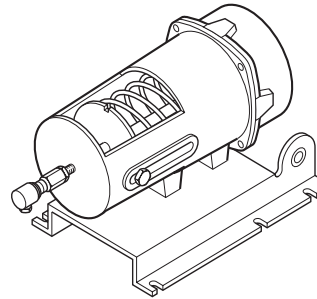


Pneumatic Damper Actuators

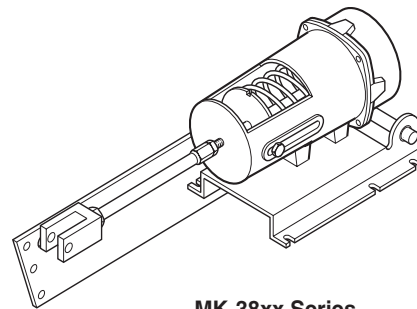
Proportional pneumatic actuator with 8 in.² (52 cm²) effective area used to control dampers, mixing boxes, air valves, etc., in heating, ventilating, and air conditioning systems.

Features:

- Rugged cast aluminum bodies.
- Long lasting rolling diaphragm.
- Provisions for adjustable stroke-stop.



MK-31xx Series



MK-38xx Series

Model Chart												
Model No.	Nominal Operating Range		Starting Pressure		Nominal Stroke ^a	Maximum Force ^b				Nominal Torque ^c Proportional Control ^b		
						Return Stroke	Power Stroke					
	psig	kPa	psig	kPa		in. (mm)	Based on 1.5 psi (10 kPa) Pressure to Actuator	15 psi (103 kPa) Supply Dual Press. System	15 psi (103 kPa) Supply Single Press. System ^d	20 psi (138 kPa) Supply Single or Dual Press. System ^d	15 psi (103 kPa) Supply Dual Press. System	15 psi (103 kPa) Supply Single Press. System ^d
						lb (N)	lb (N)	lb (N)	lb (N)	lb-in. (N-m)	lb-in. (N-m)	lb-in. (N-m)
MK-3101	3 to 8	21 to 55	3 ±1	21 ±7	3-1/2 (89), adjustable 2 to 4 (51 to 102)	12 (53)	44 (196)	56 (249)	96 (427)	21 (2.37)	21 (2.37)	21 (2.37)
MK-3111	5 to 10	34 to 69	5 ±1	34 ±7		28 (125)	28 (125)	40 (178)	80 (356)			

^a Factory setting required for published operating range.

^b Force and torques based on factory set stroke and starting pressure.

^c Nominal torque for actuators without positive positioner is based on 1.5 psi pressure change at the actuator.

^d Adjust pressure reducing valve so that listed pressures are available at the actuator.

Model Chart (Continued)

Model No.	Nominal Operating Range		Starting Pressure		Nominal Stroke ^a	Maximum Force ^b				Nominal Torque ^c Proportional Control ^b						
						Return Stroke	Power Stroke			15 psi (103 kPa) Supply Dual Press. System	15 psi (103 kPa) Supply Single Press. System ^d	20 psi (138 kPa) Supply Single or Dual Press. System ^d	15 psi (103 kPa) Supply Dual Press. System	15 psi (103 kPa) Supply Single Press. System ^d	20 psi (138 kPa) Supply Single or Dual Press. System ^d	
							Based on 1.5 psi (10 kPa) Pressure to Actuator	15 psi (103 kPa) Supply Dual Press. System	15 psi (103 kPa) Supply Single Press. System ^d							20 psi (138 kPa) Supply Single or Dual Press. System ^d
	psig	kPa	psig	kPa	in. (mm)	lb (N)	lb (N)	lb (N)	lb (N)	lb-in. (N-m)	lb-in. (N-m)	lb-in. (N-m)				
MK-3121	8 to 13	55 to 90	8 ±1	55 ±7	3-1/2 (89), adjustable 2 to 4 (51 to 102)	52 (231)	4 (18)	16 (71)	56 (249)	7 (0.79)	21 (2.37)	21 (2.37)				
MK4-3121 ^e											28 (3.16)	91 (10.28)				
MK-3141	3 to 13	21 to 90	3 non-adj.	21 non-adj.	2-3/4 (70), adjustable 2 to 2-3/4 (51 to 70)	12 (53)	12 (53)	24 (107)	64 (285)	21 (2.37)	21 (2.37)	21 (2.37)				
MK-3151	3 to 6, 9 to 12	21 to 41, 62 to 83	3 to 6	21 to 41							0 (0)		0 (0)	24 (107)	0 (0)	0 (0)
MK-3161	3 to 6, 11 to 17	21 to 41, 76 to 117														
MK-3821	8 to 13	55 to 90	8 ±1	55 ±1	3-1/2 (89), adjustable 2 to 4 (51 to 102)	52 (231)	4 (18)	16 (71)	56 (249)	7 (0.79)	21 (2.37)	91 (10.28)				
MK4-3821 ^e	8 to 13										28 (3.16)					

^a Factory setting required for published operating range.

^b Force and torques based on factory set stroke and starting pressure.

^c Nominal torque for actuators without positive positioner is based on 1.5 psi pressure change at the actuator.

^d Adjust pressure reducing valve so that listed pressures are available at the actuator.

^e Factory installed positive positioner (AK-42309-500) start point adjustable 2 to 10 psi with span adjustable 2 to 10 psi.

Specifications

Construction

Housing	Die cast aluminum.
Diaphragm	Beaded molded neoprene.
Stroke	Refer to Model Chart.
Nominal Damper Area	Actuator sizing should be done in accordance with damper manufacturer's specifications.
Start point	Adjustable on most models ±1 psi, refer to Model Chart.
Spring	Retracts actuator shaft on loss of air pressure.
Maximum air pressure	30 psig (207 kPa).
Ambient temperature limits	
Shipping	-40 to 160°F (-40 to 71°C).
Operating	-20 to 160°F (-29 to 71°C).
Air connections	1/8 in. FNPT.
Mounting	In any position. Mounting bracket (except MK-3300 Series end mounting) and connector for 5/16 in. (8 mm) diameter push rod included with actuator.
Dimensions	
MK-3100, MK4-3100 Series	12 L x 5-7/8 W x 5-1/2 D in. (305 x 149 x 140 mm).
MK-3800 Series	20-3/16 L x 7-1/4 W x 6-1/2 D in. (513 x 184 x 165 mm).

MK-3xxx Series, MK4-3xxx Series

Accessories

Model No.	Description
AK-42309-500	Positive positioner and linkage.
AM-111	Crank arm for 5/16 in. diameter damper shaft.
AM-112	Crank arm for 3/8 in. diameter damper shaft.
AM-113	Crank arm for 1/2 in. diameter damper shaft.
AM-115	Crank arm for 7/16 in. diameter damper shaft.
AM-122	Linkage connector straight type.
AM-123	Damper clip.
AM-125	5/16 x 20 in. damper rod.
AM-125-048	5/16 x 48 in. damper rod.
AM-132	Ball joint connector.
AM-161-3	Damper linkage kit AM-113 crank arm and AM-132 connector).
AM-301	90° mounting bracket for pivot mounting.
AM-530	Crank arm for 1/2 in. diameter damper shaft holes for 3-1/2 in. and 4-1/2 in. stroke.
AM-532	Bolt-on frame lug and damper blade clip kit.
AM-533	Actuator shaft extension.
AM-534	Pivot stud for pivot mounting.
AM-535	Clevis for pivot mounting.
AM-536	Mounting plates for pivot mounting on ducts or damper frame.
AM-545	Rod end connector for 5/16 in. (10 mm) dia. rods.
TOOL-095-1	Pneumatic calibration tool kit.
Maintenance Parts	
PND-45-343	3 to 8 green spring.
PND-45-345	5 to 10 black spring.
PND-45-348	8 to 13 blue spring.
PND-002-1	Diaphragm.
PND-91	High temperature diaphragm.