



AOXIANG
ELECTRIC INTELLIGENT ACTUATOR
ELECTRIC VALVES

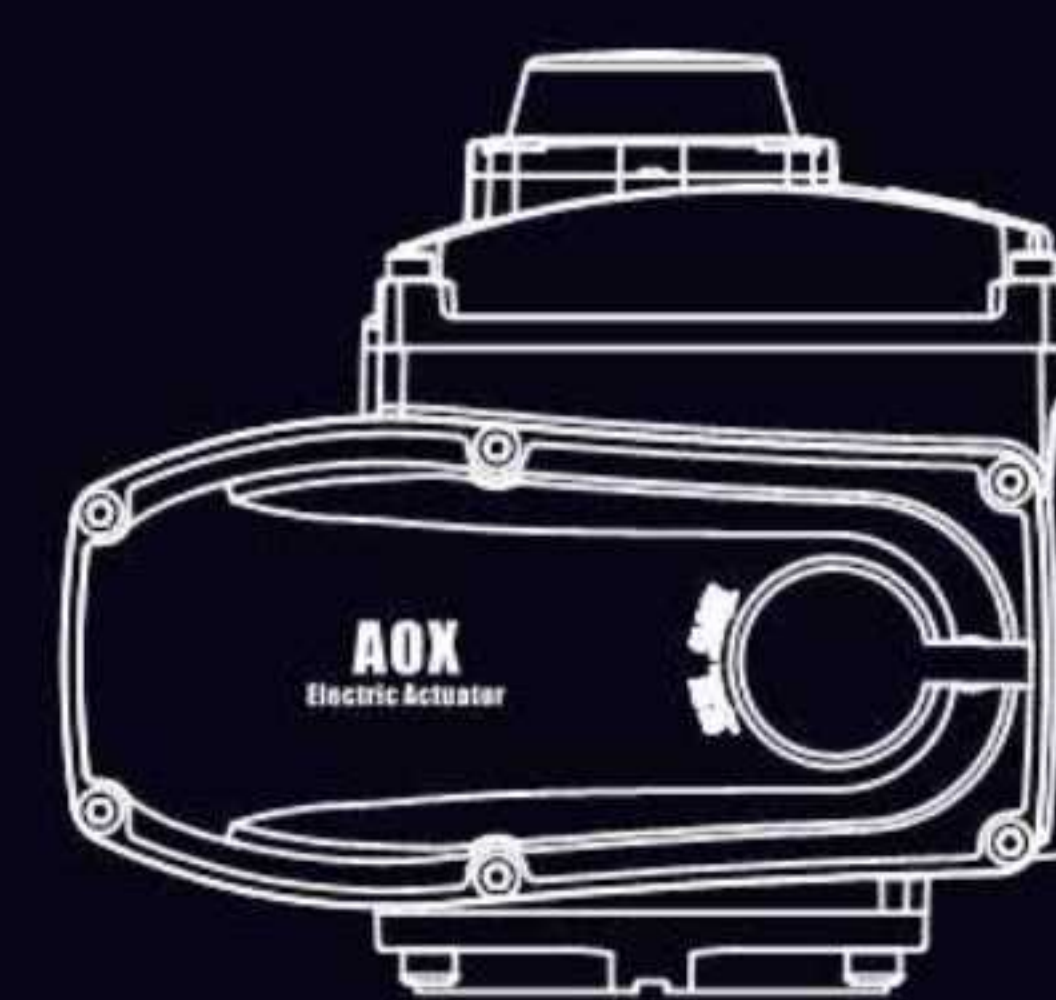


AOX-VR Electric Actuator

Patented products,
Counterfeiting not allowed

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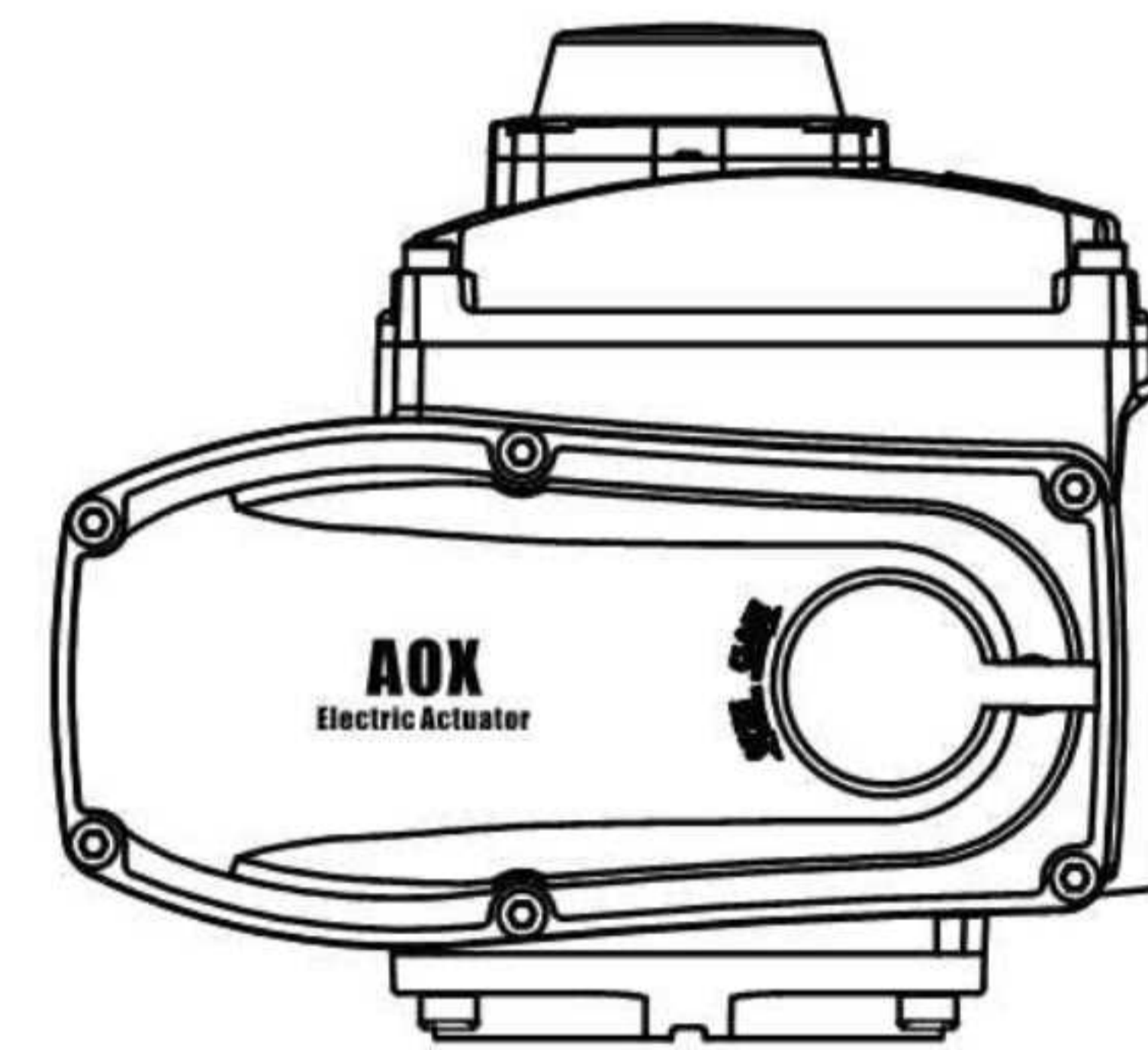




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AOX-VR Electric Actuator

AOX was founded in 1997, with decades of deep understanding of the product and rich experience in industry applications, rigorous manufacturing process, modular precision design, for a variety of harsh conditions (such as for military, nuclear industry and other fields) to provide the most professional automatic control products and solutions. Whether in harsh environments or user-specified operating requirements, aoxiang actuators not only meet high safety standards, but also confirm the reliability and robust design of their products.

AOX has been focused on the modular design of the product, a variety of components to ensure that the product can be assembled according to customer needs, and provide a variety of customized products to meet the various needs of customers.

Applications



Energy



Oil & Gas



Chemical



Water treatment



Food industry



Steel mills

Honor

- CNPC first class supplier
- Sinopec supplier
- CNNC qualified supplier
- National intellectual property advantage enterprise
- National High Tech Enterprises
- Industrialization demonstration project of national Torch Program
- Provincial high tech enterprise research and Development Center
- New products of provincial science and technology
- Provincial Scientific and technological enterprises
- Provincial Patent Demonstration Enterprise
- AAA credit enterprise
- Wenzhou famous brand products
- CE certificate
- DNVGL certificate
- CCS certificate
- ATEX certificate
- SIL3 certificate
- CU-TR certificate
- ISO9001 certificate
- OHSAS18001 certificate

Product Features



Ip67 enclosure protection

The sealing is more reliable by improving the convex structure of the product's cover.



Reliable transmission part

- 1.All gear boxes are made of aluminum alloy to prevent cracking.
- 2.All gears are made of 40 chromium steel after heat treatment, with good stability and strength .



Motor

Specially designed induction motor, high starting torque, high efficiency, and built-in overheat protector to prevent motor overheating and damage - insulation class H.



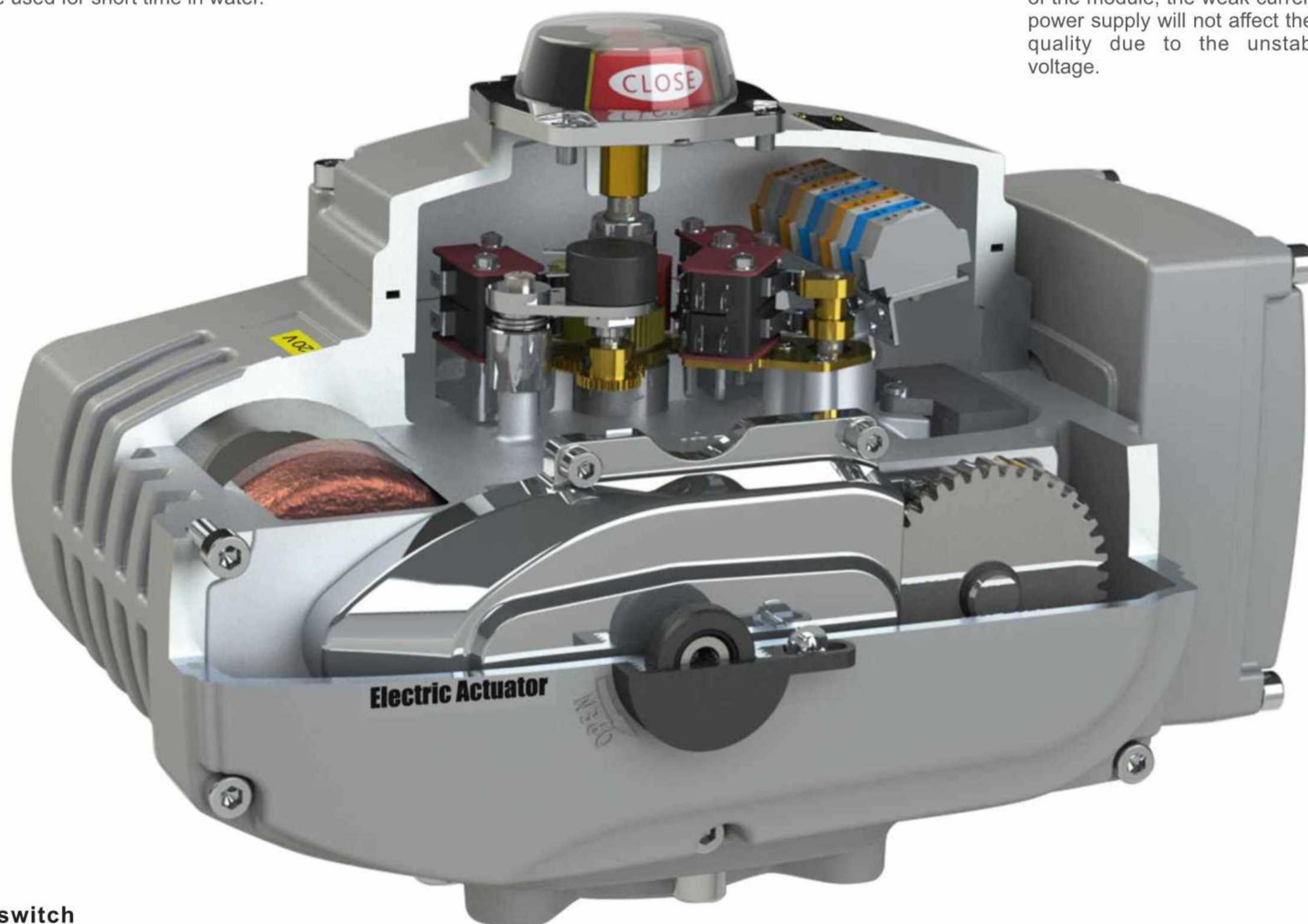
Cam and limit switch

Each cam can be set separately. Once the setting is completed, each cam will always remain in this position.



Lens structure

Mechanical seal structure can avoid water inflow caused by chemical adhesive. The structure is fully in line with the outdoor conditions, and can even be used for short time in water.



Stable modulating type structure

The modulating module adopts the external mounting type, it has better heat dissipation, which avoid the impact of high temperature on the use of the module; the weak current control power supply will not affect the module quality due to the unstable field voltage.



Easy keep handle wrench

The handle wrench is placed on the mechanical limit bolt, it's easy to store on site.



Overtorque protection

It can provide Overtorque protection, automatically disconnect the motor power supply when the valve is jammed, which can providing safe operation in overload condition.



Installing

Mounting base according to ISO5211 standard, Removable drive bushing for easy machining and mounting.

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Summary

"AOX-VR" series explosion-proof electric actuator has compact structure, excellent weather resistance and seismic resistance. When the actuator is powered off, the self-locking transmission mechanism ensures that the valve position remains unchanged, and the electrical and mechanical double limits are set to prevent overtravel. The detachable driving adapter sleeve is convenient for machining, and the bottom mounting size conforms to ISO5211 standard. It is widely used in butterfly valve, ball valve, damper valve, plug valve, shutter valve and various special valves.

Description

- Torque range: 50~600Nm
- Provide Exd II CT5 / Ex tD a21 IP67 T95 °C explosion proof enclosure
- DNVGL,CCS,SIL3,CE
- Basic control mode:
 - On-Off type
 - Modulating type
 - Continuous modulating type
- According to customer requirements, provide different types of control:
 - Normal on-off type
 - Normal modulating type(PCU)
- Solutions for special applications:
 - Base and lever



Service Conditions

- Enclosure protection ----- In accordance with GB/4208 - 2017 standard, IP67 enclosure protection (standard, all connecting surfaces have O-ring seal), and optional IP68 (connecting surfaces have double O-ring).
- Explosion protection ----- According to GB/3836, IEC, CU-TR standard, Exd II design. ATEX, CCC certificate, meet all potential explosive environment (such as oil&gas, chemical, power, metallurgy and emerging gas industry, etc.).
- Corrosion protection ----- After anodizing and polyester powder coating, the standard color is AOX grey (similar to RAL 7039), with strong corrosion resistance. It is suitable for working conditions such as industrial corrosive environment (chemical, alumina plant) or marine corrosive environment (coastal and offshore).
- Ambient temperature ----- Standard: On-off type, modulating type (- 30 °C ~ + 75 °C)
Low temperature: On-off type, modulating type (- 60 °C ~ + 50 °C)



Basic Control Mode

According to EN 15714-2 standard, in order to meet different application conditions and design, it is divided into the following three basic control modes.

Class I On-off type

The actuator drives the valve from fully open to fully closed or fully closed to fully open position.

Class II Modulating type

The actuator sometimes needs to drive the valve to any position (full open, half way and full close).

Class III Continuous modulating type

The actuator frequently drives the valve to any position between fully open and fully closed position.

Modulating type and on-off type subject the actuator to different mechanical loads.

Consequently, special actuator types are available for each operation mode.

Type of duty	On-off type	Modulating type	Continuous modulating type
	S2-15min/30min	S2-15min/30min	S4-25%/50%
Model			
Applicable control mode	Normal type	Normal on-off type	Normal modulating type(PCU)
			Continuous modulating type

Note: the number "1" after the model stands for voltage AC 1PH; "2" stands for voltage AC 3Ph; "3" stands for voltage DC, such as PCU1 (AC 1PH modulating type)

Controls Concepts

Modulating type(PCU)

Signal settings

- ▶ Full isolation of input (set) and output (feedback) signals
- ▶ Input / output: 4-20mA (standard) input impedance 160Ω
- ▶ Input / output: 0-10V, 1-5V, 0-20mA, etc. (optional)

Analog output

- ▶ Current: the maximum acceptable load is 750Ω at 24VDC power supply
- ▶ Voltage: minimum acceptable load is 50KΩ(shunt resistor 500Ω)

Adjustment accuracy

- ▶ Factory standard accuracy 0.7%
- ▶ The accuracy can be customized from 0.2% to 0.5%



On-off type

Position indicator

- ▶ The convex mirror position indicator can clearly observe the position from multiple angles. The indicator is connected with the output shaft in straight line, which shows accurate and has better protection performance.
- ▶ The elastic clamp type indicator head is simple to adjust, and the indicator mirror cover can also be adjusted 360 degrees.

The torque sensor

- ▶ Once the torque setting is completed, the ejector pin compresses the spring until the switch trips.
- ▶ Since this unique system is mechanically frictionless, the equipment can operate for long periods of time without the support of accessories such as batteries.



The above functions are the standard functions of the actuator. If you have special function requirements, please contact our company.

Technical Data

General specifications	
Torque range	· Direct installation:50-600Nm · AOX-M series for larger torque or faster opening
Shell material	Die-cast aluminum
Position indicator	The valve position dial shows continuous position changes even in case of power failure
Enclosure protection	
Corrosion protection	Coating system
	· Polyester powder coating according to GBT 18593-2001 standard · Optional protection for highly corrosive conditions
	· Tightening screws are stainless steel screws
Travel/limit	
Travel angle	90°standard(90°~270°optional)
Limit switch	2×Open/Close, SPDT, 250V AC 10A
Auxiliary limit switch	2×Open/Close, SPDT, 250V AC 10A
Torque switch	Open/Close, SPDT, 250V AC 10A
Mechanical limits	2 external adjustable screws
Mechanical specifications	
Self-locking device	Worm gear, worm mechanism provides self-locking
Output flange	Bottom mounting dimensions comply with ISO5211 standard
Output shaft	The drive sleeve can be removed and machined as needed, which is adaptable. It can be installed vertically or horizontally.
Vibration resistance	X Y Z 10g, 0.2~34 Hz, 30 minutes
Lubrication	Aluminium-based grease (EP type)
Manual operation	Mechanical clutch mechanism
Wrench	Reliable, labor-saving, small size
Electrical specifications	
Motor power	110/220V AC 1Phase, 380/440V AC 3Phase, 50/60Hz, ±10%
Control power	110/220V AC 1Phase, 50/60 Hz, ±10%
Motor	Squirrel cage asynchronous motor, insulation Class H
Stall protection / operating temp	Built-in thermal protection, open 120°C ±5°C /close 97°C ±5°C
Heater	25~30W (220V AC) anti-condensation
Cable entries	2* M20×1.5
EC Directive	
Consistency with EC directive	The actuator meets the following requirements:
	· 2014/30 / EU electromagnetic compatibility · 2014/35 / EU low voltage
	The following harmonized standards:
	· General emission standard EN 61000-6-4 · General anti-interference standard EN 61000-6-4
	· Rotary motor standard EN 60034-1

Performance

Model	Output torque	Operating time 50Hz	Max Shaft Size		Motor H class AC220V	Rated current (A) 50Hz	Weight
	N·M	90°(S)	MM		W	220V	(kg)
AOX-VR-005	50	30	Φ16	17×17	10	0.23	4.7
AOX-VR-008	80	60	Φ16	17×17	10	0.23	4.7
AOX-VR-010	100	30	Φ16	17×17	15	0.40	5.5
AOX-VR-015	150	60	Φ16	17×17	15	0.40	5.5
AOX-VR-020	200	30	Φ30	27×27	60	0.48	15
AOX-VR-030	300	30	Φ30	27×27	60	0.52	15
AOX-VR-040	400	30	Φ30	27×27	60	0.59	15
AOX-VR-060	600	60	Φ30	27×27	60	0.52	15

The above time is the normal time of the actuator, if you have special time requirements, please contact our company.