

# Pneumatic-Pneumatic Positioner

## Rotary / Linear Type

"aira" Pneumatic-Pneumatic Positioner (3-15 pst / rotary off linear type) are advanced control devices which provide unparalleled stability in difficult environment.

### Description :

The "aira" APP-1200-R/L series positioners converts a controller output (usually 3 to 15 psig to Linearly/Rotary proportional Travel/Rotational & Pneumatic outputs. The Positioners are based on a force balance design for control applications that requires a high degree of reliability & repeatability at an economical cost. Optional NEMA 4X (IP65/IP66)-explosion proof versions allows for splashdown/explosive atmosphere and outdoor installation.

The "aira" APP-1200-R/L series positioners are used for Linear/Rotary movement with ranges 3-9 and 9-15 psig. control signal, when you select split range. Standard range is 3-15 psig. The positioners can handle the supply pressure upto 100 psig for higher pressure Industrial pneumatic and process control system requirements.

### Principle of operation

The operation of "aira" APP-1200-R/L series positioners is based on a force balanced system. Tension on the feedback spring provides feedback to the positioner which will vary as the actuator shaft rotates with cam. The spring Loading force is applied through the cam shaft & cam to the positioner's instrument signal capsule through the balance beam.

Output from the controller (usually 3-15 Psig) is applied to the diaphragm in the instrument signal capsule serving as a force balance membrane, matching the actuator shaft position to the instrument signal.

### Split ranging

If split ranging is required may be mounted on Linear Actuator/Rotary Actuator as per installation and operational manual.

### Mounting

The "aira" APP-1200-R/L FC series positioners may be mounted on Linear Actuator/Rotary Actuator as per installation and operational manual

### Field reversible

To change from direct acting to reverse acting simply reverse the cam and fix it on cam shaft and make sure of the signal SPAN which is printed on the cam and recalibrate for Actuator fully open or close position incase of Pneumatic to Pneumatic.

### Technical specifications

| TYPE                           | APP-1200-L/R                                    |        |
|--------------------------------|---|--------|
|                                | Linear / Rotary Type                            |        |
| ITEM                           | Single  | Double |
| Input Signal                   | 3~15psi (0.2-1.0 kgf/cm <sup>2</sup> ) (NOTE 1) |        |
| Supply Air Pressure            | 100 psi Max. (7.0 kgf/cm <sup>2</sup> )         |        |
| Standard Stroke                | 10~80mm (NOTE 2)                                |        |
| Air Piping Connection          | 1/4" NPT (F)                                    |        |
| Ambient Temperature            | -20°C to 70°C                                   |        |
| Pressure Gauge                 | Stainless Steel                                 |        |
| Explosion-proof Classification | Exia II BT6, Exdm II BT6, Exdm II CT6           |        |
| Degree of Protection           | IP66  |        |
| Pressure Gauge                 | Stainless Steel 0-2 kg/cm <sup>2</sup>          |        |
|                                | 0-4 kg/cm <sup>2</sup>                          |        |
|                                | 0-10 kg/cm <sup>2</sup>                         |        |
| Output Characteristics         | Linear  |        |
| Linearity                      | Within ± 1.0% F.S.                              |        |
| Sensitivity                    | Within 0.2% F.S.                                |        |
| Hysteresis                     | Within 0.2% F.S.                                |        |
| Repeatability                  | Within ± 0.75% F.S.                             |        |
| Air Consumption                | 5.0 LPM (1.4 kg/cm <sup>2</sup> ) Supply        |        |
| Flow Capacity                  | 80 LPM (1.4 kg/cm <sup>2</sup> ) Supply         |        |
| Material                       | Aluminium Diecast Body                          |        |
| Weight                         | 1.8 Kg. (Approx)                                |        |

NOTE : 1. 1/2 split range can be adjusted  
2. Feedback lever for stroke 80-150mm is available (PPL)

### Integrated characteristics

- Suitable for Rotary / Linear Actuators.
- Low Air Consumption.
- Corrosion-Resistance Aluminium Diecast Body.
- Simple Conversion to Direct Acting or Reverse Acting.
- Precise Calibration with simple SPAN and Zero Adjustments.
- Suitable for Single/Double acting Actuators.
- Split Ranging.
- Optional Built-in Limit Switches or 4-20mA Position Transmitter for feedback.
- Extremely Vibration Resistance Design.
- Easy Maintenance.

### Features

- Designed block build structure for maintenance and repair
- Precise calibration with simple SPAN and ZERO adjustments
- Simple conversion to Direct Acting or Reverse Acting
- Split range control available by simple adjustments without changing parts
- Simple structure for feedback connection
- Corrosion-resistant aluminium die cast body
- Sensitive response for high performance
- Vibration resistant design
- Stainless Steel Gauge Standard
- A restricted pilot valve orifice kit for small actuators included
- Optional built-in limit switched or 4-20 mA position transmitter for feedback
- Optional directly-mountable positioner
- Proved the reliability through over 5,00,000 times of repeat test & Vibration test.

### Application

- Valve, Valve-Actuators
- Damper and Louver Actuators
- Air-Cylinders
- Relays
- Clutches
- Web Tensioners and Brakes

### USED IN :

- Petrochemical Processing Systems
- Energy Management
- Hvac Systems
- Textile Processing Systems
- Pharmaceutical Processing System
- Paper & Pulp Handling Controls

