



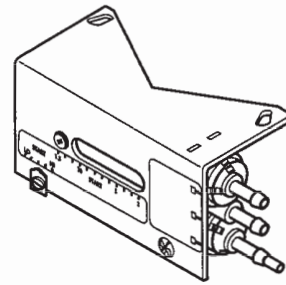
**AK-42309-500**

**Positive Positioner Pneumatic Relay  
General Instructions**

## Application

The AK-42309-500 Positive Positioner Pneumatic Relay is used to accurately position an actuator with respect to signal pressure from the controller. It can also be used to change the effective spring range of an actuator and increase the capacity of a controller.

The AK-42309-500 Positive Positioner Pneumatic Relay is compatible with MK-2690-0-0-1, MK-2690-0-0-2, MK-3XXX, MK-44XX, MK-46X1-XXX-0-2, MK-48XX, MK-66XX, MK-68XX, MK-69XX, MK-7XXX, MK-88XX, and MK-89XX Series actuators. The AK-42309-500 cannot be used with the following actuators: M556, M573, M574, M693, MK-2690-0-0-0, MK-4600-0-0-0, MK-4600-0-0-1, and MK-12000 Series actuators.



## Features

- Force-balance relay-type position sensing mechanism
- Main-air and exhaust connections at actuator location speeds actuator response
- Large air capacity
- Adjustable start-point and span

## Applicable Literature

- Siebe Environmental Controls Reference Manual, F-21683
- EN-123 Air Quality Requirements for Pneumatic HVAC Control Systems, F-22516
- Siebe Environmental Controls First Edition Catalog, F-25683
- Material Safety Data Sheet, MSDS-7

## SPECIFICATIONS

**Action:** Direct (increase in output pressure to actuator with an increase in pilot pressure from controller).

**Pilot input:** 0 to main air pressure, psig.

**Output:** 0 to main air pressure, psig.

**Construction:**

**Housing,** Polysulfone.

**Diaphragm,** Neoprene.

**Start Point:** Adjustable 1 to 12 psig (7 to 83 kPa).

**Span:** Adjustable 2 to 13 psig (14 to 90 kPa); factory set at 5 psig.

**Supply Air:** Clean, oil free, dry air required (refer to EN-123, F-22516).

**Maximum Pressure,** 30 psig (207 kPa).

**Nominal Supply Pressure,** 15 to 20 psig (103 to 138 kPa).

**Environment:**

**Ambient Temperature Limits,**

**Shipping:** -40 to 160°F (-40 to 71°C).

**Operating:** 32 to 140°F (0 to 60°C).

**Humidity,** 5 to 95% R.H., non-condensing.

**Locations,** NEMA Type 1.

**Air Connection Code:** See Figure-1.

**Air connections:**

"M" and "B," Barbed for 1/4 in. (6 mm) O.D. plastic tubing.

"P," Dual-contoured for 1/4 in. (6 mm) O.D. and 5/32 in. 4 mm) O.D. tubing.

**Air Consumption for Sizing Air Compressor:** 0.011 scfm (5.2 ml/s) at 20 psig (138 kPa) supply.

**Air Capacity for Sizing Air Mains:** 20 scim (5.5ml/s).

**Flow Capacity:** 860 scim (235 ml/s) at 20 psig (138 kPa) supply.

**Mounting Linkage:** All necessary linkage provided to mount the AK-42309-500 Positive Positioner to MK-2690-0-0-1, MK-2690-0-0-2, MK-3XXX, MK-44XX, MK-46X1-XXX-0-2, MK-48XX, MK-66XX, MK-68XX, MK-69XX, MK-7XXX, MK-88XX, and MK-89XX series actuators.

**Dimensions:** 2-1/2 H x 4-1/2 W x 3 D in. (64 x 114 x 76 mm). See Figure-12.

**ACCESSORIES**

TOOL-95-1          Pneumatic calibration tool kit.