

A Solid Workhorse You Can Depend On For Consistent, Reliable Control

TRIAC Pneumatic Positioners (4-20psi, linear and rotary type) are advanced control devices which provide unparalleled stability in difficult environments.

Specifications

Туре	PPL		PPR	
	Linear Type (lever feedback)		Rotary Type (cam feedback)	
Item	Single	Double	Single	Double
Input Signal	3-15 psi (0.2-1.0 kgf/cm²) (NOTE 1)			
Supply Air Pressure	100 psi Max. (7.0 kgf/cm²)			
Standard Stroke	10-80 mm (NOTE 2)		60-100° (NOTE 3)	
Air Piping Connection	1/4" NPT			
Ambient Temperature	-4–158°F (-20–70°C)			
Pressure Gauge	Stainless Steel			
Output Characteristics	Linear			
Linearity	Within ±1.0% F.S. Within ±1.5%		1.5% F.S.	
Sensitivity	Within 0.1% F.S.		Within 0.5% F.S.	
Hysteresis	Within ().5% F.S.	Within 1.0% F.S.	
Repeatability	Within ±0.5% F.S.			
Air Consumption	0.18 CFM @ 20 psi			
Flow Capacity	2.83 CFM @ 20 psi			
Material	Aluminum Diecast Body			
Weight	4.63 lbs			

NOTE: 1) Split range is available

- 2) Feedback lever for stroke 80–150mm is available (PPL)
- 3) Stroke can be adjusted to 0°-60° or 0°-100° (PPR)

Features

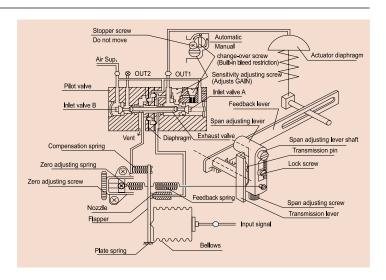
- Easy maintenance
- Precise calibration with simple SPAN and ZERO adjustments
- Simple conversion to Direct Acting or Reverse Acting
- Split range control available by simple adjustments without changing parts
- Simple structure for feedback connection
- Corrosion-resistant aluminum diecast body
- Sensitive response for high performance
- Vibration resistant design
- Stainless steel gauges standard
- A restricted pilot valve orifice kit for small actuators included
- NAMUR mounting dimensions

Principles of Operation

PPL 1200 (Linear Operation)

As the input signal (3–15psi) from the controller increases, pressure inside of the bellows increases and the plate spring works as a pivot. As the flapper receives the rotary torque in the counter-clockwise direction, the clearance between the nozzle and the flapper will increase, and the nozzle back pressure will decrease. As a result, the exhaust valve of the pilot valve moves to the right, and the output pressure of OUT1 increases to move the actuator diaphragm.

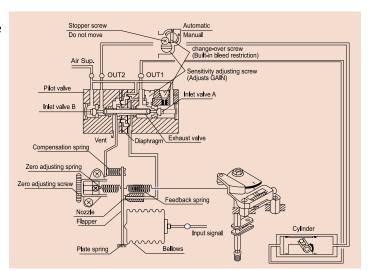
The valve stem goes up or down by the movement of the actuator diaphragm, and the feedback spring lengthens or shortens by the movement of the feedback lever. The valve stem stays in the position where the spring force is balanced with the force generated by the input signal supplied into the bellows. The compensation spring is for direct feedback of the motion of the exhaust valve and is connected to the flapper to enhance the stability of the loop. The zero point is adjusted by changing the zero adjustment spring tension.



PPR 1200 (Rotary Operation)

As the input signal (3–15psi) from the controller increases, the plate spring of the bellows works as a pivot. As the flapper receives the rotary torque in the counter-clockwise direction, the clearance between the nozzle and the flapper will increase, and the back pressure of the nozzle will decrease. As a result, the exhaust valve of the pilot valve moves to the right, and the output pressure of OUT 1 increases (as OUT 2 decreases) to move the actuator.

The movement of the actuator in turn rotates the feedback shaft, and the feedback spring lengthens or shortens by the movement of the feedback cam connected to the feedback shaft. The actuator stays in the position where the spring force is balanced with the force generated by the input signal in the bellows. The compensation spring is for direct feedback of the motion of the exhaust valve and is connected to the flapper to enhance the stability of the loop. The zero point is adjusted by changing the zero adjustment spring tension.



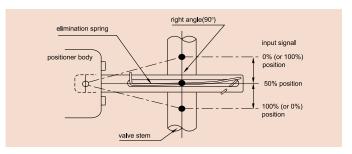
Installation

PPL 1200 (Linear Type)

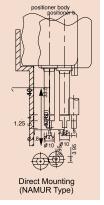
- 1) Connect the feedback lever to the control valve stem at position where the angle between the valve stem and the feedback lever is 90° as shown to the right when the input signal is set to 9 psi (50%).
- 2) The stroke range for the best performance should be 3/8" 3-1/4" and the operation angle of the feedback lever should be between minimum 10° and maximum 30° to carry out accuracy and linearity perfectly.

PPR 1200 (Rotary Type)

Mount the positioner to the actuator at position where the feedback lever is in perfect alignment with the rotary actuator output shaft. The spring pin of the feedback lever "A" should be placed in the orifice of the feedback lever "B". Linearity and hysteresis will suffer if alignment and placement are not correct.

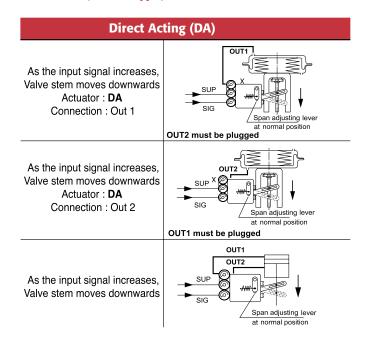


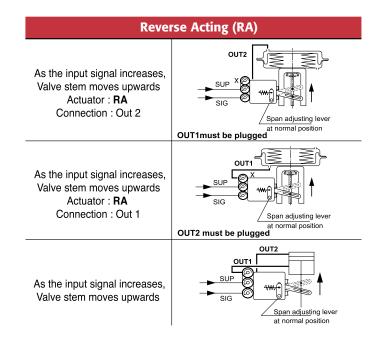
FEEDBACK LEVER INSTALLATION



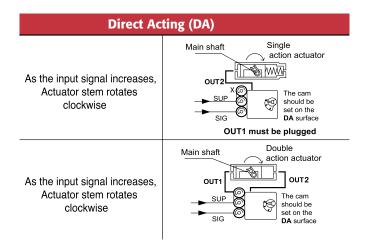
MOUNTING

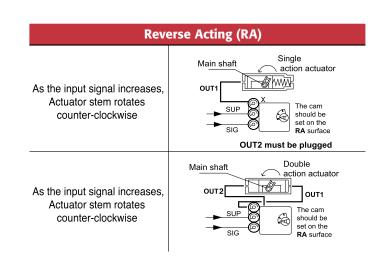
Air Piping PPL 1200 (Linear Type)



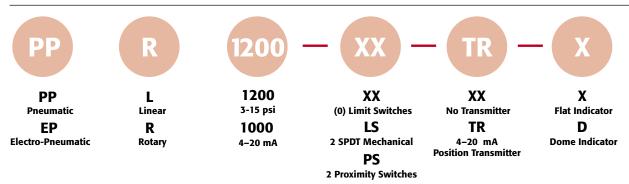


PPR - Rotary Type





How To Order



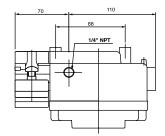
Example PPR1200-XX-TR-X

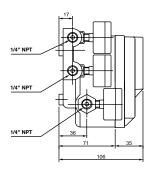
Pneumatic Rotary Positioner, 3–15psi signal, with 4–20mA Position Transmitter, and Flat Position Indicator

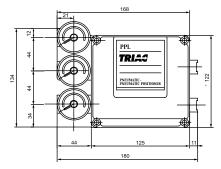
Dimensions

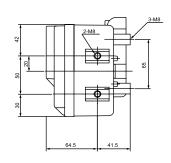
PPL 1200 Linear type

Dimensions in millimeters

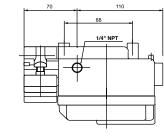


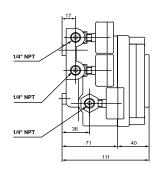


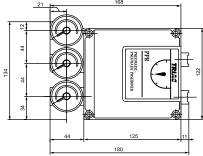


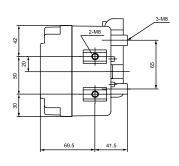


PPR 1200 Rotary type

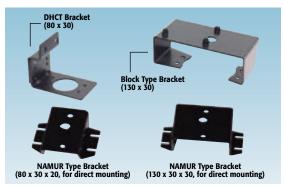




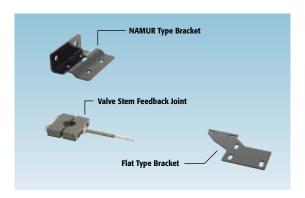




Accessories







Linear Type Mounting Brackets



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