

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 ¹	4.0 (100)	33 (147)	53 (236)	66 (294)

¹MP909H 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 in² (40 cm²)

Body Material and Finish:

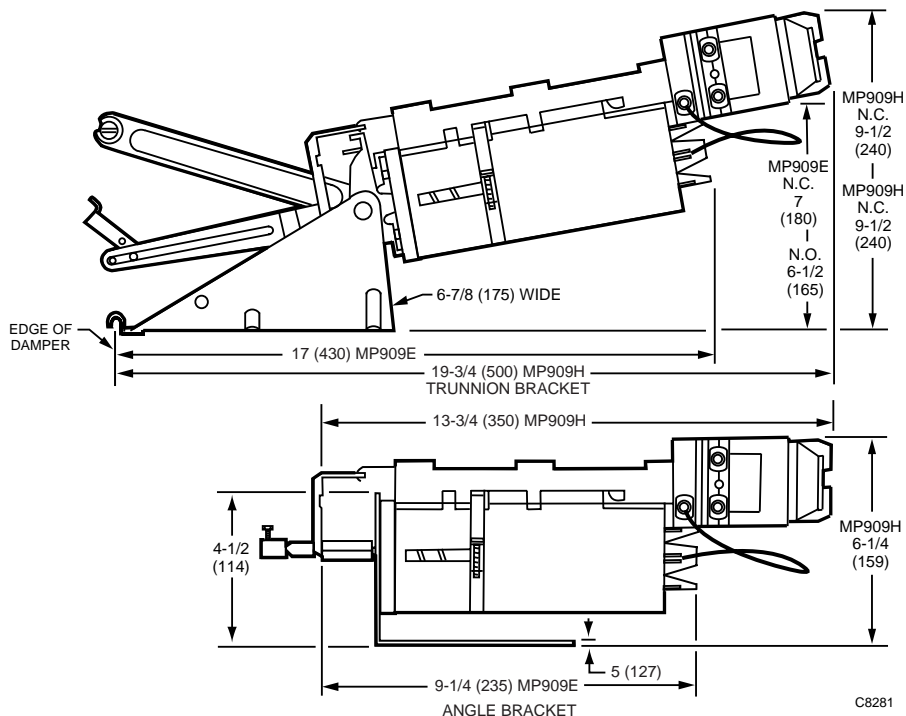
Corrosion resistant aluminum alloy

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

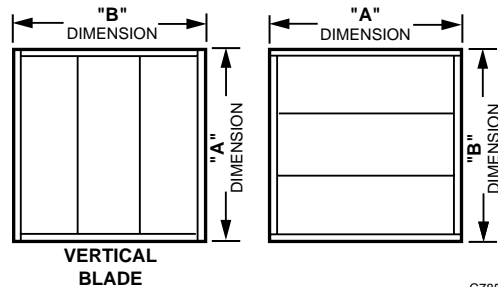
Damper Limitations:

- 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.

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 D641	MP909E	3-13 (21-90)	—	33 (835)	36 (910)
		5-10 (34-69) ³	33 (835)	33 (835)	60 (1520)
		2.5-6.5 (17-45)	27 (685) ¹	27 (685) ¹	27 (685) ¹
		9-13 (62-90)	—	29 (735)	49 (1240)
	MP909H ⁴	N.A.	40 (1010)	67 (1700)	67 (1700)
D642 D643 D644 D645	MP909E	3-13 (21-90)	—	27 (685)	29 (735)
		5-10 (34-69) ³	27 (685)	27 (685)	49 (1240)
		2.5-6.5 (17-45)	22 (555) ²	22 (555) ²	22 (555) ²
		9-13 (62-90)	—	27 (685)	40 (1010)
	MP909H ⁴	N.A.	33 (835)	60 (1520)	60 (1520)

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

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

³Applies to 4-in. stroke models only.

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

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