CONDENSED BROCHURE

KVC AFRICA

AOX

AOX

ELECTRIC ACTUATORS



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AOX-L
ELECTRIC ACTUATOR

PRODUCT OVERVIEW

"AOX-L" series direct stroke electric actuators are compact, provide hand automatic clutching, excellent weather and vibration resistance. When the actuator is powered off, the self-locking transmission mechanism ensures that the valve position remains unchanged. It is suitable for switching and regulating control of valves with linear action,such as gate valves, ,globe valves, regulating valves, etc. It is widely used in various industries such as petroleum, chemical, water treatment, shipping, paper making, power stations, heating, building automatic control, etc.

DESCRIPTION:

- Torque range: 3000-30000N
- EAC . CE
- Basic control mode:

-ON-OFF MODEL
-MODULATING MODEL
-CONTINUOUS MODELING MODEL

SOLUTIONS FOR SPECIAL APPLICATIONS:

- Split type
- Internet of things

DIFFERENT CONTROL TYPES ARE AVAILABLE ACCORDING TO CUSTOMER REQUIREMENTS:

-ON-OFF TYPE
-MODULATING TYPE (PCU)
-NON-INTRUSIVE INTELLIGENT TYPE (SI,CU/SRCU)
-INTELLIGENT TYPE (ICU)
-FIELDBUS TYPE(ICU+SINGLE/DOUBLE CARD+ FIELDBUS NAME)

WORKING ENVIRONMENT

Sealing protection

Conforms to GB/4208-2017 standard, IP67 (standard, all connectionsurfaces are set with 0-ring seal) protection level, available Optional IP68 (double 0-rings are set on all connecting surfaces).

Anti-corrosion protection

Is anodizedand polyester powdercoated, 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 "C-+75 't)
INTELLIGENT TYPE,NON-INTRUSIVE INTELLIGENT TYPE, (-25't~+70°C)
Low temperature:
ON-OFF TYPE, MODULATING TYPE (-60"c~+SO"C)
INTELLIGENT TYPE,NON-INTRUSIVE INTELLIGENT TYPE (-40°C~+60't)

PRODUCT CARACTERISTICS

1 **Valve position detection mechanism**

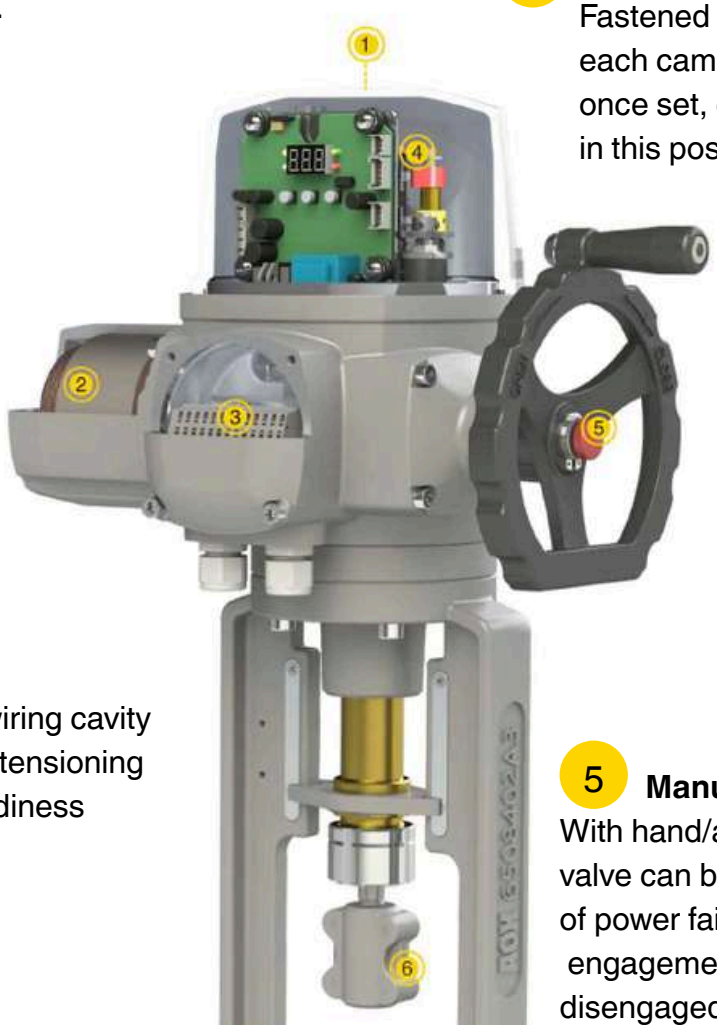
Through the rack directly connected to the output shaft and the two sets of gears of the control mechanism, the real-time position of the valve and the fully open and fully closed position are independently detected, maximizing accuracy and safety

2 **Motor**

Adopt fully enclosed squirrel cage motor, small volume, high torque, small inertia force, insulation class H, built-in overheat protection switch, can prevent damage to the motor, power supply voltage and working system can be selected.

4 **Cams and limit switches**

Fastened by two specific nuts ontop, each cam can be set individually, and once set, each cam remains in this position forever.



3 **Wiring Terminal Block**

Installed in a separate wiring cavity with spring-loaded self-tensioning terminals to ensure sturdiness and reliability

5 **Manual operation**

With hand/automatic clutch function, the valve can be operated manually in case of power failure, and the handwheel engagement function is automatically disengaged at the moment of motor rotation to ensure personnel safety

6 **Valve connection**

By different bracket connection, it can be applied to different valves.
Stainless steel scale and stainless steel slider are used

PRODUCT SPECIFICATIONS

General specifications	
Torque range	·Direct installation: 2000-40000N ·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
Tightness	
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	16~100mm(Other travel can be customized)
Limit switch	2×Open/Close, SPDT, 250V AC 10A
Auxiliary limit switch	2×Open/Close, SPDT, 250V AC 10A
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 120 ℃± 5 ℃/close 97 ℃± 5 ℃
Heater	30W(220V AC) Anti condensation
Cable entry	2x NPT 3/4" standard (three connection holes are optional)
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements
	·014/30/EU Electromagnetic Compatibility
	The following harmonized standards ·2014/35/EU Low Voltage
	·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	Thrust	Speed	Maximum Stroke	Motor (H)	Rated current(A) 50HZ	Weight
	N	mm/S	mm	W	AC220V	KG
AOX-L-30	3000	1	25	30	0.32	17.5
AOX-L-50	5000	1	40	40	0.37	19
AOX-L-80	8000	1	60	40	0.39	19.5
AOX-L-100	10000	1.5	100	90	0.83	33
AOX-L-160	16000	1.5	100	90	0.95	33
AOX-L-200	20000	1.5	100	120	1.06	33
AOX-L-250	25000	1.5	100	120	1.15	33
AOX-L-300	30000	1.5	100	120	1.22	33

The above time is the regular time of the actuator. If you need special time, please contact our company.

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Appearance Drawing



1	Outer cover
2	Housing
3	Hand wheel
4	Hand automatic switch button
5	Waterproof clue
6	Control room
7	Way knob
8	Scale ruler
9	Guide rail
10	Opening and closing nut
11	Connection flange

Solutions for special applications



Split type

The control unit with control function can be individually split-mounted when the valve is installed in a location that is difficult for personnel to access or where there is extreme vibration or ambient temperature. The cable length between the actuator and the control unit can be up to 1OOm, and the split can be easily reinforced or relocated at any time.

Free adjustment of the mounting position

The optimum mounting position can be adjusted to avoid upsi1de down displays, inoperability, uneven cable sealing of the control unit, etc. The appropriate position can be easily selected.

Adjustment of the control unit components per 90° rotation is possible: between the control unit and the actuator, between the local control interface and the control unit, and betwe·en the electrical connection and the control unit. The electrical connections make it easier to adjust the installation position in the field.



AOX-FQ

SPRING RETURN ELECTRIC ACTUATOR

SUMMARY

The AOX-FQ series spring-return angular stroke electric actuator is part of the mechanical energy storage class of actuators. Normally, the actuator is powered by a motor to turn on the equipment while the spring stores energy. In case of a power failure,the spring releasesthis energy to drive the actuator and return the equipment to a safe position (eitherfully open or fully closed). The reset speed is precisely controlled, ensuring a safe and smooth process that prevents pipeline and line explosions

DESCRIPTION:

- Torque range:50-100Nm
- Explosion proof enclosure with Exd II CT5/Ex ID a21IP67T95 ·c (ATEX type optional)
- Basic control mode:

- ON-OFF MODEL
- MODULATING MODEL
- CONTINUOUS MODELING MODEL

DIFFERENT CONTROL TYPES ARE AVAILABLE ACCORDING TO CUSTOMER REQUIREMENTS:

-ON-OFF TYPE
-MODULATING TYPE (PCU)
-NON-INTRUSIVE INTELLIGENT TYPE (SICU/SRCU)
-INTELLIGENT TYPE (ICU)
FIELDBUS TYPE(ICU+SINGLE/DO UBLE CARD+ FIELDBUSNAME

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 RAL 7039), 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 °C - +75 °C)
INTELLIGENT TYPE,NON-INTRUSIVE INTELLIGENT TYPE (-25°C-+70°C) Low temperature: ON-OFF TYPE, MODULATING TYPE (-60°C-+50°C) INTELLIGENT TYPE.NON-INTRUSIVE INTELLIGENT TYPE (-40°C-+60°C)

AOX-FQ

ELECTRIC ACTUATOR



Operational safety

When it comes to safely opening or closing valves in emergency situations, this product offers the highest level of reliability with a mechanical solution. The spring-return electric actuator generates the necessary torque through its energy storage mechanism and automatically returns to its original position during the spring-return operation, all without any intervention.



Window

The window is made of polycarbonate, with built-in 0-ring and fixed metal gland.
The gland comes with two drainage slots, which is not easy to accumulate water and has a magnifying ettect tor easy observation of valve position.



Intelligent controlsection

Separate aluminumcontrol unit, mounted on the main housing. Convenient tor complete replacement and contains all module controlcomponents.





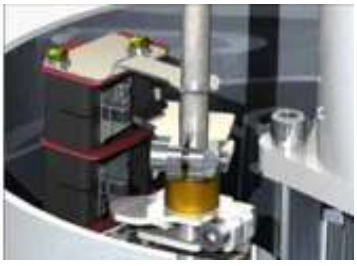
Upper coverand housing

Other actuators have a vertical joint between the upper cover and the housing,
which makes it difficult to remove the upper cover due to thesmall tolerance here.



Terminal box

The terminal box with double sealing protection design also ensures the sealing integrity of the electrical parts inside the electric device when the terminal box cover is opened tor field wiring.



Cams and limit switches

Fastened by two screws on top, easy to set, each cam can be set individually, once set. Each cam stays in this position forever.

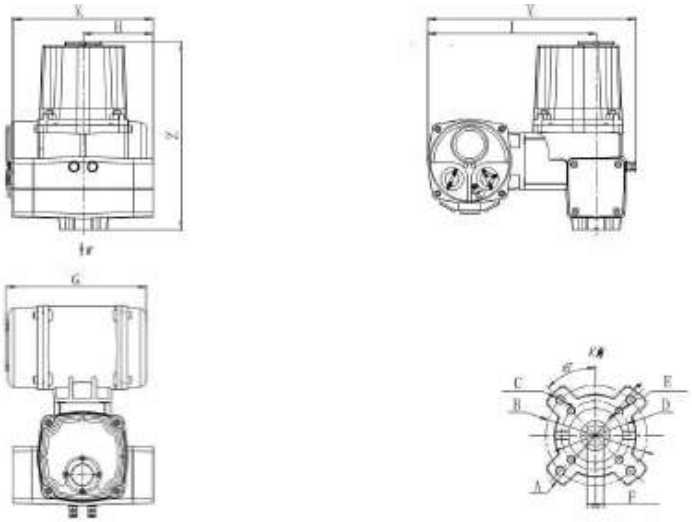
Appearance Drawing



SPARE PARTS:

1	Control Room
2	Electrical Interface
3	Window
4	Cover
5	Housing
6	Mechanical limit
7	Flange connection

Outline dimension drawing



Unit:mm

Model	X	Y	Z	A	B	C	D	E	F	G	H	I
AOX-FQ-005	285	424	380	ϕ120	ϕ102	4-M10 ↧22	ϕ70	4-M8 ↧17	17x17 ↧20	285	142.5	343
AOX-FQ-008	285	424	380	ϕ120	ϕ102	4-M10 ↧22	ϕ70	4-M8 ↧17	17x17 ↧20	285	142.5	343
AOX-FQ-010	285	424	380	ϕ120	ϕ102	4-M10 ↧22	ϕ70	4-M8 ↧17	17x17 ↧20	285	142.5	343

PRODUCT SPECIFICATIONS

General specifications	
Torque range	50-100Nm
Shaft material	Die cast aluminum
Position indicator	Even in case of power failure, the valve position dial can display continues position changes
Tightness	
Corrosion protection	Paint system
	- Polyester powder coating conforms to GBT 16593-2001 standard - Optional protection for highly corrosive conditions
	- Screws are all stainless steel screws
Travel limit	
Travel	90 ° standard (30 °~270 ° optional)
Powerless meet direction	CW, the opening direction can be set
Motor stop	Electromagnetic brake control
Limit mode	Electro cam or electronic limit
Mechanical limit	Power off baud, mechanical limit
	2 external adjusting bolts
Mechanical specifications	
Self locking device	Electromagnetic brake control
Space insulation life	1000KI times
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 orhorizontally
Seismic performance	X.Y.Z, 10g,0.2~34 Hz,20mins
lubrication	Aluminum base grease (EP type)
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	Square cage asynchronous motor, insulation class H
Failed-Operation Temperature	Built in thermal protection, room 120 ℃a S; Celsius 5 ℃ to 5 ℃
Heater	30W(220V AC) Anti condensation
Cable entry	2-MPT 3/4", 2-MPT 1"
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements - 2014/30/EU Electromagnetic Compatibility - 2014/35/EU Low Voltage The following harmonized standards - General series on standard for industrial environment EN 61000-6-4 - Rotating electrical machine standard EN 60204-1 - General series on&ervice standard for industrial environment EN 61000-6-4

Standard parameters

Model	Maximum output torque	Operating time (50HZ)		Motor (W)	Rated current (A)				Weight
					110V AC/50/60Hz		220V AC/50/60Hz		
	NM	Electric	Spring return	W	Function	Locking	Function	Locking	KG
AOX-FQ-005	50	10	<3	20	1.5	0.1	0.49	0.1	21
AOX-FQ-008	80	10	<3	20	1.5	0.1	0.49	0.1	21.5
AOX-FQ-010	100	10	<3	40	1.7	0.2	0.51	0.2	22

The above time is the regular time of the actuator. If you need special time, please contact our company.



AOX-M

ELECTRIC ACTUATOR

PRODUCT OVERVIEW

"AOX-M" seriesis used to operate valves that rotate 360' in multiplerevolutions, such as gate valvesand globe valves. Combined linear thrust unit, base and inflection arm, gearbox and other mechanical components control other types of valves, such as butterfly valves, ball valves,dampers, baffle valves, plug valves, louver valves, etc

DESCRIPTION:

- Torque range: Direct mounting:30-1000Nm,with gearbox:1 00Nm -500KNm
- Ex d II CT4 Gb/Ex tD a21 IP67T95't explosion-proof housing available {ATEX type optional)
- DNVGL, CCS, ATEX, SIL3, CU-TR, CE, CCC, EAC
- Basic control mode:

-ON-OFF MODEL
-MODULATING MODEL
-CONTINUOUS MODELING MODEL

DIFFERENT CONTROL TYPES ARE AVAILABLE ACCORDING TO CUSTOMER REQUIREMENTS:

-ON-OFF TYPE
-LIGHT INDICATING TYPE(LCU)
-NON-INTRUSIVE INTELLIGENT TYPE (SI,CU/SRCU)
-INTELLIGENT TYPE (ICU)
-FIELDBUS TYPE(ICU+SINGLE/DOUBLE CARD + FIELDBUS NAME)

SOLUTIONS FOR SPECIAL APPLICATIONS:

- Split type
- Crutch arm bracket
- Internet of things

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 seton 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 anodizedand polyester powder coated, standardcolor is AOX grey (similar to RAL7039), corrosion resistant Strong corrosion resistance, suitable for workingconditions such as industrial corrosive environment {chemical, alumina plant) or marine corrosive environment (offshore/sea).

Ambient temperature

Standard:
ON-OFF TYPE, MODULATING TYPE (-30 't-+75 't) INTELLIGENT TYPE.NON-INTRUSIVEINTELLIGENT TYPE, (-25't-+70't) LIGHT INDICATING TYPE (-25't-+70't)
Low temperature:
ON-OFF TYPE, MODULATING TYPE (-60't-+50't) INTELLIGENT TYPE,NON-INTRUSIVEINTELLIGENT TYPE (-40't-+60't) LIGHT INDICATING TYPE (-40't-+60't)

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PRODUCT CARACTERISTICS

1. Terminal box

The terminal box with double sealing protection design also ensures the sealing integrity of the electrical parts inside the electric device when the terminal box cover is opened for field wiring.

2. Motor

Specially designed motors with high starting torque allow frequent opening of valves from the fully closed position. The motors developed by AOX-M meet this basic requirement. In addition to the normally used 3-phase AC motors, single-phase AC motors and DC motors are available separately for the AOX-M series actuators. The use of special voltages should be determined in advance by communication with our technical service staff.



3. Valve control

Eliminates the traditional potentiometer test valve position and uses magnetic induction absolute encoder to improve position accuracy and to record valve position accurately and reliably without batteries when the actuator is powered down.

4. Infrared Setting

Through the sealed indicator window, all settings and diagnostics of the actuator can be performed without opening the electrical box cover in the field and exposing the internal control circuitry.

5. Local control

The field control switch and latching field/stop/remote selector are magnetic switches without a through shaft, controlled by the internal reed of the actuator, ensuring the actuator is sealed against moisture.

6. Manual operation

The multi-turn actuator can be operated with a handwheel during test runs or in emergency conditions. Manual operation is initiated by disconnecting the motor from the actuator by operating the red changeover handle. Because of the self-locking turbine separation between the motor and the operating shaft, it is easy to switch to manual operation even when the actuator is operating at its maximum torque value. After starting the motor, manual operation is automatically disengaged. The handwheel does not operate while the motor operation is being performed. (With clutch diagram).

7. Valve connection standards

Mounting flange in accordance with EN ISO 5210 or DIN 3210 A wide selection of output kit types is available. So it can be applied to different types of valves.

KVC AFRICA

PRODUCT SPECIFICATIONS

General specifications	
Torque range	- Direct installation: 30-1000Nm - With gearbox: 120Nm-4000Nm
Shaft material	Ductile iron, hard aluminum alloy
Position indicator	Even in case of power failure, the valve position dial can display continuous position changes
Tightness	
External corrosion protection	Paint system
	- Polyester powder coating conforms to GBT 16593-2001 standard - Optional protection for highly corrosive conditions
	- Screws are all stainless steel screws
Travel limit	
Travel	>360°
Limit switch	2xOpen/Close, SPDT, 250V AC 10A
Auxiliary limit switch	2xOpen/Close, SPDT, 250V AC 10A
Torque switch	On/Off,SPDT, 250V AC 10A
Mechanical specifications	
Self locking device	Worm gear and worm mechanism provide self-locking
Output flange	The bottom installation dimension shall conform to ISO 5210 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.Y.Z 10g, 0.2~34 Hz,30mins
Indentation	Shelling and interior oil
Manual operation	Mechanical clutch mechanism
Handwheel	Modular, labor-saving, small size
Electrical specifications	
Motor power supply	Standard: 380/440V AC,3Phase,50/60 Hz,±10%
Electric machinery	Optional: 220V AC 1Phase, 440V AC 3Phase, 50/60Hz,±10%
Failed-Operating Temperature	Built in thermal protection, open 120 °C±5 Close 97 °C± 5 °C
Heater	30W(220V AC) Anti condensation
Cable entry	Double sealed (cable entry:2NPT 3/4",1NPT 1",1NPT 1/4,12"(optional)
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements - 2014/30/EU Electromagnetic Compatibility - 2014/35/EU Low Voltage The following harmonized standards - General emission standard for industrial environment EN 61000-6-4 - Rotating electrical machine standard EN 60204-1 - General and endurance standard for industrial environment EN 61000-6-4

Standard Parameters

Model	Output torque	Speed	Shaft diameter	Motor (W)	Rated current (A) 50Hz	Flange	Weight
	NM	RPM	mm	W	A	ISO5210	Kg
AOX-M-007	70	45	Φ28	400	2.23	F10	32
AOX-M-010	70	90	Φ28	400	2.66	F10	32
AOX-M-015	120	35	Φ28	600	2.30	F10	38
AOX-M-020	120	70	Φ28	600	3.56	F10	38
AOX-M-030	300	34	Φ40	1100	4.22	F14	68
AOX-M-050	300	67	Φ40	1100	6.36	F14	68
AOX-M-060	450	34	Φ40	1500	9.88	F14	70
AOX-M-080	450	67	Φ40	1500	12.23	F14	70
AOX-M-100	600	34	Φ55	3000	13.80	F16	103
AOX-M-150	600	67	Φ55	3000	16.36	F16	103
AOX-M-200	800	34	Φ55	4000	17.87	F16	103
AOX-M-300	800	67	Φ55	4000	24.31	F16	103
AOX-M-500	1000	34	Φ55	4000	18.68	F16	103

The above time is the regular time of the actuator. If you need special time, please contact our company.

Additional mechanical components

Other types of valves can be controlled by combining the AOX-M series multi-turn electric actuator with the following mechanical components



The linear thrust unit can be configured to form a direct stroke actuator for regulating valves, etc.

- Thrust: 10 ~ 160 KN
- Stroke: 16 ~ 100 mm (other strokes can be customized)
- Speed: 3.4 ~ 7.5 mm/S (according to stroke))



By configuring partial rotary gearbox, it can constitute a large torque partial rotary actuator, which is suitable for butterfly valve, ball valve plug valve, etc.

- Torque: 0.2 ~ 1000 KNm
- Speed: 0.2 ~ 43r/min



By configuring the multi-turn gearbox, it can form a multi-turn actuator with large output torque, which is suitable for gate valve, globe valve, etc.

- Torque: 0.1~100 KNm
- Speed: 2 ~ 600s



By configuring the inflection arm gearbox, it can constitute an inflection arm actuator, which is suitable for dampers, stall valves and butterfly valves, etc.

- Torque: 0.2 ~ 1000 KNm
- Speed: 0.2 ~ 43r/min

Solutions for special applications



Split type

The control unit with control function can be individually split-mounted when the valve is installed in a location that is difficult for personnel to access or where there is extreme vibration or ambient temperature. The cable length between the actuator and the control unit can be up to 100m, and the split can be easily reinforced or relocated at any time.

Free adjustment of the mounting position

The optimum mounting position can be adjusted to avoid upside down displays, inoperability, uneven cable sealing of the control unit, etc. The appropriate position can be easily selected.

Adjustment of the control unit components per 90° rotation is possible: between the control unit and the actuator, between the local control interface and the control unit, and between the electrical connection and the control unit. The electrical connections make it easier to adjust the installation position in the field.



AOX-M-Z

ELECTRIC ACTUATOR

PRODUCT OVERVIEW

The "AOX-M-Z" series is used to operate valves that rotate 360° in multiple revol;utions, such as gate valves and globe valves. Combined linear thrust unit, base and inflection arm, gearbox and other mechanical components controlother types of valves, such as butterfly valves, ball valves, dampers, bafflevalves, plug valves, louver valves,etc.

DESCRIPTION:

- Torque range: Direct mounting:70-2500Nm.with gearbox:1OONm-SOOKNm
- Ex db II C TS Gb/Ex tb lll C T100°C explosion-proof housingavailable (ATEX type optional)

DNVGL... CCS, ATEX ... SIL3, CU-TR ... CE, CCC, EAC

- Basic control mode:

-ON-OFF MODEL
-MODULATING MODEL
-CONTINUOUS MODELING MODEL

DIFFERENT CONTROL TYPES ARE AVAILABLE ACCORDING TO CUSTOMER REQUIREMENTS:

-ON-OFF TYPE
-LIGHT INDICATING TYPE(LCU)
-INTELLIGENT TYPE (ICU)
-FIELDBUS TYPE(ICU+SINGLE/DOUBLE CARD+ FIELDBUS NAME)

SOLUTIONS FOR SPECIAL APPLICATIONS:

- Split type
- Crutch arm bracket
- Internet of things

WORKING ENVIRONMENT

Sealing protection

Conforms to GB/4208-2017 standard, IP67 (standard, all connection surfaces are set with 0-ring seal) protection level,available Optional IP68 (double 0-rings are set on all connecting surfaces).

Explosion protection level

Accordlngto GB/3836, IEC, CU-TRstandard, 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

1s anodized and polyester powder coated, standardcolor 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 °C-+75 °C) INTELLIGENT TYPE (-25°C~+70°C)
LIGHT INDICATING TYPE (-25°C-+70°C)
Low temperature:
ON-OFF TYPE, MODULATING TYPE (-60°C-+50°C) INTELLIGENT TYPE(-610°C-+60°C)
LIGHT INDICATING TYPE (-60°C~+60°C)

KVC AFRICA

PRODUCT CARACTERISTICS

1.Terminal box

The terminal box with double sealing protection design also ensures the sealing integrity of the electrical parts inside the electric device when the terminal box cover is opened for field wiring.

3. Valve ON-OFF mechanical indication

Accurate displayof valve openingor closing status through precise internal mechanical transmission.



4.Infrared Setting

Through the sealed indicator window, all settings and diagnostics of the actuator can be performed without opening the electrical box cover in the field and exposing the internal control circuitry

2.Motor

Specially designed motors with high starting torque allow frequent opening of valves from the fully closed position. The motors developed by AOX-M-Z meet this basic requirement. In addition to the normally used 3-phase AC motors, single-phase AC motors and DC motors are available separately for the AOX-M-Zseries actuators. The use of special voltages should be determined in advance by communication with our technical service staff.

5.Local control

The field control switch and latching field/stop/remote selector are magneticswitches without a through sh.aft, controlled by the internal reed of the actuator, ensuring the actuator is sealed against moisture.

7.Valve connection standards

Mounting flange in accordance with EN ISO 5210 or DIN 3210Awide selection of output kit types lis available. So it can be applied to different types of valves.

6.Manual operation

The multi-turn actuator can be operated with a handwheel during test runs or in emergency conditions. Manual operation is initiated by disconnecting the motor from the actuator by operating the red changeover handle. Because ofthe self-locking turbine separation between the motor and the operating shaft, it is easy to switch to manual operation even when the actuator is operating at its maximum torque value. After starting the motor, manual operation is automatically disengaged. The handwheel does not operate while the motor operation is being performed. (With clutch diagram).

PRODUCT SPECIFICATIONS

General specifications	
Torque range	- Direct installation: 30-1000Nm - With gearbox: 100Nm~5000Nm
Shaft material	Hard aluminum alloy, Ductile iron
Position indicator	Even in case of power failure, the valve position dial can display continuous position changes
Tightness	
External corrosion protection	Paint system
	- Polyester powder coating conforms to GBT 16593-2001 standard - Optional protection for highly corrosive condition
	- Screws are all stainless steel screws
Travellimit	
Travel	>360°
Limit switch	2xOpen/Close, SPDT, 250V AC 10A
Auxiliary limit switch	2xOpen/Close, SPDT, 250V AC 10A
Torque switch	On/Off,SPDT, 250V AC 10A
Mechanical specifications	
Self locking device	Worm gear and worm mechanism provide self-locking
Output flange	The bottom installation dimension shall conform to ISO5210 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.Y.Z 10g, 0.2~34 Hz, 30 minutes
lubrication	Shell spiral motor oil
Manual operation	Mechanical clutch mechanism
Handwheel	Reliable, labor-saving, small size
Electrical specifications	
Motor power supply	Standard: 380/440V AC 3Phase, 50/60Hz ±10%
Electric machinery	Optional: 220V AC 1Phase, 440V AC 3Phase, 50/60Hz, ±10%
Failed-Operating Temperature	Built in thermal protection, open120 °C ±5 °C close 97 °C ± 5 °C
Heater	30W(220V AC) Anti condensation
Cable entry	Double sealed (cable entry: NPT 3/4", NPT 1", NPT 1-1/2", 1-1/2"(optional)
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements - 2014/30/EU Electromagnetic Compatibility - 2014/35/EU Low Voltage The following harmonized standards - General emission standard for industrial environment EN 61000-6-4 - Rotating electrical machine standard EN 60034-1 - General anti-interference standard for industrial environment EN 61000-6-4

Standard Parameters

Model	Output torque	Speed	Shaft diameter	Motor (H)	Rated current (A) 50Hz	Flange	Weight
	Nm	RPM	MM	kW	380V AC	ISO5210	KG
AOX-M-Z-007	70	18	ϕ28	0.6	1.67	F10	38
		24			1.71		
		48			2.15		
		72			2.16		
		96		0.8	2.80		
AOX-M-Z-010	100	18	ϕ28	0.6	1.84	F10	38
		24			2.10		
		48			2.48		
		72			2.80		
		96		0.8	3.67		
AOX-M-Z-015	150	18	ϕ28	0.6	2.12	F10	38
		24			2.80		
		48			3.04		
		72		0.8	4.47		
		96			5.26		

PRODUCT SPECIFICATIONS

Standard Parameters

Model	Output torque	Speed	Shaft diameter	Motor (H)	Rated current (A) 50Hz	Flange	Weight
	Nm	RPM	MM	kW	380V AC	ISO5210	KG
AOX-M-Z-020	200	18	ϕ40	1.1	2.85	F14	64
		24			3.36		
		48			3.58		
		72		1.5	5.38		
		96			6.80		
AOX-M-Z-030	300	18	ϕ40	1.1	3.35	F14	64
		24			3.61		
		48			5.11		
		72		1.5	6.81		
		96			8.26		
AOX-M-Z-050	500	18	ϕ40	1.1	4.97	F14	64
		24			6.61		
		48			9.25		
		72		1.5	11.8		
		96			14.6		
AOX-M-Z-060	600	18	ϕ55	4	10.4	F16	100
		24			12.3		
		48			13.3		
		72		6	17.6		
		96			20.5		
AOX-M-Z-080	900	18	ϕ55	4	11.8	F16	100
		24			14.2		
		48			17.6		
		72		6	21.5		
		96			23.94		
AOX-M-Z-120	1200	18	ϕ55	4	13.7	F16	100
		24			15.9		
		48			23.0		
		72		6	29.68		
		96			35.34		
AOX-M-Z-150	1500	18	ϕ55	4	17.2	F16	100
		24			17.9		
		48			24.3		
		72		6	35.6		
		96			36.5		
AOX-M-Z-180	1800	18	ϕ70	8	15.42	F25	248
		24			27.0		
		48			28.5		
		72			33.6		
		96			38.4		
AOX-M-Z-250	2500	18	ϕ70	8	19.84	F25	248
		24			46.0		
		48			48.9		
		72			52.5		
		96			55.7		

The above time is the regular time of the actuator. If you need special time, please contact our company.

Additional mechanical components

Other types of valves can becontrolled by combining the AOX-M-Z series multi-turn electric actuator with the following mechanical components.



The linear thrust unit can be configured to form a direct stroke actuator for regulating valves, etc.



By configuring partial rotary gearbox, it can constitute a large torque partial rotary actuator, which is suitable for butterfly valve, ball valve plug valve, etc.



By configuring the multi-turn gearbox, it can form a multi-turn actuator with large output torque, which is suitable for gate valve, globe valve, etc.



By configuring the inflection arm gearbox, it can constitute an inflection arm actuator, which is suitable for dampers, stall valves and butterfly valves, etc.



AOX-R

ELECTRIC ACTUATOR

PRODUCT OVERVIEW

The "AOX-R" series has a compact structure and excellent weather resistance and shock resistance. When the actuator is powered off, the self-locking transmission mechanism ensu1res that the valveposition remains unchanged, and mechanical double limit is set to prevent overtravel. The removable drive adapter sleeve facilitates processing, and the bottom installation size complies with 1S05211 standard. It is commonly used for !butterfly valves, ball valves, dampers, flapper valves, plug valves, louver valves, multi way valves and various special valves.

DESCRIPTION:

- Torque range: Direct installation: 30-1OOONm, with gearbox: 1600-SOOONm
- DNVGL, CCS, EU CE certification
- Basic control mode:

-ON-OFF MODEL
-MODULATING MODEL
-CONTINUOUS MODELING MODEL

SOLUTIONS FOR SPECIAL APPLICATIONS:

- Foundation and crank arm
- Internet of things
- AOX-R-M series multi turn (customized)

DIFFERENT CONTROL TYPES ARE AVAILABLE ACCORDING TO CUSTOMER REQUIREMENTS:

-ON-OFF TYPE
--MODULATING TYPE (PCU)
-INTELLIGENT TYPE

WORKING ENVIRONMENT

Sealing protection

Conforms to GB/4208-2017 standard, IP67 (standard, all connection surfaces are set with 0-ring seal) protection level, available Optional IP68 (double 0-rings are set on all connecting surfaces).

Anti-corrosion protection

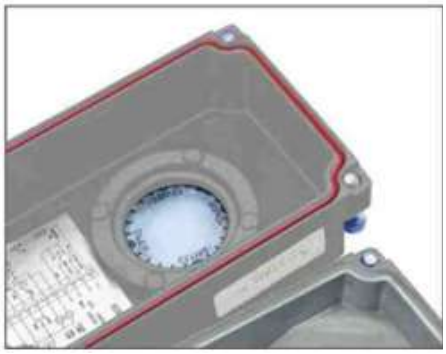
Is anodizedand polyester powder coated, standardcolor is AOX grey (similar toRAL7039), corrosion resistant Strong corrosion resistance, suitable for working conditions such as industrial corrosive environment (chemical, alumina plant) or marine corrosive environment (offshore/sea).

Ambient temperature

Standard: ON-OFF TYPE, MODULATING TYPE (-30 °C~+75 °C)
INTELLIGENT TYPE (-25 °C~+75 °C)
Low temperature: ON-OFF TYPE, MODULATING TYPE (-60°C-+510"c) INTELLIGENT TYPE (-40 "c-+60 "c)

KVC AFRICA

PRODUCT CARACTERISTICS



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.



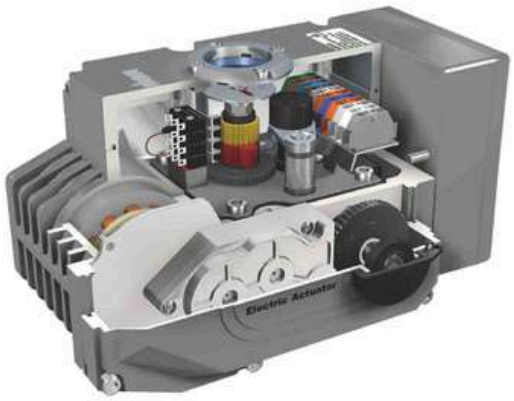
Lens structure
The mechanical seal structure,avoid the use of chemical adhesivesfor site conditions due to the aging water. The improved products in full compliance outdoor use conditions. even can be used for short time immersion in water



New appearance more upscale
Avoiding the monotony of appearance.more attractive.



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.

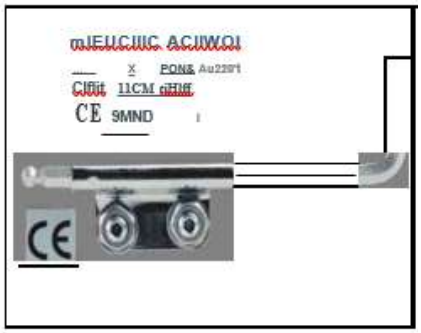




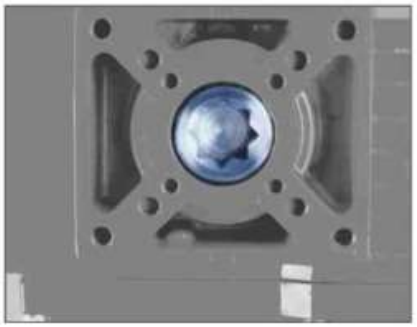
Stable modulating type structure
The adjustment module adopts external installation, and the bare board has better heat dissipation, which solves the contradiction that the highest temperature of the actuator is 120C, but the electronic power of the module is only 70C; The weak current control power supply will not affect the module quality due to the unstable field voltage.



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.



Easy to keep manual handle
Position the handle clamp above the mechanical limit screw.so that the wrench is not easy to be lost in the site.



Easy and reliableassembly with valves
Easy mounting base standard to 1S05211.The stem is directlyconnected to the worm inside of the actuator,the arm of valve and output shaft is shorter, output is more stable.



Quicker and easier adjustment
By improving the electrical cam structure, integrate the four cam into two, isolated with butterfly spring, pressedwith locking nut above. Limit can remain stableat ultra high and low temperature.

KVC AFRICA

PRODUCT SPESIFICATIONS

General specifications			
Torque range	· Direct installation:30-1000Nm	· With reducer:1600~5000Nm	· 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		
Tightness			
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		
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 handle (Optional handwheel)		
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 120 ℃± 5 ℃/close 97 ℃± 5 ℃		
Heater	30W(220V AC) Anti condensation		
Wiring hole	2×M20*1.5 (Except AOX-R-003)		
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	Maximum output torque	Action time	Output shaft(mm)		Motor class H	Single rated current	Weight
	N · M	90° S	Square	Deep	W	220V(A)50HZ	KG
AOX-R-003	30	20	11x11	15.5	8	0.24	2.1
AOX-R-005	50	30	14x14	18	10	0.23	3.6
AOX-R-008	80	30	14x14	18	10	0.24	3.6
AOX-R-010	100	30	17x17	22.5	15	0.41	4.6
AOX-R-015	150	40	17x17	22.5	15	0.41	4.6
AOX-R-020	200	30	22x22	26	40	0.44	13
AOX-R-030	300	30	22x22	26	40	0.48	13.4
AOX-R-040	400	30	22x22	26	60	0.54	13.8
AOX-R-060	600	40	27x27	32.5	60	0.57	14
AOX-R-080	800	40	27x27	32.5	90	0.91	14.3
AOX-R-100	1000	40	27x27	32.5	90	0.99	14.5
AOX-R-160	1600	60	Max Φ 60	Max133	90	1.08	68
AOX-R-200	2000	60	Max Φ 60	Max133	90	1.16	68
AOX-R-300	3000	120	Max Φ 60	Max133	90	1	68
AOX-R-400	4000	200	Max Φ 60	Max133	90	0.93	68
AOX-R-500	5000	200	Max Φ 60	Max133	90	1	68

The above time is the regular time of the actuator. If you need special time, please contact our company.

KVC AFRICA

Appearance Drawing



1	Sight Window
2	Control Room Cover
3	Module Box
4	Actuator Box
5	Dust Cover
6	Waterproof leads
7	Hexagonal wrench
8	Factory code
9	Mechanical limit

Solutions for special applications



Inflection arm and stand

AOX-R series electricactuators are equippedwith an inflection arm and a base to form an inflection arm actuator, which is connected to the valve through a ball dumpling chain with convenient connection and high precision. It is applied to the occasion of high ambient temperature and vibration. The technical parameters of this inflection arm actuator are the same as those of the partial rotary actuator



AOX-R-M Series Multi Turn

The AOX-R-M series multi turn electric actuator is a modification of the mechanical and control parts of the original AOX-R series, specifically adapted to small-diameter gate and globe valves.



AOX-VR

ELECTRIC ACTUATOR

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 unclhanged, and the electrical and mechanical double limits are set to prevent overtravel. The detachable driving adapter sleeve is convenient formachining, and the bottom mounting size conforms to 1S05211 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,S IL3 ,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

WORKING ENVIRONMENT

Sealing protection

Conforms to GB/4208-2017 standard, IP67 (standard, all connection surfaces are set with 0-ring seal) protection level, available Optional IP68 (double 0-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 iri explosiveenvironments (such as oil,gas, chemical, power, metallurgy and the emerging gas industry, etc.).

Anti-corrosion protection

Isanodized and polyester powder coated, standardcolor 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

SStandard: ON-OFF TYPE, MODULATING TYPE (-30 °c~+75 't)
Lowtemperature: ON-OFF TYPE,MODULATING TYPE (-60°C-+510°C)

KVC AFRICA

PRODUCT CHARACTERISTICS



Protection level up to IP67
By improving the concave and convex structure of the upper andlower cover of the product, the sealing is more reliable



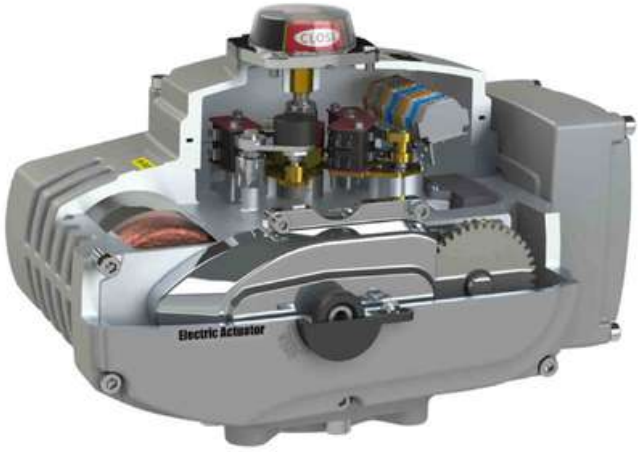
Lens structure
Mechanical seal structure can avoid water inflow caused by chemical adhesive. The structure is fully in line with the outdoor conditions, and can even be used for short time in water



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 currentcontrol power supply will not affect the module quality due to the unstable field voltage.



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.





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



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.



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 1S05211 standard, Removable drivebushing for easy machining and mounting.



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 stableat ultra high and low temperature.

KVC AFRICA

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%/25%
Applicable control functions	Model Name		
	General Type	On-Off type	PCU	Continuous Modulating Type

Note: the number "1" after the model represents the voltage AC type; "F" stands for voltage AC 3ph; "T" 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 160Ω
- 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.

Product Specifications

General specifications	
Torque range	- Direct installation:50-6000Nm - Larger or quick opening optional AOK-M series
Shaft 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 16593-2001 standard - Optional protection for highly corrosive condition
	- Screws are all stainless steel screws
Travellimit	
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.Y.Z10g, 0.2~34 Hz,30 minutes
lubrication	Aluminum base grease (EP type)
Manual operation	Mechaninal 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
Failed-Operating Temperature	Built in thermal protection, open 120 °C ± 5 C close 97 °C ± 5 °C
Heater	30W(220V AC) Adis condensation
Wiring hole	2×M20*1.5
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements
	- 2014/30/EU Electromagnetic Compatibility - 2014/35/EU Low Voltage
	The following harmonized standards
	- General emission standard for industrial environment EN 61000-6-4 - Rotating electrical machine standard EN 60204-1
	- 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	Φ20	27 × 27	60	0.52	15
AOX-VR-030	300	30	Φ20	27 × 27	60	0.52	15
AOX-VR-040	400	30	Φ20	27 × 27	60	0.52	15
AOX-VR-060	600	60	Φ20	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.



AOX-Q

ELECTRIC ACTUATOR

PRODUCT OVERVIEW

The "AOX-Q" series has a compact structure, provides manual and automatic clutch, and has 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 is equipped with electrical and mechanical double limit to prevent over travel. The removable drive adapter sleeve facilitates processing, and the bottom installation size complies with IS05211 standard. It is commonly used for butterfly valves, ball valves, dampers, flapper valves, plug valves, louver valves, multi way valves and various special valves.

DESCRIPTION:

- Torque range: 50-6000Nm

Ex d II CT5 Gb/Ex tD a21 IP67T95°C explosion-proof housing available (ATEX type optional) DNVGL, CCS, ATEX, SIL3, CU-TR, CE, CCC

- Basic control mode:

-On-Off type
-Modulating model
-Continuous modeling model

Different control types are available according to customer requirements:

-ON-OFF TYPE
-MODULATING TYPE (PCU)
-LIGHT INDICATING TYPE(LCU)
-NON-INVASIVE INTEGRATED TYPE (SRCU)
-INTELLIGENT TYPE (ICU)
-FIELDBUS TYPE(ICU+SINGLE/DOUBLE CARD+ FIELDBUS NAME)

SOLUTIONS FOR SPECIAL APPLICATIONS:

- Split type
- Foundation and crank arm
- Power off reset
- Internet of things

WORKING ENVIRONMENT

Sealing protection

Conforms to GB/4208-2017 standard,IP67 (standard, all connection surfaces are set with 0-ring seal) protection level, available Optional IP68 (double 0-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

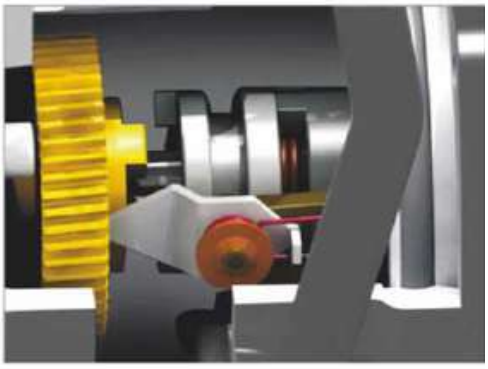
1s anodized and polyester powdercoated, standard color is AOX grey (similar to RAL7039), corrosion resistant Strong corrosion resistance, suitable for working conditions such as industrial corrosive environment {chemical, alumina plant) or marine corrosive environment (offshore/sea).

Ambient temperature

Standard:
ON-OFF TYPE, MODULATING TYPE (-30 °C~+75 °C)
INTELLIGENT TYPE,NON-INVASIVE INTEGRATED TYPE (-25°C~+70°C) LIGHT INDICATING TYPE (-25°C~+70°C)
Lowtemperature:
ON-OFF TYPE, MODULATING TYPE (-60°C~+50°C)
INTELLIGENT TYPE,NON-INVASIVE INTEGRATED TYPE (-60°C~+60°C) LIGHT INDICATING TYPE (-60°C~+60°C)

KVC AFRICA

PRODUCT CHARACTERISTICS



Manual override

- Auto/ Manual switchable lever and handwheel engagement for emergency manual operation.
- Drive force automatically resorted by motor start, unless lever padlocked to prevent this occurring.



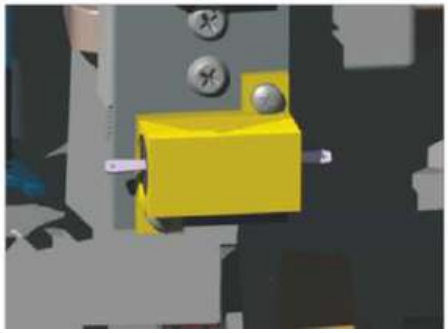
Limit switches

- It is fastened by the two screws above.the settingis simple, each cam can beset separately. Once the setup is complete, eachcam will always remain in this position



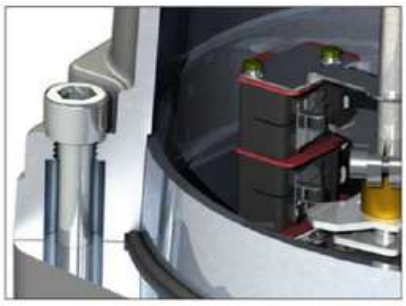
Terminal

- Spring loaded push type terminal for tight wiring connection under severe vibration.
-The numberof terminals are 22 for users.
-Terminal length: 8-9mm
-Terminal size: 10*22*32



Heater

It is used to control the temperature, prevent moisture condensation in the actuator due to temperature and weather changes, and keep the internal electrical components dry.



Interface of cover and housing

- For other actuators, the joint surface is vertical due to the connection between the upper cover and the housing. As the tolerance here is very small, it is not easy to remove the upper cover.
The "AOX-Q" series actuator is designed as a 3 <> inclined plane here, which solves this problem.



Window

The window is made of polycarbonate, with built-in 0-ring and fixed by metal gland. The gland is equipped with two drainage troughs, which are not easy to accumulate water. It has a magnifying effect and is convenient to observe the valve position.





Torque switch

Overload protection (except AOX-Q-005/008/010) can beprovided. When the valve is jammed and there are foreign matters, the motor power supply will be automatically disconnected, which can more effectively protect the valve and electric actuator from damage



Install

The bottom installation dimension conforms to 1S05211 international standard, and the drive shaft sleeve can be disassembled for processing as required, with strong adaptability. It can be installed vertically or horizontally.



Anti falling bolt

- The upper cover bolts are specially designed to prevent them from falling off during maintenance and installation. All external bolts are made of stainless steel and will not rust.

PRODUCT CHARACTERISTICS



1. Worm gear

-Copper alloy (material QAL10-4-4)

2. Self locking

-The precise double worm gear mechanism can e fficiently transmit large torque, with high efficiency low noise (maximum 50 decibels) and long servi ce life. It should have self-locking function to prevent reverse rotation. The transmission part is stable and reliable, and no oil is needed.

3.Sealing

-Ip67 (standard) protection level, all connecting s urfaces are sealed with 0-ring, and IP68 (all connecting surfaces are equipped with one to three layers of 0-ring) is optional.

4.Hand wheel

-As the torque of theactuator increases, the size increases. It is made of aluminum alloy to facilitat e labor-saving operation, and the automatic clutch ensures safe operation.

5.Lubrication

-Use special lubricating grease for actuator.

PRODUCT SPECIFICATIONS

General specifications	
Torque range	· Direct installation:50-1200Nm · With reducer:1500~6000Nm · Larger or quick opening optional AOX-M series
Shell material	Hard aluminum alloy
Position indicator	Even in case of power failure, the valve position dial can display continuous position changes
Tightness	
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(except AOX-Q-005/008/010)
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	Molybdenum disulphide 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
Cable entry	2x NPT 3/4" standard (three connection holes are optional)
EC Directive	
Conformity with EC Directives	The actuator meets the following requirements
	· 2014/30/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	90° action time 50HZ	Flange ISO	Motor (H)	Rated current (A) 50HZ	Handwheel turn	Weight
	N·M	90°(S)	ISO 5211	W	220V	N	(kg)
AOX-Q-005	50	22	F07	20	0.49	10	7.5
AOX-Q-008	80	22	F07	20	0.51	10	7.5
AOX-Q-010	100	22	F07	20	0.54	10	7.5
AOX-Q-015	150	25	F07/F10	40	0.71	11	17.3
AOX-Q-020	200	25	F07/F10	40	0.86	11	17.3
AOX-Q-030	300	31	F10/F12	90	1.39	13.5	22
AOX-Q-050	500	31	F10/F12	120	1.87	13.5	23
AOX-Q-060	600	31	F10/F12	120	1.95	13.5	23
AOX-Q-080	800	37	F12/F14	180	1.66	16.5	29
AOX-Q-120	1200	37	F12/F14	180	1.98	16.5	29
AOX-Q-150	1500	93	F14/F16/F25	120	1.95	40.5	77
AOX-Q-200	2000	112	F14/F16/F25	180	1.76	49.5	83
AOX-Q-300	3000	112	F14/F16/F25	180	1.98	49.5	83
AOX-Q-400	4000	185	F14/F16/F25	180	1.72	82.5	83
AOX-Q-500	5000	185	F14/F16/F25	180	1.75	82.5	83
AOX-Q-600	6000	185	F14/F16/F25	180	2.31	82.5	83

The above time is the regular time of the actuator. If you need special time, please contact our company.

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Appearance Drawing



1	Window	7	Shell
2	Housing	8	Manual Automatic Clutch
3	Control Room	9	Handwheel
4	LCD	10	Plug
5	Mode Knob	11	Factory No
6	Connecting Flange	12	Mechanical Limit

Solutions for spacial applications



Split type

When the installation position of the valve is difficult for the staff to access or the vibration is extremely high or the ambient temperature is extremely high, the control unit with control function can be separately installed. The length of the cable between the actuator and the control unit can beup to 1OOm, and it can be easily reinforced or displaced at any time.



Crank arm and bracket

AOX-Q series actuators are equippedwith a crank arm and a base to form a crank arm type actuator, which is connectedwith the valve through a spherical dumpling chain. The connection is convenient and accurate. The technical parameters of the crank arm actuator are the same as those of some rotary actuators when it is applied to the occasions with high ambient temperature and large vibration.



Power off reset

When the power supply fails, it will act according to the factory set valveposition. The rechargeable lithium battery cell with large capacity, long service life and high power is adopted, which requires short charging time, can be continuously charged for 5W times, and is green, efficient and energy-saving.
Backup power
High performance lithium battery
Number of continuous transmission after power loss
2::5 full strokes



AOX-Q-L

ELECTRIC ACTUATOR

PRODUCT OVERVIEW

The "AOX-Q-L" series is compact, provides manual and automatic clutching, and is extremely weather and vibration resistant. In the event of actuator power failure, the self-locking drive mechanism ensures the valve position remains unchanged, and electrical limits are set to prevent overtravel. Widely used in linear action valve switching and regulating control, such as gate valve, globe valve, regulating valve, etc., widely used in various industries such as petroleum, chemical, water treatment, shipping, paper, power station, heating, building automatic control, etc.

DESCRIPTION:

- Torque range: 2000~40000N

-Exd II CT4 Gb/Ex tD a21 IP67T95°cexplosion-proof housing available(ATEX type optional)
-DNVGL, CCS, ATEX, SIL3, CU-TR, CE, CCC

- Basic control mode:

-ON-OFF MODEL
-MODULATING MODEL
-CONTINUOUS MODELINGMODEL

Different control types are available according to customer requirements:

-ON-OFF TYPE
-MODULATING TYPE (PCU)
-NON-INVASIVEINTEGRATED TYPE (SRCU)
FIELDBUS TYPE (ICU+SINGLE/DOUBLE CARD+ FIELDBUS NAME)

SOLUTIONS FOR SPECIAL APPLICATIONS:

- Split type
- Power off reset
- Internet of things

WORKING ENVIRONMENT

Sealing protection

Conforms to GB/4208-2017 standard,IP67 (standard, all connection surfaces are set with 0-ring seal) protection level, available Optional IP68 (double 0-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

1s anodized and polyester powdercoated, 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 °C~+75 °C)
INTELLIGENT TYPE.NON-INVASIVE INTEGRATED TYPE (-25°C~+70°c)
Lowtemperature:
ON-OFF TYPE, MODULATINGTYPE (-60°C~+50°C)
INTELLIGENT TYPE.NON-INVASIVE INTEGRATED TYPE (-60°C~+60°c)

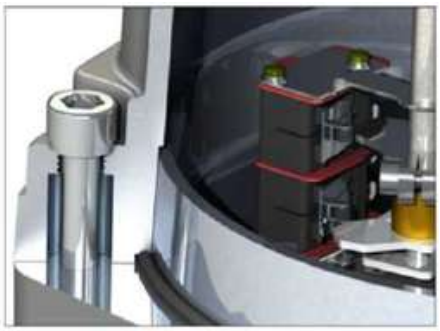
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PRODUCT CHARACTERISTICS



Manual override

- Auto/ Manual switchable lever and handwheel engagement for emergency manual operation.
- Drive force automatically resorted by motor start, unless lever padlocked to prevent this occurring.



Interface of cover and housing

-For other actuators, the joint surface is vertical due to the connection between the upper cover and the housing. As the tolerance here is very small, it is not easy to remove the upper cover. The "AOX-Q" series actuator is designed as a 3 ° inclined plane here, which solves this problem.



Torque switch

-Overload protection (except AOX-Q-L20/30/50/80) can be provided. When the valve is jammed and there are foreign matters, the motor power supply will be automatically disconnected, which can more effectively protect the valve and electric actuator from damage.



Limit switches

- It is fastened by the two screws above.the settingis simple, each cam can beset separately.

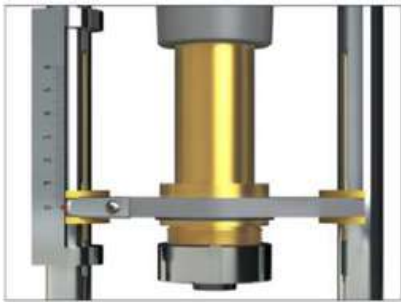
Once the setup is complete, each cam will always remain in this position





Terminal

- Spring loaded push type terminalfor tight wiring connection under severe vibration.
-The number of terminals are 22 for users.
- Terminal length:8-9mm
-Terminal size: 10*22*32



Valve position indicator

-The indicator is mounted on the support shaft, which is more convenient
and intuitive to observe, and the position is adjustable.



Heater

- It is used to control the temperature, prevent moisture condensation in the actuator due to temperature and weather changes, and keep the internal electrical components dry.



Anti falling bolt

- The upper cover bolts are specially designed to preven them from falling o during maintenance and installation. All external bolts are made of stainless steel and will not rust.

PRODUCT CHARACTERISTICS



1.Worm gear

-Copper alloy (material QAL10-4-4)

2.Self locking

-The precise doubleworm gear mechanism can efficiently transmitlarge torque, with high efficiency , low noise (maximum 50 decibels) and long servi ce life. It should have self-locking function to prevent reverse rotation.

The transmission part is stable and reliable, and no oil is needed.

3.Sealing

-Ip67 (standard) protection level, all connecting s urfaces are sealed with 0-ring, and IP68 (all connecting surfaces are equipped with one to three layers of 0-ring) is optional.

4. Hand wheel

-As the torque ofthe actuator increases, the size increases. It is made of aluminum alloy to facilitat e labor-saving operation,

and the automatic clutch ensures safe operation.

5. Lubrication

-Use special lubricating grease for actuator.

PRODUCT SPECIFICATIONS

General specifications	
Torque range	·Direct installation: 2000-40000N ·Larger or quick opening optional AOX-M series
Shell material	Hard aluminum alloy
Position indicator	Even in case of power failure, the valve position dial can display continuous position changes
Tightness	
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	16~100mm(Other travel can be customized)
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(except AOX-Q-L20/30/50/80)
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	Molybdenum disulphide 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, 24V DC, 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
Cable entry	2x NPT 3/4" standard (three connection holes are optional)
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	Thrust	Speed	Maximum Stroke	Motor (H)	Rated current(A)50Hz					Weight
					1 Phase		3 Phase		DC	
	N	mm/s	mm	W	110V	220V	380V	440V	24V	KG
AOX-Q-L20	2000	0.66	60	20	1.62	0.49	0.28	N/A	6.43	18
AOX-Q-L30	3000	0.66	60	20	1.62	0.52	0.28	N/A	6.45	18
AOX-Q-L50	5000	0.66	60	20	1.62	0.54	0.32	N/A	6.47	18
AOX-Q-L80	8000	0.33	60	20	1.62	0.61	0.32	N/A	6.49	18
AOX-Q-L100	10000	0.50	60	40	1.75	0.73	0.36	0.31	7.60	30
AOX-Q-L160	16000	0.50	60	40	1.75	0.89	0.43	0.31	8.05	32
AOX-Q-L200	20000	0.50	100	90	3.70	1.39	0.49	0.34	7.20	33
AOX-Q-L250	25000	0.50	100	120	2.86	1.87	0.58	0.58	14.5	34
AOX-Q-L300	30000	0.50	100	120	2.86	1.95	0.62	0.59	14.7	35
AOX-Q-L350	35000	0.44	100	180	3.85	1.75	0.85	0.86	17.5	38
AOX-Q-L400	40000	0.44	100	180	/	1.98	0.87	0.88	/	38

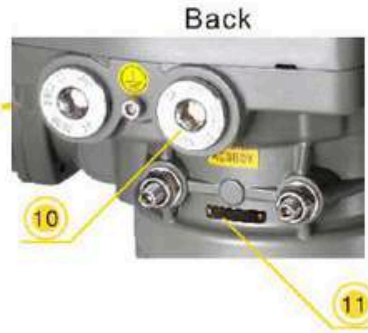
The above time is the regular time of the actuator. If you need special time, please contact our company.

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PRODUCT SPECIFICATIONS

Appearance Drawing





1	Outer Cover	7	Dividing rule
2	Control Room	8	Stem coupling nut
3	LCD	9	Connection flange
4	Way knob	10	Plugs
5	Handwheel	11	Factory number
6	Hand automatic clutch		

Solutions for special applications



Split type

The control unit with control function can be individually split-mounted when the valve is installed in a location that is difficult for personnel to access or where there is extreme vibration or ambient temperature.

The cable length between the actuator and the control unit can be up to 1OOm, and the split can be easily reinforced or relocated at any time

Free adjustment of the mounting position

The optimummounting position can be adjustedto avoid upside down displays inoperability, uneven cable sealing of the control unit, etc. The appropriate position can be easily selected. Adjustment of the controlunit components per 90° rotationis possible: between the controlunit and the actuator, betweenthe local control interface and the control unit, and between the electrical connection and the control unit. The electrical connections make it easier to adjust theinstallation position in thefield



Power off reset

when the power supply fails, it will act according to the factory set valve position.

The rechargeable lithium battery cell with large capacity, long service life and high power is adopted, which requires short charging time, can be continuously charged for SW times, and is green, efficient and energy-saving. (Note: it will vary according to the functional voltage profile)

Backup power

High performance lithium battery

Number of continuous transmissionafter power loss

5 full strokes