Auto control Actuator

Concept

The actuator and adjustment mechanism of the pneumatic head are a unified whole, and the actuator has a piston type and a rack and pinion type. The piston type has a long stroke and is suitable for occasions that require greater thrust; because the rack and pinion pneumatic actuator has the advantages of simple structure, large output thrust, stable and reliable action, it is widely used in the production process with high safety requirements.

Working principle

The working principle of the cylinder is to use compressed air as the power source. When the compressed air source enters the cylinder cavity, it pushes the cylinder piston. Depending on the inlet and outlet holes, the piston moves toward the cylinder head at both ends or moves toward the center. The piston moves in conjunction The crank arm and the shaft center, the piston action makes the shaft center rotate 90 degrees and the shaft center in the cylinder rotates at the same time to drive the valve connected below, so that the valve can achieve the effect of opening and closing and control.

Standard design

Single-acting cylinder

The inside of a single-acting cylinder uses a spring to make the piston rebound. The piston is pushed to both ends of the cylinder head. At this time, the spring in the cylinder is in a compressed state. When the air supply is interrupted, the spring force pushes the piston. Back to the center of the cylinder, so under normal circumstances, the main function of a single-acting cylinder is to open the valve when the air is input, and the spring will return when the air supply is interrupted, and the valve will be closed automatically.

Parts List			
ltem	Parts name	Q'TY	Material
1	PT 1/8" Air Connection	1	Сиррег
2	St.St Cylinder Cap	1	ST.ST 304
3	Piston	1	POM
4	Piston O-Ring	1	NBR70(Block)
5	St.St Cylinder	1	ST.ST 304
6	Compress Spring	4	ST.ST 304
7	Coupling Axle Piece	1	ST.ST 303
8	Teflon gasket	3	Teflon
9	Ø11 Piston guide part	3	ST.ST 304
10	Ø13 Piston guide part	1	ST.ST 304
11	Ø12 Piston guide part	2	ST.ST 304
12	Ø70 O-Ring	1	NBR70(Block)
13	Ø21.7 O-Ring	1	NBR70(Block)
14	Lower Cylinder End	1	ST.ST 304
15	Lock Wire Clip	1	ST.ST 304
16	Contact Seal	1	ST.ST 304
17	Ø15 Cir Clip	1	ST.ST 304
18	Connection piece	1	ST.ST 304
19	Mounting bracket	1	ST.ST 304
20	M8x12 ST.ST Screw	2	ST.ST 304
21	Muffler	1	Сиррег
22	Gasket	4	ST.ST 304
23	M6 ST.ST NUT	2	ST.ST 304
24	M6x35 ST.ST Screw	2	ST.ST 304
25	Piston cover	1	ST.ST 303/304

Material : Other steel : AISI304 Other seal : NBR

Technical data: Air pressure: 5 to 9 bar operating air pressure: 6kg/cm2 shut-off time: 1.5 second air consumption: 0.266 liter at 5 bar

Temperature: Range:-10°C ~ +100°C



Mechanical principle

The gas flows into the cylinder to drive the central axis and spring of piston moving up and down, and further transmitting the screw to move.

В

Precautions

- $1 \cdot$ Site A is for the friction between the central axis and the cylinder head.
- $2 \cdot$ Site B is for the friction between the piston and the cylinder wall.
- 3 Site C is for the friction between the rod and the cylinder bottom cover , and spring compression , will be up and down because of reciprocating action to produce heat.
- $4 \cdot$ This product can not be applied for mining.



(Action direction) (Butterfly valve installation)



Mechanical principle

The gas flows into the cylinder to drive the central axis and spring of piston moving up and down , and further transmitting the screw to move.

Precautions :

 $1 \cdot$ Site A is for the friction between the screw and the guiding set.

 $2 \cdot$ Site B is for the friction between the piston and the cylinder wall. Heat can be generated due to the action of spring.

 $3 \cdot C$ this product can not be applied for mining.

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Mechanical principle

The gas flows into the cylinder to drive the central axis and spring of piston moving up and down , and further transmitting the screw to move.

Precautions :

- 5 \cdot Site A is for the friction between the central axis and the cylinder head.
- $6 \cdot$ Site B is for the friction between the piston and the cylinder wall.
- 7 Site C is for the friction between the rod and the cylinder bottom cover , and spring compression , will be up and down because of reciprocating action to produce heat.
- 8 This product can not be applied for mining.