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PNEUMATIC POSITIONER

SERIES VP-700

Features

- Available in rotary (ROT) or linear (LIN)
- Precise calibration with simple span and zero adjustments
- Direct or reverse action
- Split range available
- Rugged aluminum enclosure with epoxy coating
- Vibration resistant
- Stainless steel gauges standard
- Various orifices available to increase/decrease flow

Specifications

Type / Item	LIN		ROT	
	Linear Type (lever feedback)		Rotary Type (cam feedback)	
	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)		60-100º (NOTE 3)	
Air Piping Connection	1/4" NPT			
Ambient Temperature	-4-158ºF (-20-70ºC)			
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	0.18 CFM @ 20 psi			
Flow Capacity	2.83 CFM @ 20 psi			
Material	Aluminum Diecast Body			
Weight	4.63 lbs			

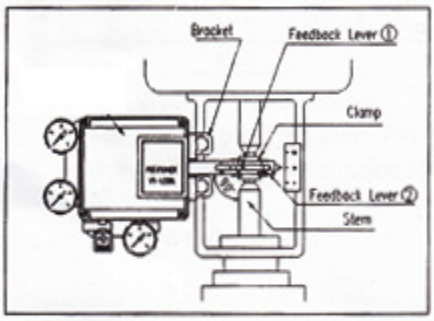
NOTE: 1) Split range is available
2) Feedback lever for stroke 80-150mm is available (LIN)
3) Stroke can be adjusted to 0º-60º or 0º-100º (ROT)

The pneumatic-pneumatic positioner series VP-700 is used for operation of pneumatic valve actuators by means of electrical controller or control systems with an pneumatic output signal 3 to 15psi or split range.

1. INSTALLATION

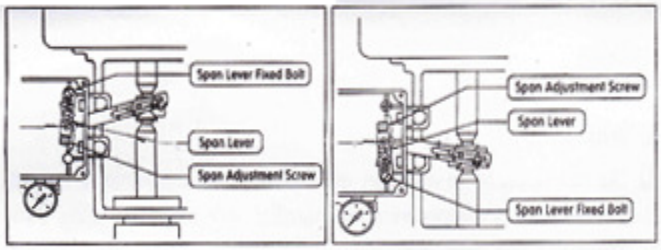
1-1 series VP-700

1-1-1 Connection with feedback lever



1. Attach to the position that the valve stem and lever form the right angle when the input signal is 50%.
2. Attach to the position that the run out angle is within the range of 10° ~30°.

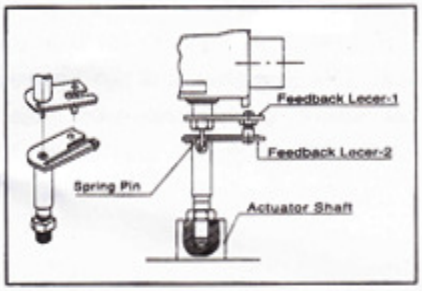
1-1-2 Direct Action & Reverse Action



〈Direct Action〉 〈Reverse Action〉

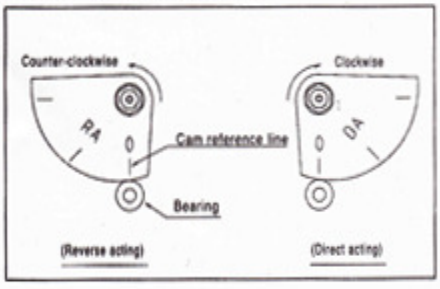
1-2 series VP-700

1-2-1 Connection with feedback shaft



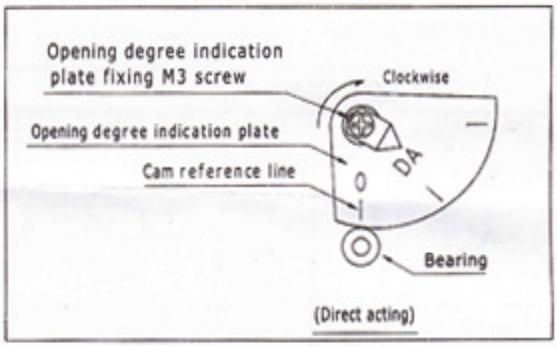
Attach to the position at which the positioner feedback shaft and the rotary actuator main shaft are almost concentric (range in which the spring pin of feedback shaft edge enters the hole of fork lever assembly shaft edge)

1-2-2 Cam attaching procedure



1. Use the DA face of cam to turn the actuator main shaft clockwise(viewed from the positioner front cover side) at the time of input feedback shaft.
   Use the RA face to turn it counterclockwise (reverse action).
   Correctly attach the cam to the flange part of feedback shaft.
2. Attach the cam in the procedure of loosening the hexagonal nut with flange first, setting the using actuator to the starting position and then setting the cam reference line and the bearing contact point of span adjusting arm unit to the matching position.
3. Do not apply the supply pressure when attaching the cam as otherwise it is very dangerous.
4. When the positioner is shipped out of our plant, the cam is tentatively tightened to the shaft. Be sure to firmly lock the cam to the lock nut.
   (tightening torque 2.0 ~ 2.5 Nm (20 ~ 25 kgfcm).

1-2-3 Attaching procedure of opening degree indication plate



2. ADJUSTMENT

2-1 Zero Adjus .nent

1. Set an signal to the Stroke starting signal(4mA) then turn the Zero Adjuster clockwise or counterclockwise.
2. In case of Spring Actuator, check if it is set to standard pressure in Zero Point. If not, repeat Zero adjustment.

2-2 Span Adjustment

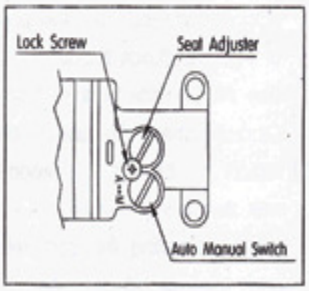
1. Adjust Range Adjustment so that an Actuator stops at 0% position of the Stroke by the 0% applied input signal and 100% position for 100% input signal respectively.
2. Check Zero Point and repeat Zero Span Adjustment.
   1/2 Split Range can be used by Zero and Span Adjustment.
3. After Setting, tighten up Lock Screw of Span adjustment.

〈Zero Adjustment〉 〈Span Adjustment〉

2-3 Auto/Manual Switch

1. This is a Switch for changing Auto and Manual.
   Shipped products is set for Auto. To use Manual operation, turns
2. A/M Switch counterclockwise.
3. In manual operation, the pressure of VP-700 regulator connects to Actuator.
4. After using, return switch to "A".
   Not available for Single Acting-OUT2 and Double Acting.

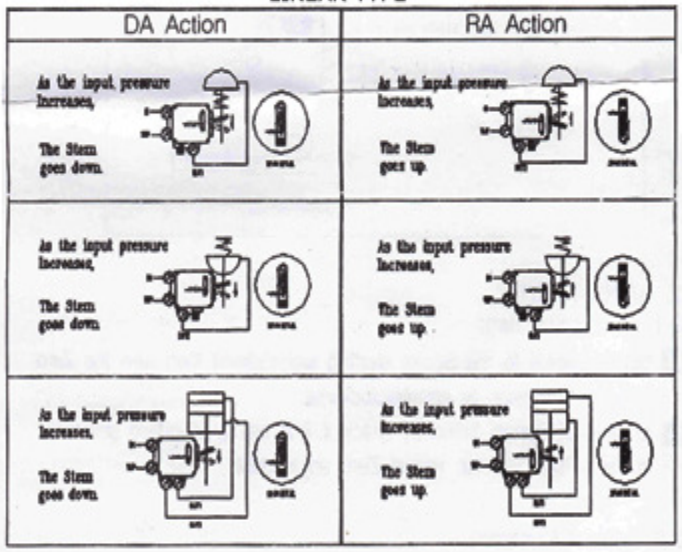
2-4 Seat Adjuster



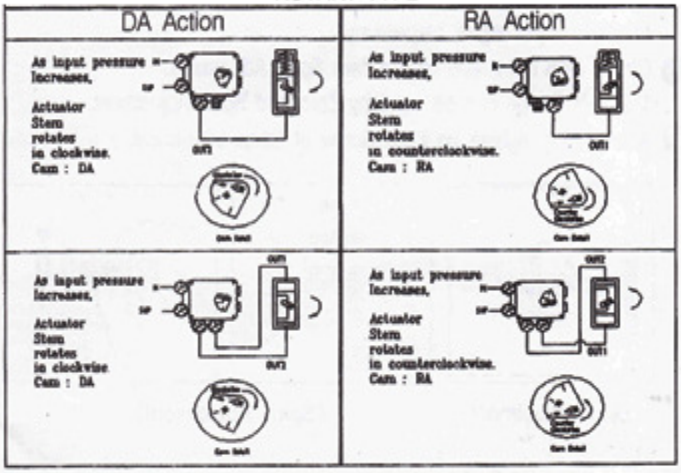
1. No need to adjust at the field because Seat Adjuster is to be balanced pressure point of output pressure.
2. Seat Adjuster is always used for Double-acting. If need to change balanced pressure point of output pressure, use Seat Adjuster.
3. If the sensitivity is poor because of the actuator type of load condition, turn the seat adjuster screw clockwise. If hunting occurs, turn the seat adjuster screw counterclockwise.(The amount of turning varies by actuators. Do not loosen the stopper screw at this time since it is set to avoid the screw coming off)
4. If hunting occurs due to an actuator of small capacity, refer to description in chapter 5. OPTION.

3. AIR PIPING CONNECTION

LINEAR TYPE



ROTARY TYPE



1. Fully purge the pipe to remove foreign matter.
2. Use a clean supply air fully removed humidity and dust.
3. Use coalescing filter/regulator to keep supply air pressure constantly.
4. When using the double acting type as the single acting type, blind either OUT1 or OUT2 and also remove the pressure gauge to close its connection.

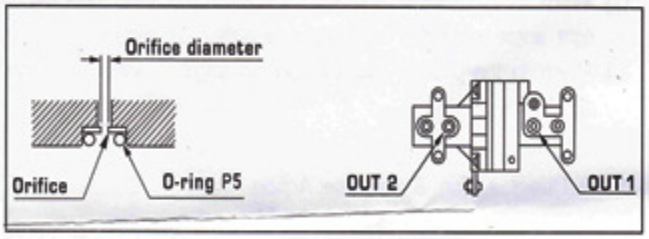
4. OPTION

4-1 Pilot valve with output orifice

1. Hunting may occur when the positioner is attached to a small capacity actuator. In such case, use a pilot valve having a output orifice for OUT1 and OUT2. The output orifice is removable.
2. Output orifice types

Volume of actuator	Output orifice diameter	Ordering NO.
below 90㎤	Ø 0.7	1
90 ~ 180㎤	Ø 1.0	2
over 180㎤	None	3

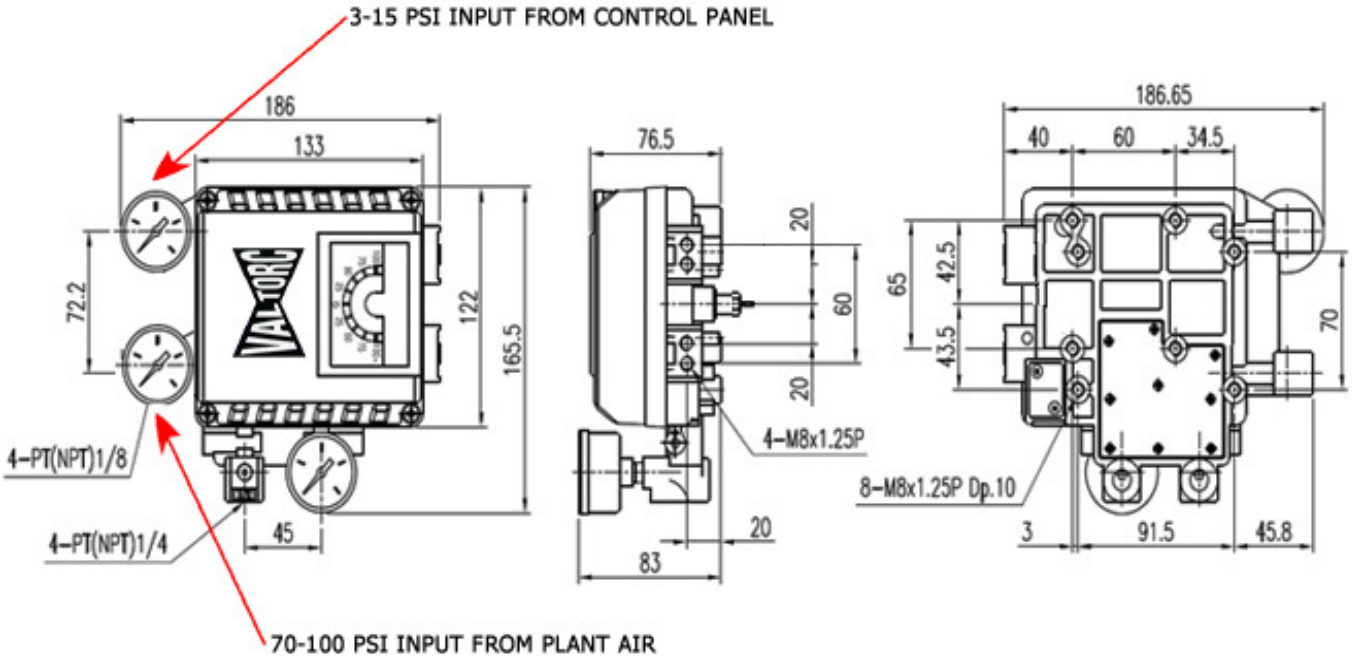
3. After pulling out the O-ring from OUT1 and OUT2 port, push proper orifice and then mount the O-ring to OUT1 and OUT2 again. When mounting the output orifice, pay attention not to let dust and others enter the port hole.
4. If the hunting dose not stop even after mounting the output orifice, please contact us.



5. WARNING

1. Do not apply large vibration or impact to the positioner. It causes trouble. The positioner must be handled very carefully during transportation and operation.
2. If the positioner is used under temperature outside of the specification, the sealing materials deteriorate quickly and also the positioner may not operate normally.
3. Use clean supply air fully removed humidity and dust.
4. If you leave the positioner at the operation site for a long time without using it, put the cover on it so that the rain water does not enter the positioner. If the atmosphere is of high temperature or high humidity, take measures to avoid condensation inside. The condensation control measures must be taken through it for export shipment.

Dimension



Call 1-866- VALTORC for LIN (Linear) dimensional info.

Available Models*

ROT-700A	VALTORC 3-15psi Pneumatic Positioner
ROT-700B	VALTORC 3-15psi Pneumatic Positioner with (2) spdt limit switches