

Process Control Instruments  
Valve Automation

# Pneumatic-Pneumatic Positioners

Series AF700  
Linear/Rotary



## Description

The Accuflo Series AF703/704 P/P positioners are used as final controlling element for operation of pneumatic Linear/Rotary valve actuators in correspondence with an input signal of 3-15 psig.

The Positioners are based on a force balance design for control application that requires a high degree of reliability and repeatability at an economical cost.

The Positioners can handle the supply pressure up to 100 psig for higher pressure industrial pneumatic and process control system.

## Principle of Operation

The operation of Accuflo Series AF700 P/P Positioners are 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.

Input of 3-15 psig is applied to the instrument and corresponding output is applied to the control capsule serving as force balance membrane and matching the actuator shaft position to the instrument signal.

## Integrated Characteristics

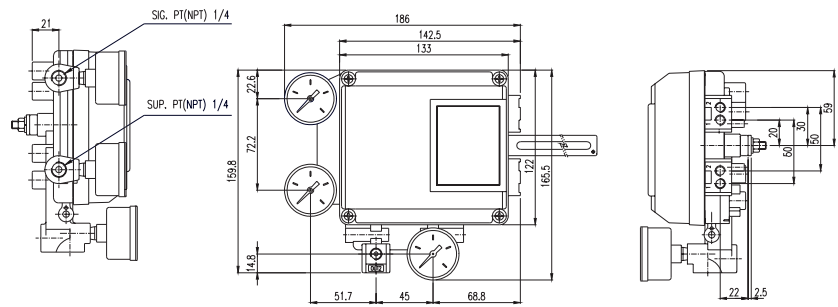
- Suitable for Rotary / Linear Actuators.
- Low Air Consumption.
- No resonance at 5~200Hz.
- Prevents hunting by using Orifice for small size actuator.
- Simple Conversion to Direct Acting or Reverse Acting.
- Precise Calibration with simple SPAN and Zero Adjustments.
- Suitable for Single/Double acting Actuators.
- Easy Feed back connection.
- Extremely Vibration Resistance Design.
- Easy to install air tubing in any direction & Maintenance.
- Corrosion-Resistance Aluminium Diecast Body.
- Options available :  
Position Transmitter (4-20mA DC/0 to 10Vdc).  
Two limit Switches.

## Specifications

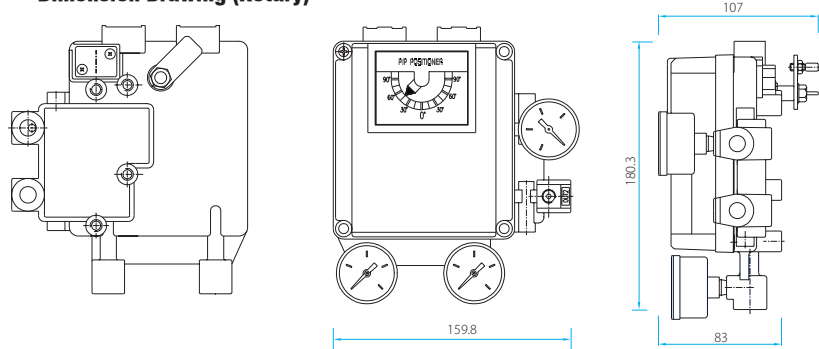
### Linear

Item - Type	Single	Double
Input Signal	4 - 20mA DC	
Supply Pressure	1.4~7kgf/cm <sup>3</sup> (20~100 psi)	
Stroke	10~150mm	
Air Connection	PT (NPT) 1/4"	
Gauge Connection	PT (NPT) 1/8"	
Conduit	PF 1/2" (G1/2")	
Protection	IP66/IP67	
Ambient Temp.	-20°C ~ 70°C	
Linearity	± 1% F.S.	±2% F.S.
Hysteresis	1% F.S.	
Sensitivity	± 0.2% F.S.	± 0.5% F.S.
Repeatability	± 0.5% F.S.	
Air Consumption	3LPM (Sup+1.4kgf / cm <sup>2</sup> 20psi)	
Flow Capacity	80LPM (Sup+1.4kgf / cm <sup>2</sup> 20psi)	
Material	Aluminum Diecasting	
Weight	1.7kg (3.7lb)	

### Dimension Drawing (Linear)



### Dimension Drawing (Rotary)



## Ordering Information P/P Positioners (Linear/Rotary)

### Linear Model AF703

	Color 1	Color 2	Color 3	Color 4	Color 5
Acting Type	<b>S</b> Single	<b>D</b> Double			
Explosion Proof	<b>y</b> Ex. Proof	<b>n</b> Non-Explosion			
Lever Type	<b>1</b> Below 40 mm	<b>2</b> 40 ~ 70mm	<b>3</b> 70 ~ 100mm	<b>4</b> 100 ~ 130mm	<b>5</b> 130 ~ 150mm
Orifice Type	<b>1</b> Below 90 cm <sup>3</sup>	<b>2</b> 90 ~ 180 cm <sup>3</sup>	<b>3</b> Over 180 cm <sup>3</sup>		
Option	<b>1</b> None	<b>2</b> + PTM (Internal)			

### Rotary Model AF704

	Color 1	Color 2	Color 3	Color 4
Acting Type	<b>S</b> Single	<b>D</b> Double		
Explosion Proof	<b>y</b> Ex. Proof	<b>n</b> Non-Explosion		
Orifice Type	<b>1</b> Below 90 cm <sup>3</sup>	<b>2</b> 90 ~ 180 cm <sup>3</sup>	<b>3</b> Over 180 cm <sup>3</sup>	
Option	<b>0</b> None	<b>1</b> + PTM (Internal)		

### Rotary Single/Double acting

Item - Type	Single	Double
Input Signal	0.2 ~ 1kgf/cm <sup>2</sup> (3-15psi)	
Supply Pressure	1.4~7kgf/cm <sup>2</sup> (20~100 psi)	
Stroke	0~90° in case of Rotary	
Air Connection	PT (NPT) 1/4"	
Gauge Connection	PT (NPT) 1/8"	
Conduit	PF 1/2" (G1/2")	
Protection	IP66/IP67	
Ambient Temp.	-20°C ~ 70°C	
Linearity	± 1% F.S.	± 2% F.S.
Hysteresis	1%F.S.	
Sensitivity	± 0.2% F.S.	± 0.5% F.S.
Repeatability	± 0.5%	
Air Consumption	3LPM (Sup+1.4kgf / cm <sup>2</sup> 20psi)	
Flow Capacity	80LPM (Sup+1.4kgf / cm <sup>2</sup> 20psi)	
Material	Aluminum Alloy	
Weight	1.7kg (3.7 lb)	