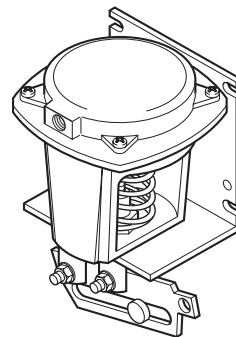


## Damper Actuators, Proportional

For proportional pneumatic actuator with 11 sq. in. (71 cm<sup>2</sup>) effective area used to control damper and air valves in heating, ventilating, and air conditioning systems.

Features:

- Rugged cast aluminum body.
- Special linkage permits easy adjustment of stroke to suit various applications.
- Hesitation and non-hesitation models available.



Model Chart									
Model No.	Nominal Operating Range	Starting Pressure Adjustable	Maximum Force <sup>a</sup>				Nominal Torque <sup>b</sup> Proportional Control <sup>a</sup>		
			Return Stroke	Power Stroke			15 psi Supply Dual Press. System	15 psi Supply Single Press. System <sup>c</sup>	20 psi Supply Single or Dual Press. System <sup>c</sup>
			Based on 1.5 psi Pressure to Actuator	15 psi Supply Dual Press. System	15 psi Supply Single Press. System <sup>c</sup>	20 psi Supply Single or Dual Press. System <sup>c</sup>			
psig	psig	lb	lb	lb	lb	lb-in.	lb-in.	lb-in.	
MK-4401 MK4-4401 <sup>d</sup>	3 to 8	3 ±1	8.25	30.25	38.5	66	7.9	7.9	7.9
MK-4411 MK4-4411 <sup>d</sup>	5 to 10	5 ±1	19.25	19.25	27.5	55	7.9	7.9	7.9
MK-4421 MK4-4421 <sup>d</sup>	8 to 13	8 ±1	35.75	2.75	11	38.5	2.6	7.9	7.9
MK-4451 MK4-4451 <sup>d</sup>	3 to 6, 9 to 12	3 to 6	8.25	8.25	16.5	44	7.9	7.9	7.9
MK-4461 MK4-4461 <sup>d</sup>	3 to 6, 11 to 17			0	0	16.5	0	0	

<sup>a</sup> Force and torques on based on factory set stroke and starting pressure.

<sup>b</sup> Nominal torque for actuators is based on 1.5 psi (10 kPa) pressure change at the actuator.

<sup>c</sup> Adjust pressure reducing valve so that listed pressures are available at the actuator. MK-4421 requires that 15 psi (103 kPa) be available to actuator. MK-4461 requires that 20 psi (138 kPa) be available to actuator.

<sup>d</sup> Factory installed positive positioner (AK-42309-500) start point adjustable 2 to 10 psi with range adjustable 2 to 10 psi.

## Specifications

<b>Construction</b>	
<b>Housing</b>	Die cast aluminum.
<b>Diaphragm</b>	Replaceable beaded molded neoprene (Part number PNV-2).
<b>Stroke</b>	
<b>Linkage</b>	Adjustable 1/2 to 3 in. (13 to 76 mm); factory set for 2 in. (51 mm).
<b>Diaphragm</b>	Factory set for 1 in. (25 mm).
<b>Nominal Damper Area</b>	Actuator sizing should be done in accordance with damper manufacturer's specifications.
<b>Start point</b>	Adjustable. Refer to Description Model Chart.
<b>Spring</b>	Retracts actuator crank arm on loss of air pressure.
<b>Maximum air pressure</b>	30 psig (207 kPa).
<b>Ambient temperature limits</b>	
<b>Shipping</b>	-40 to 160°F (-40 to 71°C).
<b>Operating</b>	-20 to 160°F (-29 to 71°C).
<b>Air connections</b>	1/8 in. FNPT.
<b>Mounting</b>	In any position. Mounting bracket, linkage, and connector for 5/16 in. (8 mm) diameter push rod assembled to actuator.
<b>Dimensions</b>	7-7/16 H x 5-3/4 W x 4-7/8 D in. (189 x 146 x 124 mm).

## Accessories

Model No.	Description
AK-42309-500	Positive Positioning Relay.
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.
TOOL-95-1	Pneumatic calibration tool kit.
PND-145-104	3 to 8 black spring.
PND-145-104	5 to 10 black spring.
PND-145-107	8 to 12 blue spring.
PNV-2	Diaphragm.