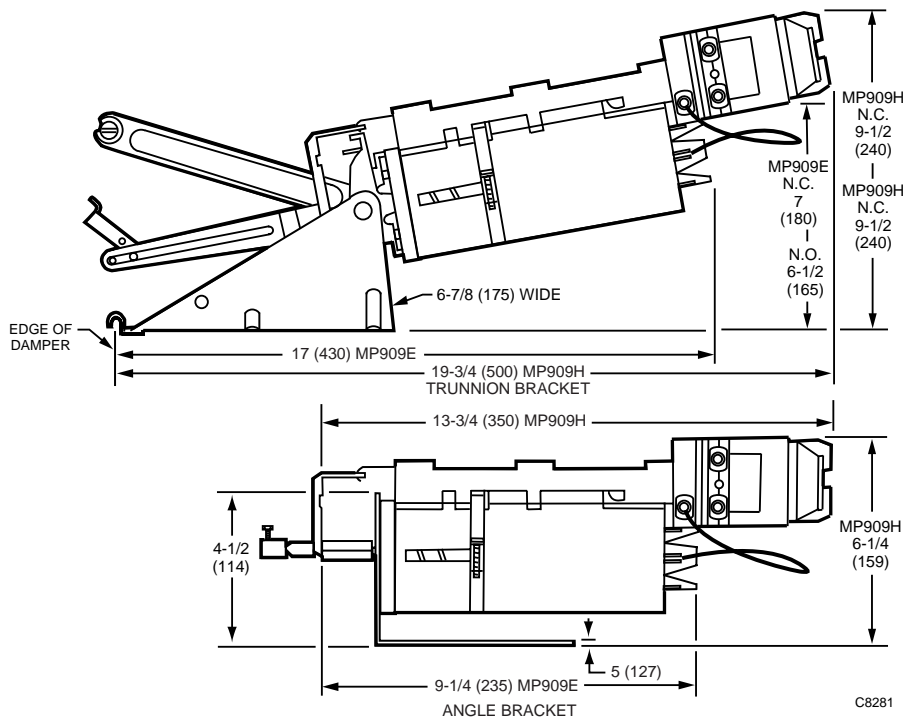
Corrosion resistant aluminum alloy

### Air Consumption:

MP909E: Zero

MP909H: 0.021 scfm (9.9 ml/sec)

**Dimensions:**



**UL Listed:**

Models Available: MP909E: 5 to 10 psi (34 to 69 kPa)  
 UL Restrictions: UL listing applies only when used with UL classified Honeywell SD series leakage rated dampers  
 Mainline Pressure Limits: 15 psi (103 kPa) minimum; 25 psi (172 kPa) maximum

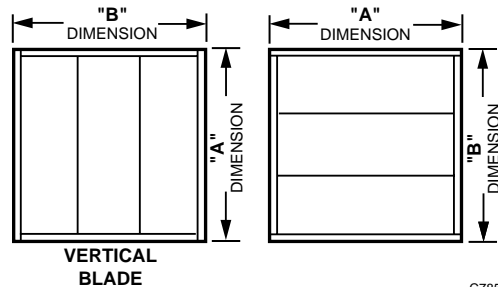
**Damper Limitations:**

- D640SD, D641SD: See 77-5129
- D644SD, D645SD: See 77-5140

**Accessories:**

- Feedback spring kit for 3 psi span (MP909H): 14004509-001 (10 springs per kit)
- Positioner Kit to convert MP909E 5 to 10 psi to MP909H (includes 3, 5, and 10 psi feedback spring): 14004137-001

**Damper A and B Dimensions**



**EXAMPLE:**

Damper Model: D641  
 Duct Dimension: 62 inches (A dimension) x 20 inches (B dimension)  
 Actuator: MP909E  
 Operating Range: 5 to 10 psi (34 to 69 kPa)  
 Type of Operation: Modulating Service  
 Main Air Pressure: 13 psi (90 kPa)  
 The 62-inch A dimension requires two damper sections (48 inches maximum per section). Multiplying the B dimension (20 inches) by two equals 40 inches of total B dimension. The Maximum Damper Load Rating Table shows that one MP909E can operate up to 33 inches of damper. Two MP909Es are required in this example.

MP909E AND H PNEUMATIC DAMPER ACTUATORS

**Damper Load Rating (See Following Table):**

Damper load ratings for Honeywell Moduflow Dampers (non-UL Listed models) are calculated by multiplying the B dimension of each section by the number of sections required.

**Approvals:**

MP918B (all models): UL Recognized Component, Category EMKU2, File No. R18118, Mainline -25 psi maximum

Damper Model	Actuator Model	Operating Range psi (kPa)	Modulating Service		2-Position Service
			Main Air Pressure 13 psi (80 kPa) for B Dimension in. (mm)	Main Air Pressure 18 psi (124 kPa) for B Dimension in. (mm)	Main Air Pressure 18 psi (124 kPa) for B Dimension in. (mm)
D640	MP909E	3-13 (21-90)	—	33 (835)	36 (910)
D641		5-10 (34-69) <sup>3</sup>	33 (835)	33 (835)	60 (1520)
		2.5-6.5 (17-45)	27 (685) <sup>1</sup>	27 (685) <sup>1</sup>	27 (685) <sup>1</sup>
		9-13 (62-90)	—	29 (735)	49 (1240)
	MP909H <sup>4</sup>	N.A.	40 (1010)	67 (1700)	67 (1700)
D642	MP909E	3-13 (21-90)	—	27 (685)	29 (735)
D643		5-10 (34-69) <sup>3</sup>	27 (685)	27 (685)	49 (1240)
D644		2.5-6.5 (17-45)	22 (555) <sup>2</sup>	22 (555) <sup>2</sup>	22 (555) <sup>2</sup>
D645		9-13 (62-90)	—	27 (685)	40 (1010)
	MP909H <sup>4</sup>	N.A.	33 (835)	60 (1520)	60 (1520)

<sup>1</sup>With normally closed linkage having 81-degree rotation. For 90-degree rotation, use 20 inches (505 mm).

<sup>2</sup>With normally closed linkage having 81-degree rotation. For 90-degree rotation, use 17 inches (430 mm).

<sup>3</sup>Applies to 4-in. stroke models only.

<sup>4</sup>Rating also applies to MP909E 5 to 10 psi (34-69 kPa) slaves used with MP909H.

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