

## FRY Series Quarter-turn Electric Valve Actuators





1. Small volume: The volume is just about 35% of product's of the same kind;
2. Lightweight exquisite: The appearance is exquisite and smooth and it can reduce electromagnetic interference;
3. Precision wear-resisting: The worm gear and the worm are perfectly combined and harmoniously linked.
4. Convenient use: Exempt from inspection points, no oil, rust and waterproof, installation at any angle;
5. Multiple protection: Electrical limit, mechanical limit, overheat protection dehumidification protection;
6. Various speed: 5s, 15s, 30s, 60s, 100s, etc.;
7. CNC adjustment: High court integrated intelligent module, numerically setting, numerically rgulating, highly accurate self-diagnosis, no need for positioner, automatic control, multi-function;
8. Safety failure: Through the AC1500V withstand voltage detection, the H-class high-extreme motor ensures the safety of the body and production;
9. Electric actuators can provide high starting torque at full load when the valve is in open, closed or any other position;
10. The gear transmission device is made of heat-treated alloy steel with high strength and good wear resistance, and can withstand fatigue load impact for a long time;
11. The handle is designed as detachable to minimize the dimension of the actuator;
12. The worm gear and drive shaft construction provides long-term reliable operation and high output torque;
13. The captive cover bolts prevent bolts from falling out when cover is opened;
14. Stainless steel travel bolt and cam provide 0 -90° adjustability;
15. The valve position indicator of the electric actuator has the advantages of anti-aging, high temperature resistance and anti-deformation;
16. The control servo unit has the characteristics of heat insulation, moisture resistance and dust resistance, and is suitable for various industrial process requirements;

### CNC adjustment

Highly integrated intelligent modules, digital settings, digital calibrations, and self-diagnosis are highly accurate, without the need for positioner automatic control. One machine has multiple functions.

### Small volume

The volume is only 35% of similar products.

### Multiple protection

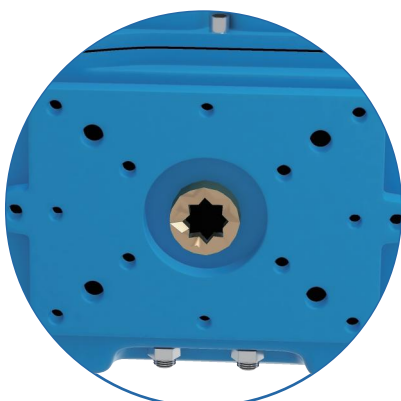
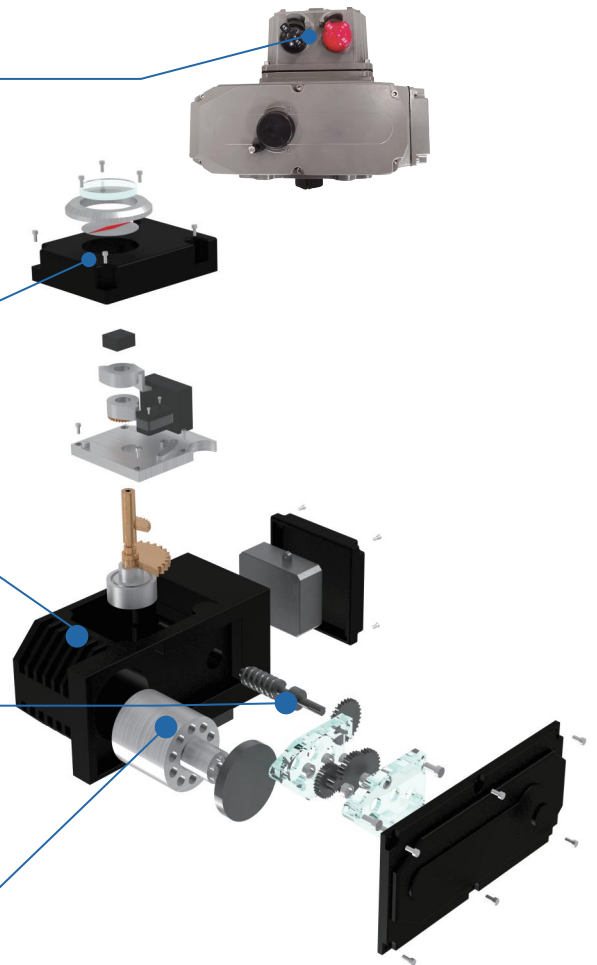
Electrical limit, mechanical limit, overheat protection, dehumidification protection.

### Precision and wear-resistant

The worm gear and the worm are perfectly combined and linked together harmoniously. The integration of the worm gear output effectively reduces the connection gap and greatly improves the transmission accuracy.

### Motor

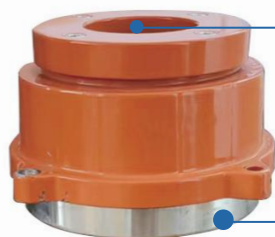
It passed the AC1500V withstand voltage test, H-class highly insulated motor to ensure body and production safety. The manual operating handle is not easy to lose. Place a handle clamp on the mechanical limit bolt to make the hex wrench less likely to be lost in the field.



Assembly with the valve is more convenient and reliable. The valve stem is directly inserted into the worm gear inside the actuator, making the force arm between the valve and the output shaft shorter and the output force more stable.



Using high-strength glass lens sintering technology, the display window is more beautiful and smooth.



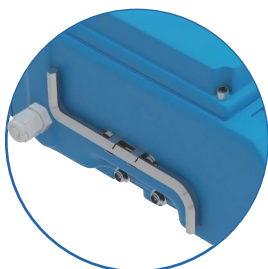
The cylindrical stopper matches the explosion-proof surface, which has good explosion-proof performance and is more reliable.



The explosion-proof grade ExdIIBT4Gb meets the explosion-proof requirements of more than 90% of explosive gas environments.

The protection grade IP67, which solves the stubborn problems of low protection grade and poor performance of traditional explosion-proof products.

The direct-mounted ISO5211 mounting plate is more standard and simpler to connect to the valve.

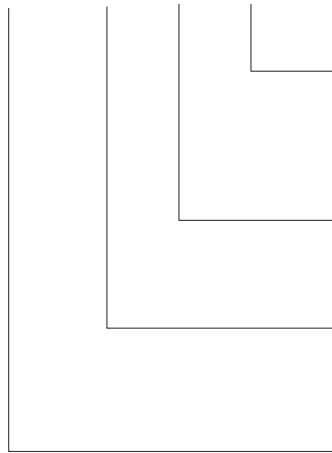


Manual operation handle is not easy to lose . Place the handle clamp on the mechanical limit bolt so that the hex wrench is not easily lost in the field.

[www.bnd-tj.com](http://www.bnd-tj.com)

FRY- 1 / 2 10 B D

FRY    1 / 2    10    B    D



D represents additional functions: power supply/installation method/quick opening/slow opening

B represents the control circuit form A B C D E F and H

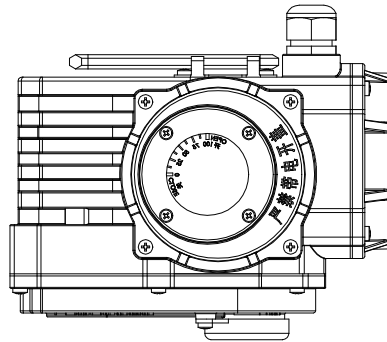
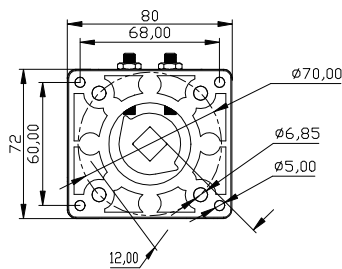
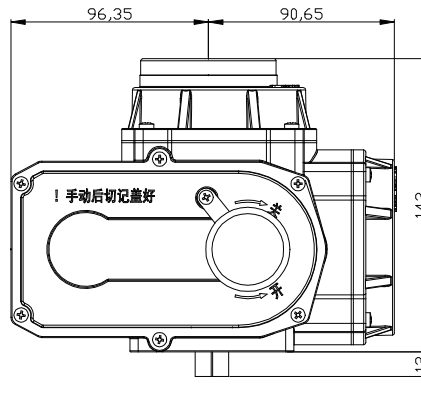
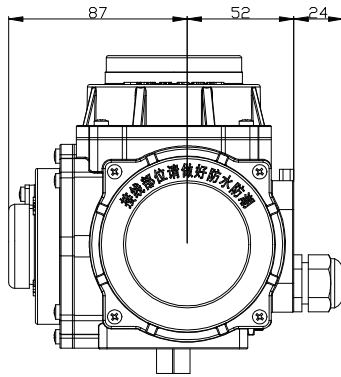
10 represents actuator output torque  
( No. x 10 including: 05, 10 , 16 , 20 , 40 , 60 , 100 , 200.

1 represents the first generation product

2 represents the second generation of explosion-proof products

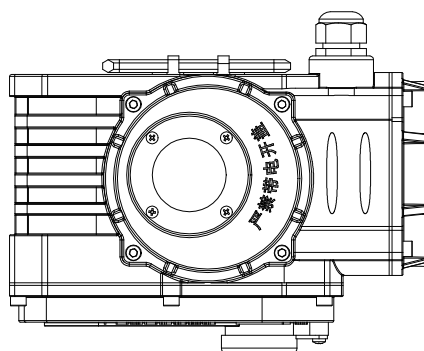
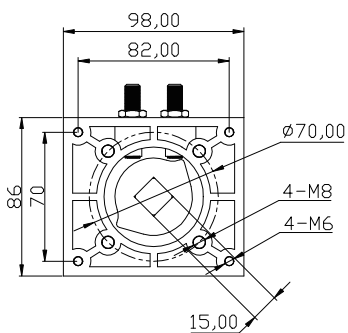
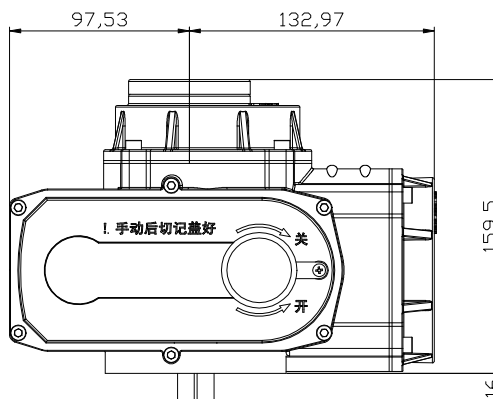
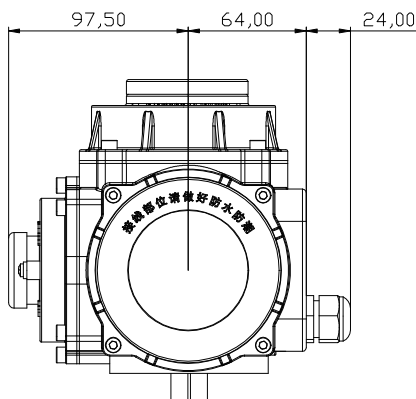


### FRY05

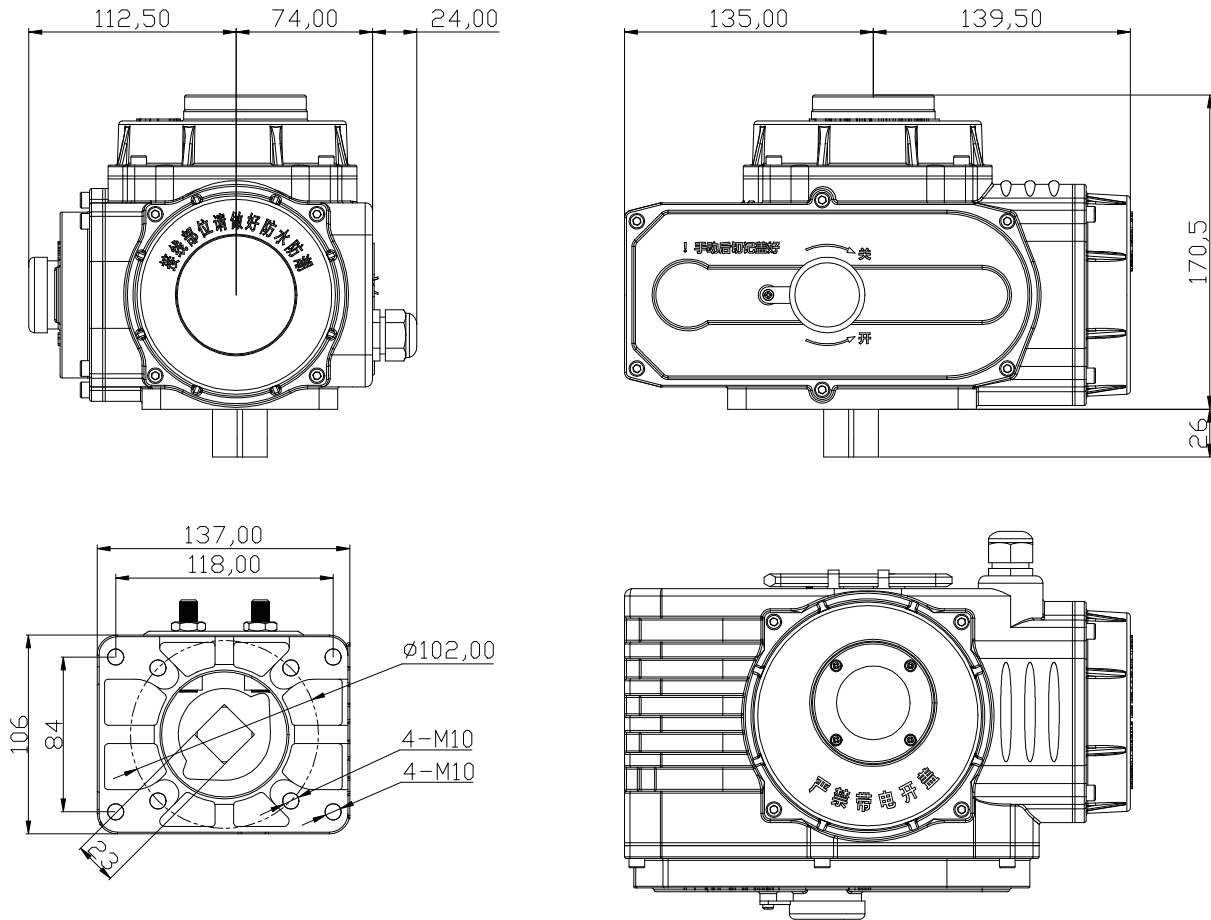


Performance	Voltage	DC24V	AC24V	AC110V	AC220V	AC380V
Motor power		13W	15W	15W	15W	15W
Rated current		1.28A	1.05A	0.24A	0.15A	0.07A
Output torque		20NM/50NM		50NM		
Travel time		5S/8S		26S		
Rotation angle		0°-90°±5°				
Control circuit		On-off type/passive contact type/opening signal type/intelligent modulating type				
Total weight		3Kg				
Insulation resistance		100MΩ/250VDC		100MΩ/500VDC		
Withstand voltage grade		500VAC/1min		1500VAC/1min		1800VAC/1min
Protection grade		IP67				
Installation direction		Installation at any angle				
Electrical interface		PG13.5 nylon waterproof cable connector				
Ambient temperature		-30°C - +60°C				

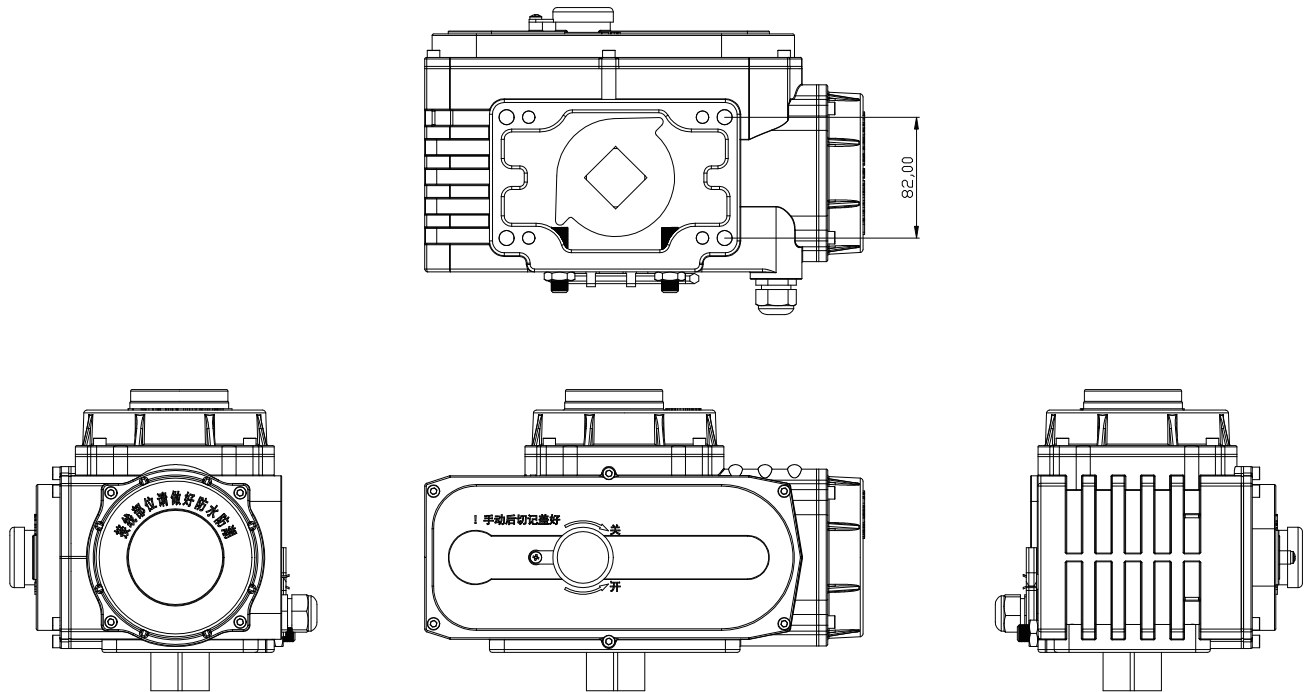
## FRY10/FRY16



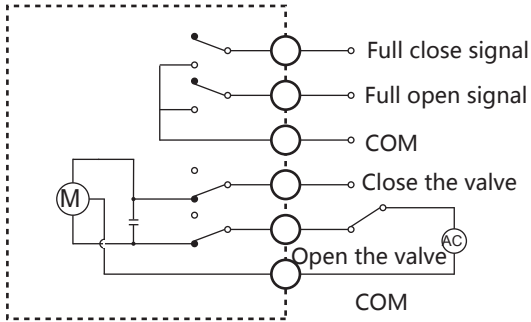
Performance	Voltage	DC24V	AC24V	AC110V	AC220V	AC380V
Motor power		25W	30W	30W	30W	30W
Rated current		2.03A	2.12A	0.57A	0.30A	0.10A
Output torque		100NM	100NM/160NM			
Travel time		10S/20S	30S/60S			
Rotation angle		0°-90°±5°				
Control circuit		On-off type/passive contact type/opening signal type/ intelligent modulating type				
Total weight		4Kg				
Insulation resistance		100MΩ/250VDC		100MΩ/500VDC		
Withstand voltage grade		500VAC/1min		1500VAC/1min		1800VAC/1min
Protection grade		IP67				
Installation direction		Installation at any angle				
Electrical interface		PG13.5 nylon waterproof cable connector				
Ambient temperature		-30°C-+60°C				



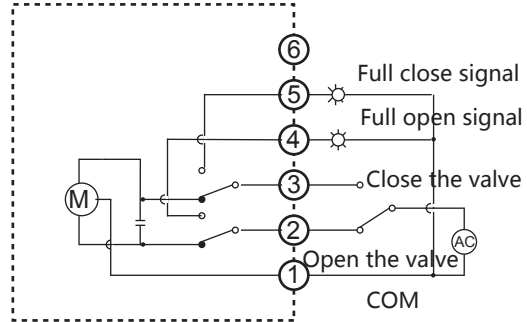
Voltage \ Performance	FRY25			FRY50		
	DC24V	AC220V	AC380V	DC24V	AC220V	AC380V
Motor power	50W	60W	40W	70W	90W	90W
Rated current	3.57A	0.80A	0.29A	5.13A	1.00A	0.35A
Output torque	250NM			500NM		
Travel time	30S			30S		
Rotation angle	0°-90°±5°					
Control circuit	On-off type/passive contact type/opening signal type/intelligent modulating type					
Total weight	6.8Kg			8Kg		
Insulation resistance	DC24:100MΩ/250VDC AC220/AC380:100MΩ/500VDC					
Withstand voltage grade	DC24:500VAC/1min AC220:1500VAC/1min AC380:1800VAC/1min					
Protection grade	IP67					
Installation direction	Installation at any angle					
Electrical interface	PG13.5 nylon waterproof cable connector					
Ambient temperature	-30°C-+60°C					



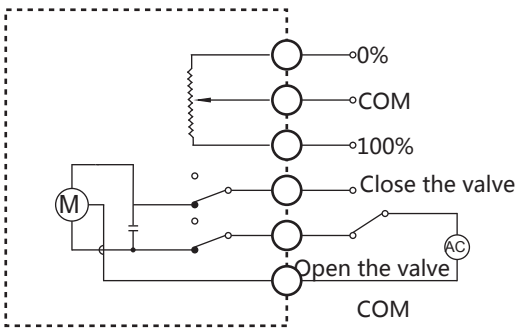
Performance \ Voltage	FRY100		FRY200	
	AC220V	AC380V	AC220V	AC380V
Motor power	120W	90W	140W	100W
Rated current	1.20A	0.44A	1.20A	0.48A
Output torque	1000NM		2000NM	
Travel time	60S		100S	
Rotation angle	0°-90°±5°			
Control circuit	On-off type/passive contact type/opening signal type/ intelligent modulating type			
Total weight	12Kg			
Insulation resistance	AC220/AC380:100MΩ/500VDC			
Withstand voltage grade	AC380:1800VAC/1min			
Protection grade	IP67			
Installation direction	Installation at any angle			
Electrical interface	PG13.5 nylon waterproof cable connector			
Ambient temperature	-30°C-+60°C			



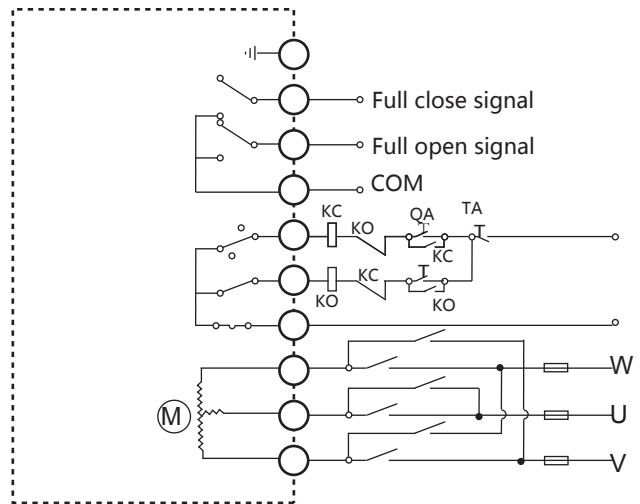
Passive contact type ( S )



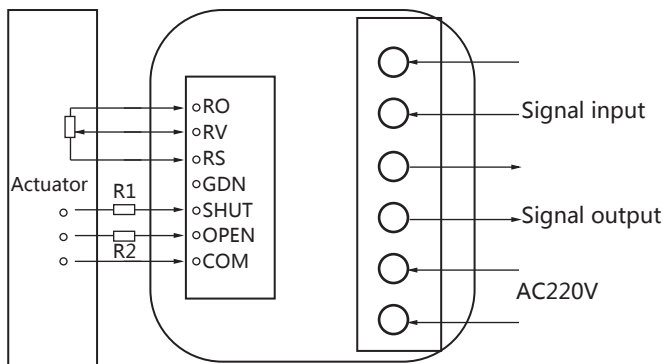
On-off type



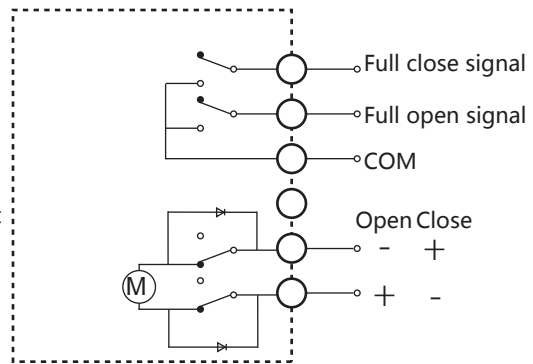
Opening signal output type ( S )



AC 380V three-phase power supply



Intelligent modulating type ( Z )



DC motor

FREYA manufactures a variety of electric actuators, electric valve actuators, electric valves, pneumatic actuators, and various actuator accessories (handwheels, motors, control panels, limit switches, solenoid valves, etc.).

FREYA supplies the following product range:

	<p>AT new pneumatic actuator, gear rack double piston symmetrical structure design, fast and stable action, high precision, high output power. High-quality aluminum alloy cylinder, hard anodized surface, longer service life, low friction coefficient. All double-acting and single-acting actuators have the same cylinder and end cover, which makes it easy to change the mode of action by adding or removing springs. The combined preload safety spring group can be easily and safely installed or the number of springs can be increased or decreased during the assembly process or at the site of use.</p>
	<p>Fine smart series electric valve actuator, CE certification, output torque from 50Nm to 2000Nm, compact design, cast aluminum alloy shell, alloy steel heat treated gear transmission, integrated worm gear and drive shaft, removable crank handle, ISO5211 standard.</p>
	<p>QT electric valve actuator, CE, IECEX, ATEX certified (IP67 and ExdIIBT4 housing). Output torque from 60Nm to 10000Nm. Power supply voltage DC24V, AC110V, AC220V, AC380V, AC400V, AC415V (customizable). Epoxy powder coating for NEMA 4X anti-corrosion grade.</p>
	<p>It is mainly used to switch, cut off or connect the medium in the pipeline, and can also be used for fluid regulation and control. The valve body has a compact structure, reliable sealing, simple structure, and convenient maintenance. The sealing surface and the spherical surface are often in a closed state, not easily eroded by the medium, and easy to operate and maintain.</p>
	<p>SD quarter-turn intelligent integration of electric actuators can be used to control various valves with angle of 90°, output torque is 100-30000Nm, such as butterfly valve, ball valve, damper valve, plug valve, baffle valve etc.</p>
	<p>Full range of accessories (gears, handwheels, limit switches, solenoid valves, detachable manual devices, air filter regulators, positioners, etc.).</p>

Tianjin Freya Automation Technology Co., Ltd.

Tell: 022-27901003

Mail: [tjfreya@tj-bnd.com](mailto:tjfreya@tj-bnd.com)

Web: [www.tj-bnd.com](http://www.tj-bnd.com)

Add: Industrial Park, Zhongbei Town, Xiqing District, Tianjin, China