MODENTIC

Automation Valve Accessories
Pneumatic-Pneumatic Positioner

Linear & Rotary Type

A Solid Workhorse You Can Depend ON For Consistent, Rliable Control

Modentic Pneumatic-Pneumatic Positioner (3-15psi) of Linear &Rotary Type
are advanced contro devices which provide unparalleled stability in difficult environments

FEATURES

- Easymaintenance
- Simple zero and span adjustment
- 1/2" spilt range by simple adjustment without changing parts
- Reversible operating direction
- Simple structure for feedback connection
- Corrosion-resistant materials
- Easy to attach small diaphragm actuators
- Sensitive and correct response for high performance
- Economical energy saving
- Stable operation .Orifice with filter is available
- Optional visual dome indicator


Linear Type (PPL)


RotaryType (PPR)

SPECIFICATIONS

Item \ Type	PPL		PPR	
	Linear Type (lever feedback)		RotaryType (cam feedback)	
	Single	Double	Single	Double
Input Signal	0.2~1.0kgf/cm2 (3~15psi)(Note.1)			
SUpply Air Pressure	Max. 7.0kgf/cm2 (100psi)			
Standard Stroke	10~80mm(Note.2)		60~100˚(Note 3)	
Air Piping Connection	PT 1/4 (NPT 1/4)			
Ambient Temperature	-20~70˚c			
Pressure Gauge	Stainless Steel			
Output Characteristics	Linear			
Linearity	Within 1.0%F.S		Within 1.5%F.S	
Sensitivity	Within 0.1%F.S		Within 0.5%F.S	
Hysteresis	Within 0.5%F.S		Within 1.0%F.S	
Repeatability	Within 0.5%F.S			
Air Consumption	5LPM (Sup. 1.4kgf/cm2)			
Flow Capacity	80LPM (Sup. 1.4kgf/cm2)			
Material	Aluminium Diecast Body			
Weight	2.1kg			

Note:
1. 1/2 Spilt range adjustment is available
2. Additional Option: 80~150mm
3. Stroke adjustment (Rotary type):0~60˚ , 0~100˚

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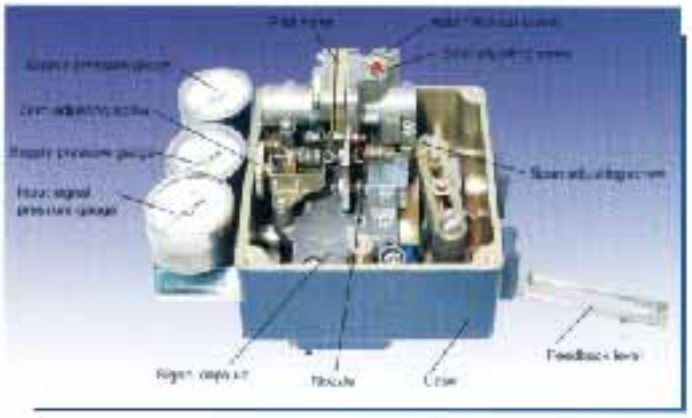
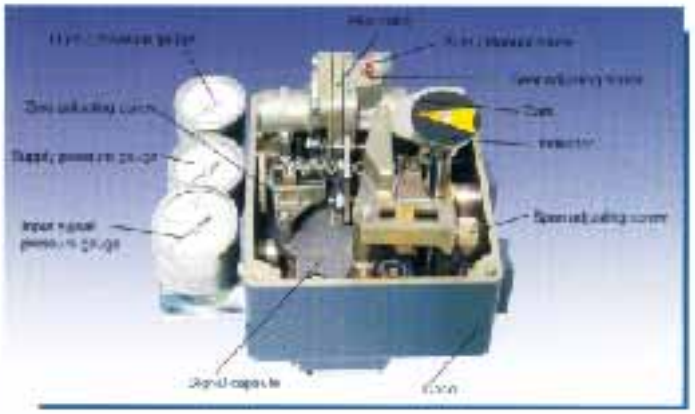
Linear Type (PPL)



RotaryType (PPR)



INSTALLATION

Linear Type Backlash

1.Attach at position where a valve stem and a feedback lever shaft build
up the right angle as shown
in the right picture when 50% (9psi) of the input sigal is applied.
2.The stroke range for performance is 10 to 80mm and the operating angle of feedback lever should be
between minimum 10˚ and maximum 30˚ to carry out accuracy and linearity.

FEEDBACK LEVER INSTALLATION

Rotary Type

Cncerning exchangeability of actuators, we have equipped with the mounting bracket for users in
accordance with ISO satndard as shown in the right picture.
Attach at position at which a feedback lever "A" should be exactly inserted into the hole of the
feedback lever "B" to connect with each other.
1.Concentric: the spring pin of the feedback lever "A" should be exactly inserted into the hole of the feedback
lever "B" to connect with each other.
2.Take note that it causes the characteristics for linearity, so hysteresis

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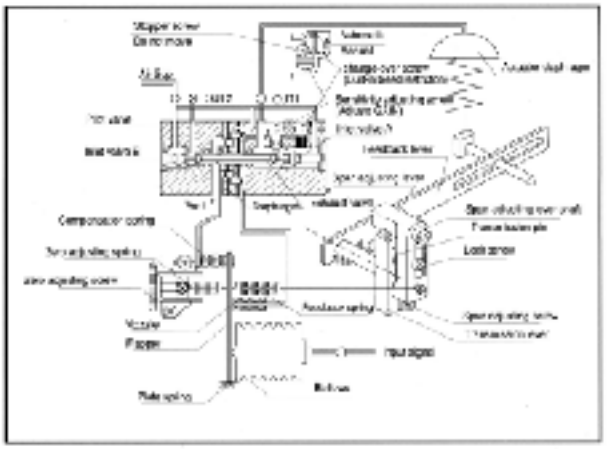
PRINCIPLES OF OPERATION

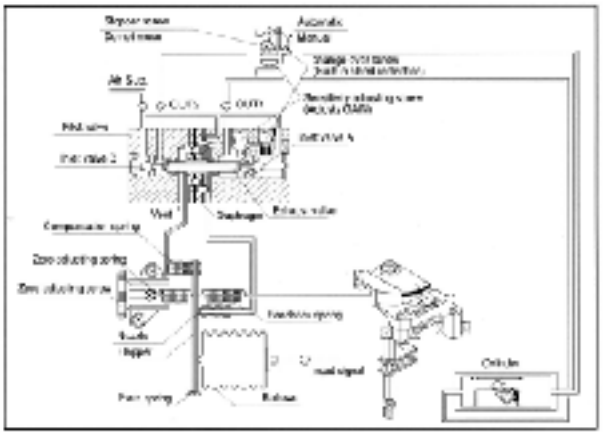
Series:PPL (Linear Operation)

1.As the input signal (3-15psi) from a mamual operator increases, pressure of the bellows inside of the signal capsule increases and the flapper revolves around the pivot of the plate spring counter-clockwise.
2.The gap between a flapper and a nozzle widens at this momentand back pressure of the nozzle decreases. So the exhaust valve in the pilot valve moves right and the inlet valve A opens the port.
3.Pressure of output 1 increases. So an actuator diaphragm moves a stem downwards.
4.With these movements as above, a feedback lever extends the feedback spring and the control valve operates by position where is balanced with the input signal supplied.
5.A compensation apring makes up for the movement of the exhaust valve and makes the loop stable.
6.The zero point should be adjusted by tension of the zero adjustment spring.



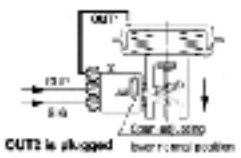
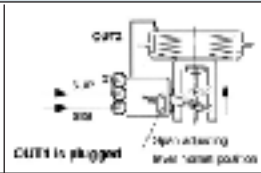
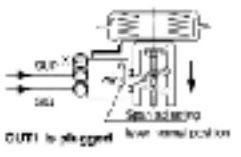
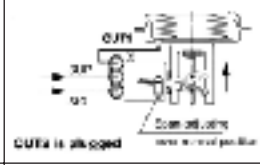
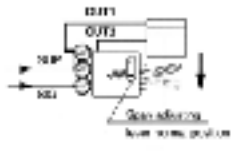
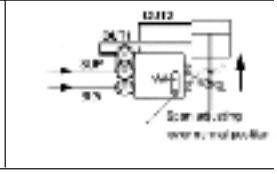
Series:PPR (Rotary Operation)

1.As the input signal(3-15psi) from a controller or a manual operator increases, pressure of the bellows inside of the signal capsule increases and the flapper revolves around the pivot of the plate spring counter-clockwise.
2.The gap between a flapper and a nozzle widens at this moment and back pressure of the nozzle decreases. So the exhaust valve in the pilot valve moves right and the inlet valve A opens the port.
3.Pressure of output 1 increases. while pressure of Output 2 decreases. So a cylinder actuator rotates.
4.With these movements as above, a feedback cam extends the feedback spring and acylinder actuator operates by position where is balanced with the input signal supplied.
5.A compensation apring makes up for the movement of the exhaust valve and makes the loop stable.
6.The zero point should be adjusted by tension of the zero adjustment spring.

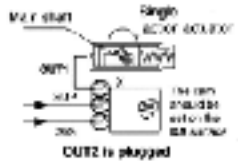
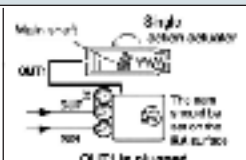
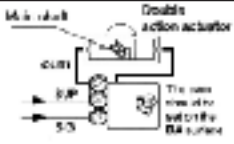
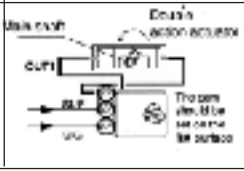


AIR PIPING

PPL-Linear Type

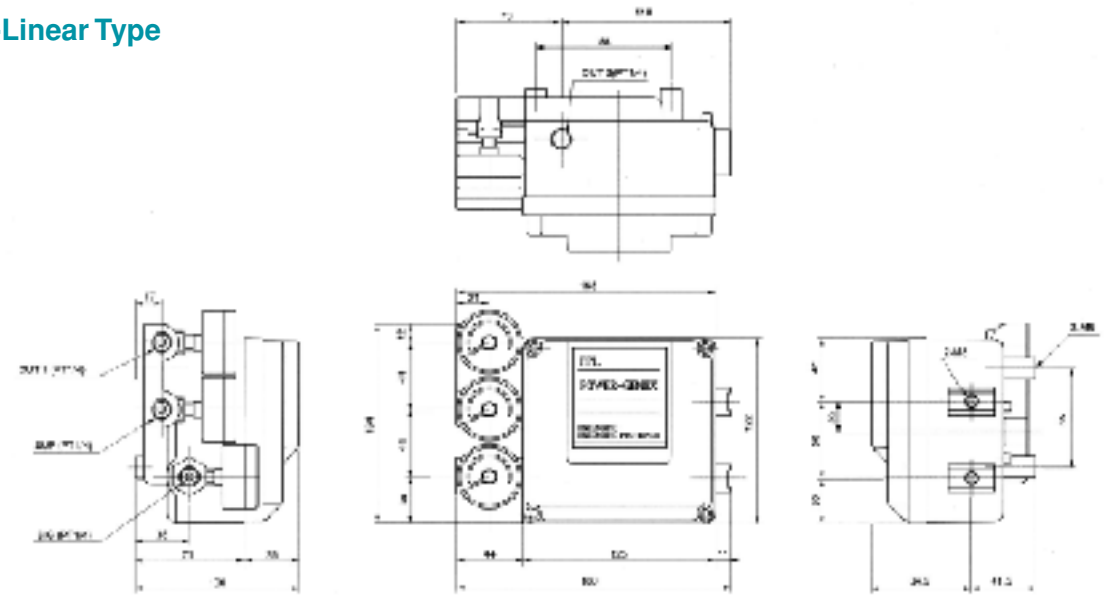
Direct Acting (DA)		Reverse Acting (RA)	
Increasing input signal, Stem lift downward. Actuator : DA Connection : out 1		Increasing input signal, Stem lift upward. Actuator : RA Connection : out 2	
Increasing input signal, Stem lift downward. Actuator : DA Connection : out 2		Increasing input signal, Stem lift upward. Actuator : RA Connection : out 1	
Increasing input signal Stem lift downward.		Increasing input signal, Stem lift upward.	

PPR-Rotary Type

Direct Acting (DA)		Reverse Acting (RA)	
Increasing input signal, Actuator stem rotates to clockwise.		Increasing input signal, Actuator stem rotates to counter clockwise.	
Increasing input signal, Actuator stem rotates to clockwise.		Increasing input signal, Actuator stem rotates to counter clockwise.	

DIMENSIONS

PPL-Linear Type



PPR-Rotary Type