ZHEJIANG AOXIANG AUTO-CONTROL TECHNOLOGY CO.,LTD
Add：NO.31 Hua'an Road, Nanbin Street, Rui'an City,
Zhejiang Province, China 32520
Tel：+86-577-65151268
Email：zjaox@zjaox.com
Http：//www.aoxactuator.com

AOX-VR Elecric Actuator

Patented products,
Counterfeiting not allowed

© 2023 aox technology copyright ♻ Ecology protection

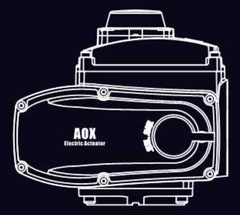
AOX

AOXIANG
ELECTRIC INTELLIGENT ACTUATOR
ELECTRIC VALVES

AOX-VR

Electric Actuator

Patented products,
Counterfeiting not allowed

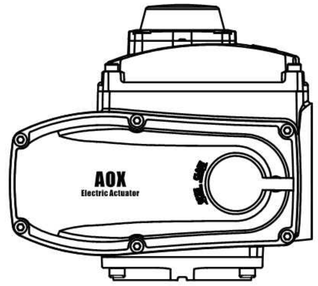


AOX

AOXIANG
ELECTRIC INTELLIGENT ACTUATOR
ELECTRIC VALVES

Catalogue

Company Profile ---------- 01
Cases and certificates ---------- 02
Product Characteristics ---------- 03
Product Overview ----------05
Description ----------05
Working Environment ---------- 06
Basic Control Methods ---------- 07
Control Functions ---------- 07
Product Specifications ---------- 08
Standard Parameters ---------- 08



AOX-VR
Electric Actuator

AOX was founded in 1997. With decades of profound understanding of products and rich industrial application experience, rigorous manufacturing process and modular precision design, AOX provides the most professional automatic control products and solutions for various severe working conditions (such as military, nuclear and other fields). Whether in harsh environments or under various operating requirements specified by users, AOX actuators can not only meet high safety standards, but also prove the reliability and robust design of their products.

AOX has always focused on the modular design of products. The diversified components ensure that the products can be assembled according to customer needs, and provide various customized products to meet customer needs.

Field Case

Energy

Oil & Gas

Chemical

Water treatment

Food industry

Steel mills

Honors and qualifications

First tier supplier of CNPC
Sinopec Supplier
National Specialized and Innovative Small Giants
National Intellectual Property Advantage Enterprise
National high-tech enterprises
National Technological Innovation Fund for Small and Medium sized Enterprises
National Torch Plan Industrialization Demonstration Project
Provincial High tech Enterprise Research and Development Center
Provincial science and technology new products
Provincial Science and Technology Progress Award
Provincial patent demonstration enterprise
AAA Credit Enterprise
WenZhou specialized, special and new key supporting enterprises
WenZhou Famous Brand Products
EU CE certification
DNVGL certification
CCS certification
ATEX certification
SIL3 certification
CCC certification
ISO9001 / ISO14001 / ISO45001

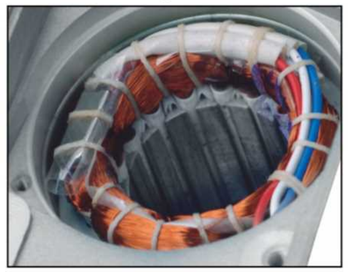
Product Characteristics

Protection level up to IP67

By improving the concave and convex structure of the upper and lower cover of the product, the sealing is more reliable.

Reliable transmission part

1.The gear box is made of aluminum alloy to avoid the cracking problem of gear box .
2.Gear with 40 chromium steel treated by finishing the two heat, It is more solid and reliable,wear resistance and fatigue resistance is stronger.



Lower motor temperature

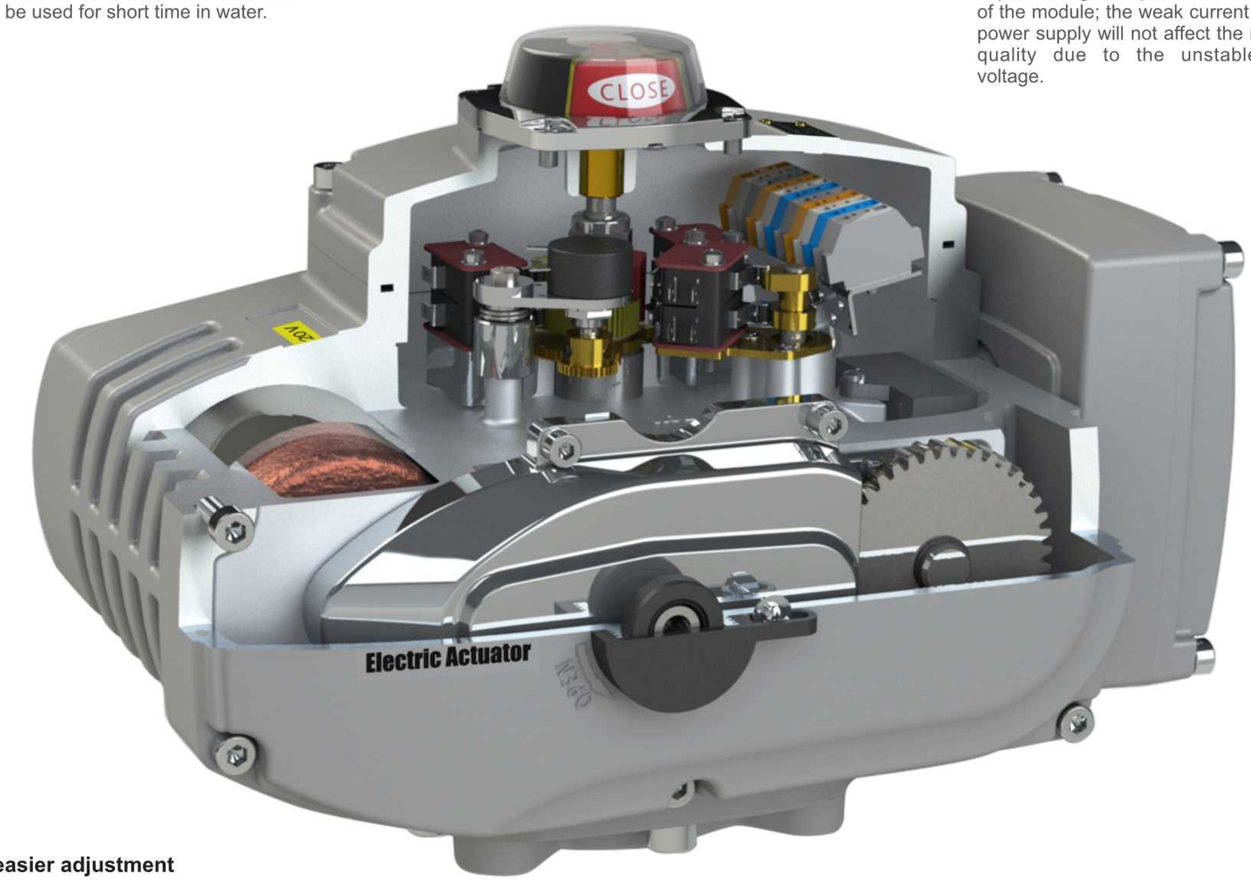
By increasing the size of the motor,under the same power,reducing the capacitance and starting current,thereby reducing the degree of fever.

Quicker and easier adjustment

By improving the electrical cam structure, integrate the four cam into two, isolated with butterfly spring, pressed with locking nut above.Limit can remain stable at ultra high and low temperature.

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.

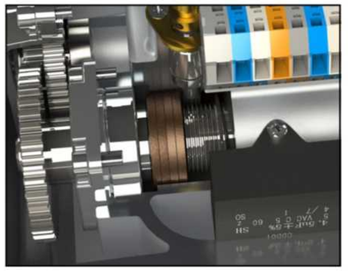


Stable modulating type structure

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.

AOX-VR
Electric Actuator

Patented products,Counterfeiting not allowed.

Product Overview

"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 ℃ explosion proof enclosure
- DNVGL,CCS,SIL3,CE,ATEX
- Basic control mode：
  - — On-Off type
  - — Modulating type
  - — Continuous modulating type
- According to customer requirements, provide different types of control：
  - — ON-OFF TYPE
  - — MODULATING TYPE (PCU)
- Solutions for special applications：
  - — Foundation and crank arm
  - — Internet of Things

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة
Certificate of Compliance
ECM
Certificate's Holder: Zhejiang Aoxiang Auto-Control Technology Co., Ltd.
Certification ECM Mark:
Product Model(s): AOX-Q, AOX-QJ, AOX-W, AOX-VR
Marking: Ex d IIC T5 Gb/ Ex tD A21 IP67 T95°C
Verification to: Standard: EN ISO 80079-36:2016, EN ISO 80079-37:2016, EN 60079-1:2014
Related to CE Directive(s): 2014/34/EU (Equipment for Explosive Atmospheres)
CE
Issued in Date: 12 August 2021
Expiry date: 11 August 2026
Approved: ECM Certification Machine
Role Certificazione Macchine Srl

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة
SIL
Functional Safety Certificate
ECM
No. 2CTF150K2AA0293
Certificate's Holder: Zhejiang Aoxiang Auto-Control Technology Co., Ltd.
Product Model(s): AOX-Q(J), AOX-W, AOX-VR
Standard:
Verification Mark:
Date of Issue 30 November 2021
Expiry date 29 November 2026
Chief Manager
Deputy Manager
Role Certificazione Macchine Srl

Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة
Certificate of Compliance
ECM
Certificate's Holder: Zhejiang Aoxiang Auto-Control Technology Co., Ltd.
Certification ECM Mark:
Product Model(s): AOX-VR
Verification to: Standard: EN ISO 12100:2010, EN 60079-0:2012, EN 61010-2-201:2013/AC:2013, EN 61784-1:2013
Related to CE Directive(s): 2006/42/EC (Machinery), 2014/30/EU (Low Voltage), 2014/68/EU (Machinery)
CE
Issued in Date: 17 December 2021
Expiry date: 16 December 2026
Role Certificazione Macchine Srl

AOXIANG
ELECTRIC INTELLIGENT ACTUATOR
ELECTRIC VALVES

Working Environment

Sealing protection ---------- Conforms to GB/4208-2017 standard, IP67 (standard, all connection surfaces are set with O-ring seal) protection level, available Optional IP68 (double O-rings are set on all connecting surfaces).

Explosion protection level---------- According to GB/3836, IEC, CU-TR standard, Exd design. ATEX, CCC certification, meet all potential in explosive environments (such as oil, gas, chemical, power, metallurgy and the emerging gas industry, etc.).

Anti-corrosion protection ---------- Is anodized and polyester powder coated, standard color is AOX grey (similar to RAL7039), corrosion resistant Strong corrosion resistance, suitable for working conditions such as industrial corrosive environment (chemical, alumina plant) or marine corrosive environment (offshore/sea).

Ambient temperature---------- Standard: ON-OFF TYPE, MODULATING TYPE (-30 ℃~+75 ℃)
Low temperature: ON-OFF TYPE, MODULATING TYPE (-60℃~+50℃)

Basic Control Methods

According to EN 15714-2 standard, to meet different application conditions and designs, there are three basic control methods as follows

Type I On-Off type

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

Type II Modulating Type

The actuator sometimes needs to drive the valve to any position (fully open, midway position and fully closed).

Type III Continuous Modulating Type

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

For continuously adjustable actuators, the number of starts allowed and the load conditions are additionally referenced to the characteristics.

The switching or regulating type is selected according to the different mechanical loads of the actuator. Therefore, each actuator type can be used in various operating modes.

		On-Off type	Modulating Type	Continuous Modulating Type
	Working mode	S2-15min/30min	S2–15min/30min	S4-25%/50%
	Model Name			
Applicable control functions	General Type	On-Off type	PCU	Continuous Modulating Type

Note: the number "1" after the model represents the voltage AC 1ph; "2" stands for voltage AC 3ph; "3" represents voltage DC, such as PCU1 (AC 1ph ordinary regulating type)

Control Functions

Modulating type(PCU)

Signal setting

- Input (setting) and output (feedback) signals are completely isolated.
- Input/Output: 4-20mA(standard) Input impedance 160Q
- Input/Output: 0-10V, 1-5V, 0-20mA, etc. (optional)

Analog output

- Current: Maximum acceptable load is 750Ω at 24VDC supply
- Voltage: Minimum acceptable load is 50KΩ (shunt resistance 500Ω)

Adjustment accuracy

- Factory standard accuracy 0.7%
- Accuracy 0.2%~0.5% can be set

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 are the basic functions. For special requirements, please contact us.

AOXIANG
ELECTRIC INTELLIGENT ACTUATOR
ELECTRIC VALVES

Product Specifications

General specifications	
Torque range	・Direct installation:50-600Nm ・Larger or quick opening optional AOX-M series
Shell material	Die cast aluminum
Position indicator	Even in case of power failure, the valve position dial can display continuous position changes
Enclosure protection	
External corrosion protection	Paint system
	・Polyester powder coating conforms to GBT 18593-2001 standard ・Optional protection for highly corrosive condition
	・Screws are all stainless steel screws
Travel/limit	
Trave	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	On/Off,SPDT, 250V AC 10A
Mechanical limit	2 external adjusting bolts
Mechanical specifications	
Self locking device	Worm gear and worm mechanism provide self-locking
Output flange	The bottom installation dimension shall conform to ISO5211 international standard
output shaft	The output shaft drive sleeve can be disassembled and machined for adaptability. Can be installed vertically or horizontally
Seismic performance	X YZ10g, 0.2~34 Hz, 30 minutes
lubrication	Aluminum base grease (EP type)
Manual operation	Mechanical clutch mechanism
Handwheel	Reliable, labor-saving, small size
Electrical specifications	
Motor power supply	110/220V AC 1Phase,380/440V AC 3Phase,50/60Hz,±10%
Control power	110/220V AC 1Phase,50/60 Hz,±10%
Electric machinery	Squirrel cage asynchronous motor, insulation class H
Failsafe/Operating Temperature	Built in thermal protection, open/close 120 ℃± 5 ℃
Heater	30W(220V AC Anti condensation) Optional
Wiring hole	2xM20*1.5
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements
	・014/30/EU Electromagnetic Compatibility ・2014/35/EU Low Voltage
	The following harmonized standards
	・General emission standard for industrial environment EN 61000-6-44 ・Rotating electrical machine standard EN 60034-1
	・General anti-interference standard for industrial environment EN 61000-6-4

Standard Parameters

Model	Output torque	Action time	Max Shaft Size		Motor class H	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 regular time of the actuator. If you need special time, please contact our company.