

**Coosai®**

**ZS series Double acting actuator**

[www.coosaisv.com](http://www.coosaisv.com)



**COOSAI VALVE**



## Company Introduction

China Coosai Valve Co., Ltd is a leader which has 20 years experience in the design and manufacture of quality engineered and tailor made valves.

The prime markets served by Coosai are the Oil & Gas exploration and production sectors, oil field , power plants, pulp and paper mills, chemical plants, mining industry, sugar industry , and other special service industrial applications.

Coosai offers a vast production range that satisfies the most critical project requirements, manufacturing valves in a wide range of sizes (up to 5000mm), pressures classes (up to ANSI 2500LB and 10000PSI), materials (Stainless steel and special alloy material)

Coosai valves are CE PED 97/23/EEC, API 6D-0749, API 6A-1199, API 607 (fire safe) and TS certified.

Coosai diaphragm pumps are CE and ATEX (EX Equipment II 2 GDC) certified.

Coosai Electric actuator is CE certified.

Coosai workshops cover an area of 12000 square meters. Total registered asset is RMB 80 million . Besides ISO 9001:2008 quality management and QC system, Coosai has the capability in offering varied products by virtue of over 100 sets large scale CNC lathes, testing equipment and computerized control valve testing and calibration bench. Nondestructive testing equipment include PT, UT, MT and RT are available.

There is a real technical proficiency at Coosai with an organization to produce and supply valves according to any specific requirements the customer may ask.

Coosai is dedicated to offering the best configuration and satisfy client's expectations and their eventual commitments.

We look forward to meeting all distinguished clients and industry experts and sincerely welcome all your valuable inquiries.

## **Double acting actuator**



### **Double acting actuator**

The pneumatic actuator developed and manufactured by Hiton, is a kind of crank arm piston type, compressed air forces piston to move linearly through the cylinder, and linear movement can be transformed into quarter turn rotation through the crank arm. The actuator has a high precision of rotation, small return difference and dead zone and high sensitivity. The actuators are mainly used for quarter turn regulating valves, also because of large range of output torques and complete models which are used in control system of quarter turn on/off valves. It is a multi-functional actuator, which is suitable for almost all range of quarter turn valves.

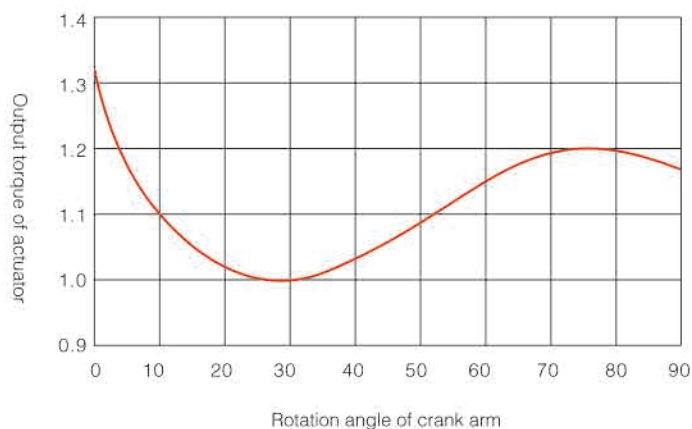
### **Features**

1. High precision of rotation: All rotation area are equipped with high precision bearings.
2. Long service life: For small size actuators, its cylinder material is aluminum alloy, inside surface with special anti-abrasion treatment, piston rod with hard chromium coated and mirror finish grinding, piston with guided ring and dual sealing design.
3. Strong impact resistance: Crank arm is in integral casting construction which has high strength, good stability and strong impact resistance.
4. Easy to adjust, and large adjustment range: Through the 2 adjusting screws located on 2 sides of the actuator, it is very easy to adjust the stroke of the actuator, in a range between plus 10 degree to minus 10 degree.
5. Excellent safety performance: For single acting pneumatic actuator, it is with spring anti-blowout design; enable the use of actuator becomes safer.
6. Selection can be more flexible, economical and practical: Body and cylinder assembly can be incorporated according to torque requirement, which provide small level difference of output torque while more torque levels. So the selection is more flexible.
7. Achieve quick open/close: Incorporated with pneumatic accessories, it can achieve a quick open or close.
8. With changeable torque output feature, it is closer to the real requirement that valve had been used in service: The output torque at open starting point is the highest, which exceeds the nominal rated output torque, so safety factor is higher.



## Technical data of double acting actuator

Code of actuator	Cylinder diameter(mm)	Cylinder volume(ml)	Max. bore diameter(mm)	Max. input air pressure(MPa)	Working temperature
ZS36-63	63	267	20	0.8	80℃
ZS36-80	80	503	20	0.8	80℃
ZS45-80	80	534	25	0.8	80℃
ZS45-100	100	855	25	0.8	80℃
ZS55-100	100	1052	30	0.8	80℃
ZS55-125	125	1645	30	0.8	80℃
ZS63-160	160	3010	40	0.8	80℃
ZS63-200	200	4710	40	0.6	80℃
ZS80-200	200	5960	60	0.8	80℃
ZS80-250	250	9320	60	0.6	80℃
ZS100-250	250	11775	70	0.8	80℃
ZS100-300	300	16700	70	0.8	80℃
ZS125-300	300	21550	100	0.8	80℃
ZS125-350	350	29330	100	0.8	80℃

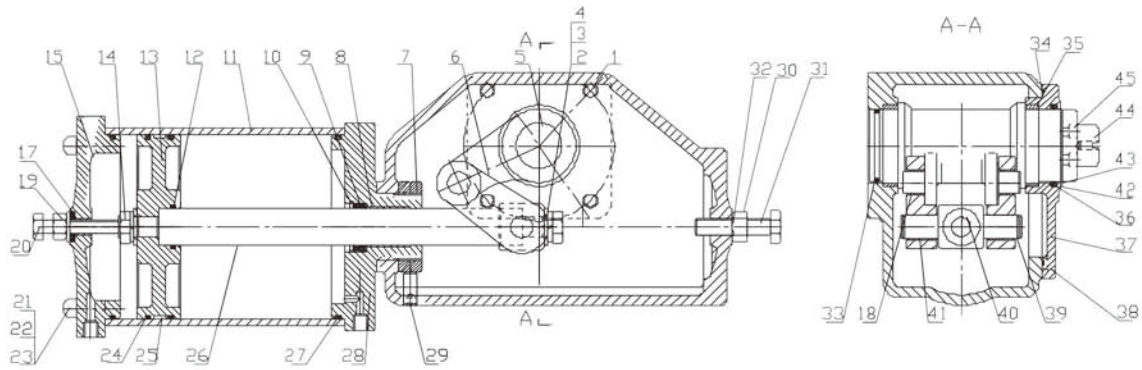


## Selection of double acting actuator

This series of actuators are suitable for quarter turn valves, follow the below steps to choose the actuator:

1. Confirm the valve type is belonged to quarter turn valve.
2. Confirm the required valve stem torque.
3. To select a suitable actuator, generally the rated output torque of selected actuator shall be 1.1 to 1.3 times that of valve's stem torque, which also depends on the importance of the valve. If it is required with high reliability for the valve operation, then an actuator with more safety factors shall be selected.
4. Pay special attention to the air supply pressure at jobsite, it is important to select a correct actuator based on the real air supply pressure.

## Bill of material for double acting actuator



No.	Part name	Qty	Material	No.	Part name	Qty	Material
23	Bolt	4	45+Zn				
22	Washer	4	Q235	45	Screw	2	Stainless steel
21	Nut	4	35	44	End cover	1	WCB
20	Bolt	1	35	43	Open dial indicator	1	Plastic
19	Nut	1	15	42	Open dial panel	1	Stainless steel
18	Lubricated bearing	2		41	Lubricated bearing	2	
17	Washer	1	Q235	40	Universal axis	1	45
16	Sealing gasket	1	PTFE	39	Spring backup ring	2	65Mn
15	Upper cover	1	WCB/Q235	38	Screw	4	35
14	Bolt	1	25	37	Case cap	1	WCB
13	Piston	1	WCB/Q235	36	O-ring	1	NBR
12	O-ring	1	NBR	35	Lubricated bearing	2	
11	Cylinder	1	AL alloy(250aboveQ235)	34	Waterproof gasket	1	NBR
10	Backup ring	1	Spring steel wire	33	O-ring	1	NBR
9	Y-ring	1	PU	32	Flat gasket	1	Q235
8	Lubricated bearing	1	Compound material	31	Bolt	1	35
7	Round nut	2	15	30	Nut	1	15
6	Tie rod	2	WCB	29	Screw	1	35
5	Crank arm	1	ZG25	28	Lower cover	1	WCB/Q235
4	Washer	2	Q235	27	O-ring	2	NBR
3	Bolt	1	35	26	Piston rod	1	45+Cr
2	Washer	2	25Mn	25	O-ring	2	NBR
1	Case	1	WCB	24	Guide ring	1	PTFE

**Coosai®**

[www.coosaisv.com](http://www.coosaisv.com)



## **China Coosai Valve Co.,Ltd**

Add: Dong'ou Industry Zone, Oubei Town, Yongjia, Wenzhou, China

Tel: +86-577- 67988858 Cell phone: +86 15267748088

Fax: +86-577-57778668 E-mail: [zhou@coosaivalve.com](mailto:zhou@coosaivalve.com)

[www.coosaisv.com](http://www.coosaisv.com)