

DCL[®]

COMMON SERIES ELECTRIC ACTUATOR

■ Match With Angle Stroke Valve ■ Protection Class IP67



DYNAMIC CORPORATION LIMITED

Micro Regulation Device of Electric Limit Stroke is a particular Patent Design of DCL. It makes the adjustment of electric limit simpler and more precise. Patent Number: ZL 201020214725.8

The unique anti-backlash mechanism of the spring eliminates efficiently the transmission backlash between the gears, reduces the reciprocating difference of the actuator and increases the positioning accuracy.

The high quality imported potentiometer made of conductive plastic makes accuracy higher and service life longer.

Over-torque protection mechanism can protect efficiently the actuator and valve from damage.

The casing with good quality die cast aluminum alloy is ingenious and artistic, the protection Class reaches IP68.

The direct installation type mounting Plate is fit with the requirement set forth by ISO5211 and makes linkage with valve simpler, more convenient.

The high quality Servo-Controller adopts imported technical grade electronic parts and components. The circuit board with resin plastic package makes shock and humidity resistance better. The unique electronic brake function makes actuator non-surge when positioning.



Warning: DCL-02 Series Subminiature electric actuators possess two patents and Micro regulation device of electric limit stroke has one patent. Any copy being found will be held accountable by law!



DCL trademark registration certificate



ISO9001:2015



RoHS Certification



CSA Certification



CB standard drafted by DCL



CE certification



Product Type List of DCL Common Series Electric Actuator

Actuator Type	Standard Time/Torque	Optional Time/Torque	Turning Angle (Max.range)	Total Weight	Power Supply	Selected Control Circuit	Page
DCL-02	15S/18Nm	7S/9Nm 60S/18Nm	0~180° Adjustable	1.2Kg	DC24V/AC24V AC110V/AC220V	Types of A/B/E/G	P5, P6
DCL-05	20S/50Nm	4S/20Nm 10S/30Nm 60S/50Nm	0~360° Adjustable	2.5Kg	DC24V/AC24V AC110V/AC220V/AC380V	Types of A/B/C/D/E/F/G/H	P7
DCL-10	30S/100Nm	15S/50Nm 60S/100Nm	0~360° Adjustable	4.5Kg	DC24V/AC24V AC110V/AC220V/AC380V	Types of A/B/C/D/ E/F/G/H	P8
DCL-20	30S/200Nm	15S/100Nm 60S/200Nm	0~90° Adjustable	9Kg	DC24V/AC24V AC110V/AC220V/AC380V	Types of A/B/C/D/ E/F/G/H	P9
DCL-40	30S/400Nm	15S/200Nm 60S/400Nm		9.5Kg			
DCL-60	45S/600Nm			10Kg			
DCL-100	30S/1000Nm	15S/500Nm	0~90° Adjustable	19Kg	AC110V/AC220V/AC380V	Types of A/B/C/D/E/F/H	P10
DCL-160	48S/1600Nm			19.5Kg			
DCL-250	75S/2500Nm			20Kg			
DCL-10GE	30S/0~100Nm	15S/0~100Nm	0~90° Adjustable	4.5Kg	DC24V ± 10%	Types GE	P11
DCL-40GE	30S/100~600Nm	15S/100~400Nm		9.5Kg			
Performance Parameters List of Adjusting type (Type E)							P12
Equipment and Function							P13, P14
Optional Excerpt for Application fields and Outstanding achievements							P15, P16
Brief Introduction							P17, P18

Valve Match (For Reference Only)

Actuator Type	Butterfly Valve (≤PN1.0MPa)	Ball Valve (≤PN1.6MPa)	Vent Valve (≤PN0.1MPa)
DCL-02	≤DN40	≤DN32	
DCL-05	DN50 - 65	DN40	DN50 - 80
DCL-10	DN80 - 100	DN50 - 65	DN100 - 200
DCL-20	DN125 - 150	DN80 - 100	DN250 - 300
DCL-40	DN200	DN125	DN350 - 450
DCL-60	DN250	DN150	DN500 - 600
DCL-100	DN300	DN200	DN700 - 800
DCL-160	DN350 - 400	DN250	DN900
DCL-250	DN450 - 600	DN300 - 350	DN1000 - 1200

Note: The datum of electric actuator and valve listed in the table above are only for reference. The actual datum shall base on the torque values provided by valve manufacturer.

Due to many categories of valve, the torque values are different from each other. Even if the same type with same specification, it would exist some difference as manufacturing technology, quality level, structural form and quality of material of valves are difference. It would be so happened that the opening torque of valve changes greatly with the differences of medium types, site conditions and working characteristics, and pressure fluctuation as well. In order to ensure the actuator to work stably and reliably, it is necessary to have enough allowance in selection. It is suggested to have 1.1 - 1.3 times allowance factor, which is: output torque/torque of valve tested with pressure ≥ 1.1 - 1.3 times.



Three Characteristics

- Subminiature in Volume (Smaller than a pop Can)
- Super Torque (18Nm/15S)
- Super Protection Performance (Full Aluminum alloy Casing)

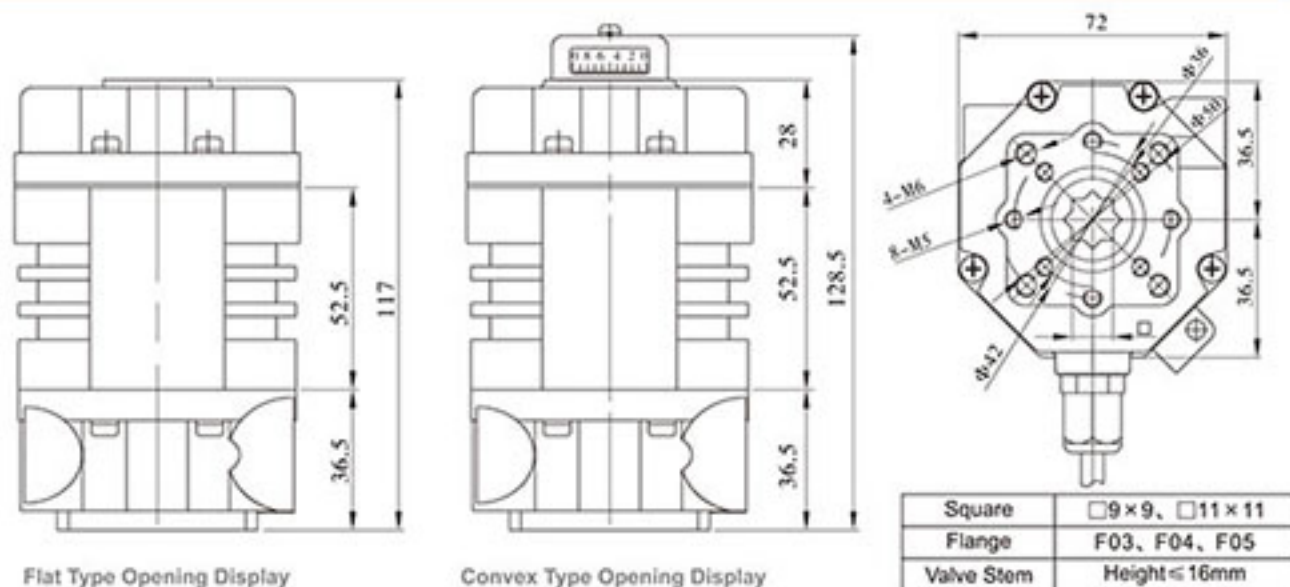
Main Applications:

It is widely applied in various automatic operation systems, such as: level, flow, pressure control, air-conditioning systems, fire fighting systems, water treatment systems, and applied to equipment, chemical industry and food machineries. It is matched with butterfly valves with diameter less than DN40 and ball valves with diameter less than DN32.

It is suitable for many kinds of installation conditions with its super miniature in volume and any installation angle within 360.

Warning: These series products possess two patents technology. Any copy being found will be held accountable by law!

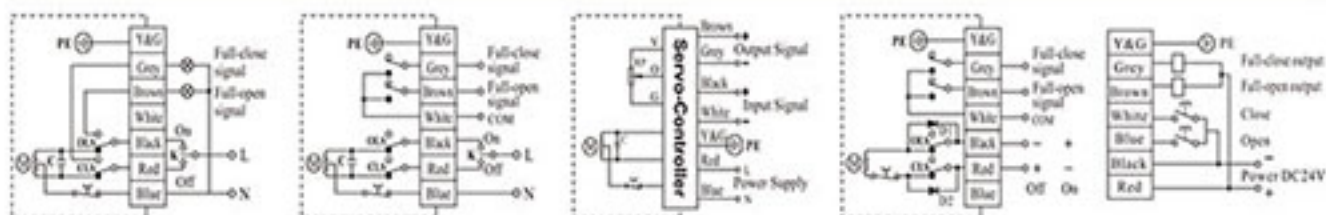
Overall Dimension Drawings



Performance Parameters

Performance Parameters	Type	DCL-02				DCL-MZZ
	Power	DC24V	AC24V	AC110V	AC220V	DC24
Motor Power		8W	6W	6W	6W	20W
Rated Current		0.7A	1.3A	0.3A	0.15A	1.1A
Standard Time/Torque		15S/18Nm				18Nm
Optional Time/Torque		7S/9Nm		60S/18Nm		
Turning Angle		0~90°				3r
Available Control Circuit		Type G	Types of A, B	Types of A, B, E		Types MZZ
Total Weight		1.2kg				
Insulating Resistance		100MΩ/250VDC		100MΩ/500VDC		100MΩ/250VDC
Withstand Voltage Class		500VAC 1minute		1500VAC 1minute		500VAC 1minute
Protection Class		IP67				
Installation Angle		360° at any angle				
Electric Interface		7-core cable for connection				
Ambient Temperature		-30°C ~ +60°C				
Fuse		2A	3A	1A	1A	2A

Control Circuit



Type A: With Limit Switch (Active Contact)

Type B: With Intermediate Position Switch (Passive Contact)

Type E: With Servo Controller (Adjusting Type)

Type G: DC Control Circuit (Passive Contact Switch)

Type MZZ: Sub-run Control Circuit (DC Busless Motor)

Note: The internal circuit of actuator is shown in the dotted frame.

Overall Dimensions and Performance Parameters of DCL-05

Type Power Performance Parameters	DCL-05				
	DC24V	AC24V	AC110V	AC380V	AC220V
Motor Power	13W	10W	10W	6W	10W
Rated Current	1.28A	1.50A	0.24A	0.07A	0.16A
Standard Time/Torque	20S/50Nm				
Optional Time/Torque	4S/20Nm 10S/30Nm		4S/20Nm 10S/30Nm 60S/50Nm 100S/50Nm		
Turning Angle	0 - 90° Adjustable				
Available Control Circuit	Types of A, B, C, D, E, F, G, H				
Total Weight	2.5kg				
Insulating Resistance	DC24V/AC24V: 100MΩ/250VDC AC110V/AC220V/AC380V: 100 MΩ/500VDC				
Withstand Voltage Class	DC24V/AC24V: 500VAC 1minute, AC110V/AC220V/1500VAC 1minute, AC380V/1800VAC 1minute				
Protection Class	IP67				
Installation Angle	360° at any angle				
Electric Interface	Two G1/2 Water-proof Cable Connectors, one for power line and one for signal line.				
Ambient Temperature	-30°C ~ +60°C				
Optional Function	◆ Dehumidify Heater ◆ Dome indicator				



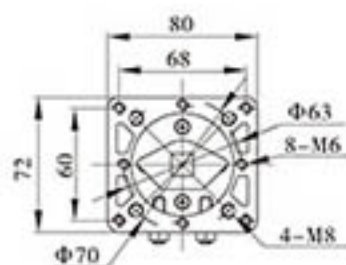
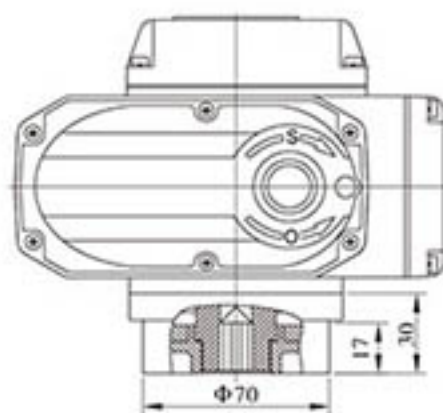
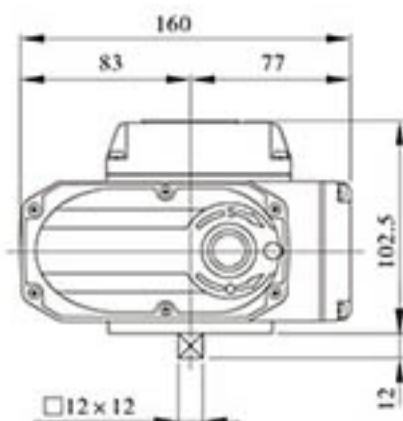
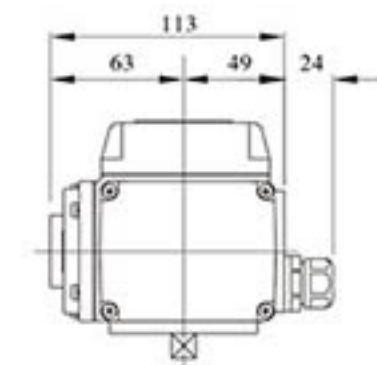
Standard type



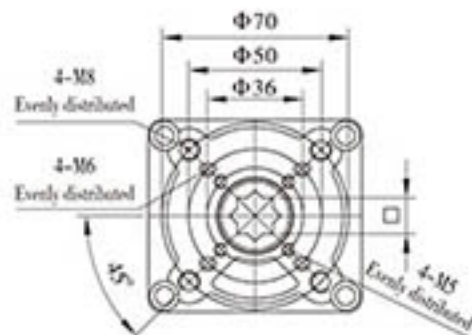
Direct installation type

Standard type

Direct installation type



Parameters of Direct installation	
Square	9×9 11×11 14×14
Flange	F03 F05 F07
Valve stem	Height ≤ 17mm



Overall Dimensions and Performance Parameters of DCL-10

Performance Parameters	Type DCL-10				
	DC24V	AC24V	AC110V	AC380V	AC220V
Motor Power	25W	25W	25W	15W	25W
Rated Current	2.03A	2.12A	0.57A	0.10A	0.35A
Standard Time/Torque	30S/100Nm				
Optional Time/Torque	15S/50Nm		15S/50Nm 60S/50Nm		
Turning Angle	0 - 90° Adjustable				
Available Control Circuit	Types of A, B, C, D, E, F, G, H				
Total Weight	4.5kg				
Insulating Resistance	DC24V/AC24V, 100MΩ/250VDC AC110V/AC220V/AC380V, 100 MΩ/500VDC				
Withstand Voltage Class	DC24V/AC24V, 500VAC 1minute, AC110V/AC220V/1500VAC 1minute, AC380V/1800VAC 1minute				
Protection Class	IP67				
Installation Angle	360° at any angle				
Electric Interface	Two G1/2 Water-proof Cable Connectors, one for power line and one for signal line.				
Ambient Temperature	-30°C ~ +60°C				
Optional Function	◆Over-torque Protector ◆Dehumidify Heater ◆Dome indicator ◆Handle				



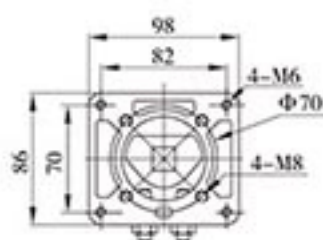
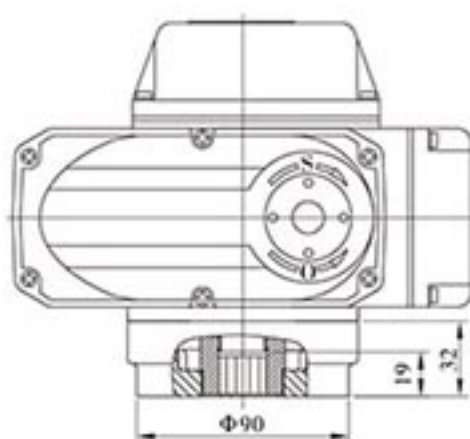
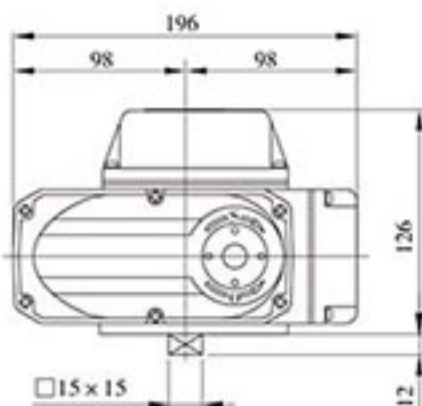
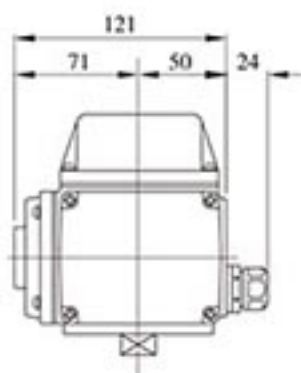
Standard type



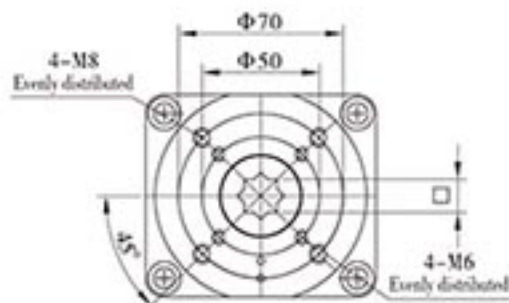
Direct installation type

Standard type

Direct installation type



Parameters of Direct installation	
Square	9×9 □ 11×11 □ 14×14
Flange	F05 F07
Valve stem	Height ≤ 19mm



Overall Dimensions and Performance Parameters of DCL-20/40/60

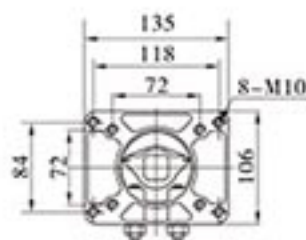
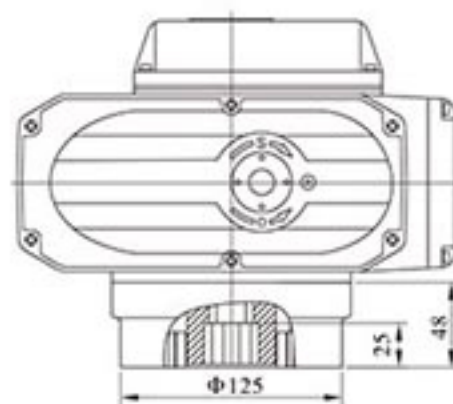
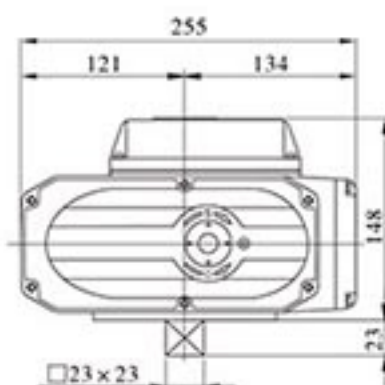
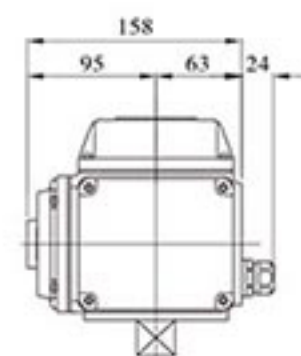
Performance Parameters	Type	DCL-20					DCL-40					DCL-60				
	Power	DC24V	AC24V	AC110V	AC380V	AC220V	DC24V	AC24V	AC110V	AC380V	AC220V	DC24V	AC24V	AC110V	AC380V	AC220V
Motor Power		35W	40W	40W	30W	40W	70W	90W	90W	40W	90W	70W	90W	90W	40W	90W
Rated Current		3.57A	3.65A	0.65A	0.15A	0.37A	5.13A	6.80A	1.12A	0.29A	0.57A	6.04A	6.80A	1.18A	0.29A	0.60A
Standard Time/Torque		30S/200Nm					30S/400Nm					45S/600Nm				
Optional Time/Torque		15S/100Nm					15S/100Nm					15S/200Nm 35S/400Nm				
Turning Angle		0~90° Adjustable														
Available Control Circuit		Types of A, B, C, D, E, F, G, H														
Total Weight		9kg					9.5kg					10kg				
Insulating Resistance		DC24V/AC24V: 100MΩ/250VDC AC110V/AC220V/AC380V: 100 MΩ/500VDC														
Withstand Voltage Class		DC24V/AC24V: 500VAC 1minute, AC110V/AC220V/1500VAC 1minute, AC380V/1800VAC 1minute														
Protection Class		IP67														
Installation Angle		360° at any angle														
Electric Interface		Two G1/2 Water-proof Cable Connectors, one for power line and one for signal line.														
Ambient Temperature		-30°C ~ +60°C														
Optional Function		◆Over-torque Protector ◆Dehumidify Heater ◆Dome Indicator ◆Handle														

Standard type

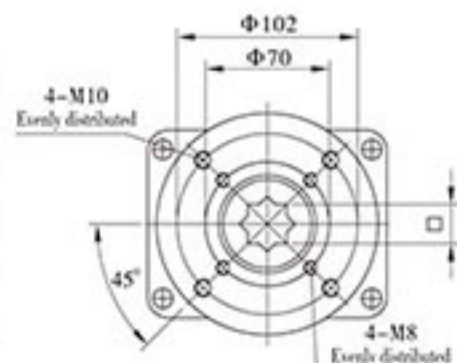
Direct installation type

Standard type

Direct installation type



Parameters of Direct installation		
	DCL-20	DCL-40/60
Square	14×14	17×17 or 22×22
Flange	F07	F10
Valve stem	Height ≤ 25mm	



Overall Dimensions and Performance Parameters of DCL-100/160/250

Type	DCL-100			DCL-160			DCL-250		
	AC110V	AC220V	AC380V	AC110V	AC220V	AC380V	AC110V	AC220V	AC380V
Motor Power	120W	120W	90W	140W	140W	100W	140W	140W	100W
Rated Current	1.93A	0.94A	0.44A	1.75A	0.96A	0.46A	1.75A	0.98A	0.48A
Standard Time/Torque	30S/1000Nm			48S/1600Nm			75S/2500Nm		
Optional Time/Torque	15S/500Nm								
Turning Angle	0~90° Adjustable								
Available Control Circuit	Types of A, B, C, D, E, F, H								
Total Weight	19kg			19.5kg			20kg		
Insulating Resistance	AC110V/AC220V/AC380V: 100 MΩ/500VDC								
Withstand Voltage Class	AC110V/AC220V:1500VAC 1minute, AC380V:1800VAC 1minute								
Protection Class	IP67								
Installation Angle	360° at any angle								
Electric Interface	Two G1/2 Water-proof Cable Connectors, one for power line and one for signal line.								
Ambient Temperature	-30℃ ~ +60℃								
Optional Function	◆Over-torque Protector ◆Dehumidify Heater ◆Dome indicator ◆Handle								



Standard type

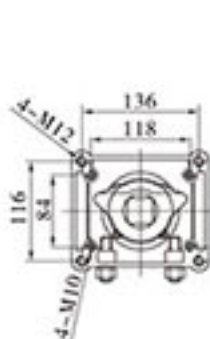
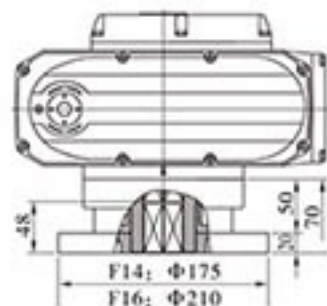
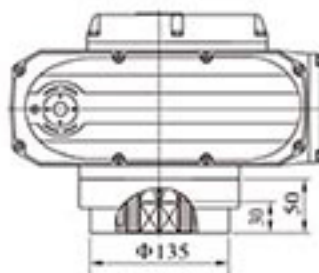
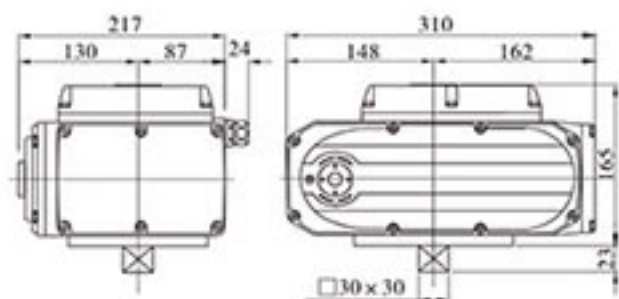


Direct installation type

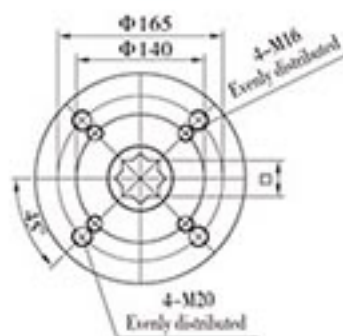
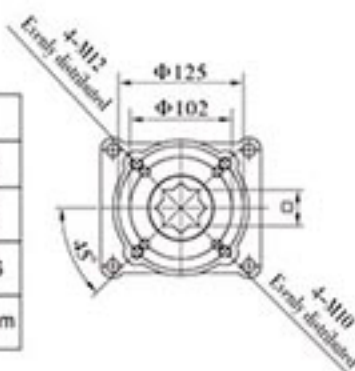
Standard type

Direct installation type (DCL-100, 160)

Direct installation type (DCL-250)



Parameters of Direct installation		
	DCL-100/160	DCL-250
Square	□ 22×22 □ 27×27	□ 27×27 □ 36×36
Flange	F10 F12	F14 or F16
Valve stem	Height ≤ 30mm	Height ≤ 48mm



Performance Parameters of Adjusting Series(Type E)

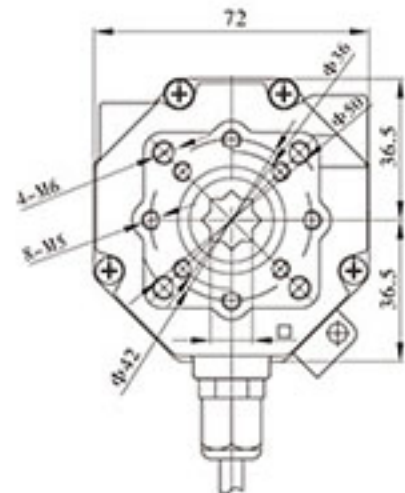
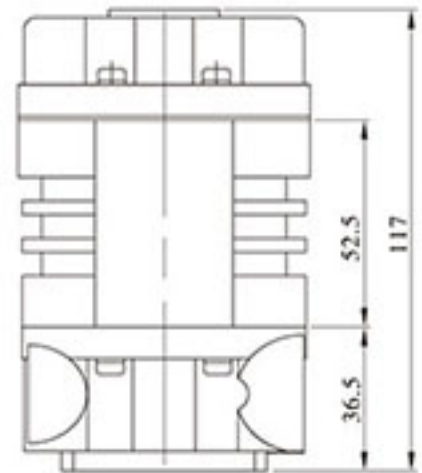
Type Parameters	DCL-05E	DCL-10E	DCL-20E	DCL-40E	DCL-60E	DCL-100E	DCL-160E	DCL-250E
	AC24/110/220	AC24/110/220	AC24/110/220	AC24/110/220	AC24/110/220	AC110/220	AC110/220	AC110/220
Output Torque	50Nm	100Nm	200Nm	400Nm	600Nm	1000Nm	1600Nm	2500Nm
Acting Time	20S	30S	30S	30S	45S	30S	48S	75S
Turning Angle	0~90°	0~90°	0~90°	0~90°	0~90°	0~90°	0~90°	0~90°
Motor Power	10W	25W	40W	90W	90W	120W	140W	140W
Rated Current	1.50/0.24/0.16A	2.12/0.57/0.35A	3.65/0.65/0.37A	6.80/1.12/0.57A	6.80/1.18/0.60A	1.93/0.94A	1.75/0.96A	1.75/0.98A
Total Weight	2.5kg	4.5kg	9kg	9.5kg	10kg	19kg	19.5kg	20kg
Input Signal	4~20mADC, 1~5VDC, 2~10VDC							
Output Signal	4~20mADC							
Basic Error	not more than $\pm 1\%$							
Reciprocating Error	$\leq 1\%$							
Dead Space	0.5%~5.0% adjustable							
Damping Characteristic	0 times							
Repeating Error in Actuator	$\leq 1\%$							
Insulating Resistance	AC24V:100M Ω /250VDC AC110/220V:100M Ω /500VDC							
Withstand Voltage Class	AC24V:500VAC 1 minute AC110/220V:1 500VAC 1 minute							
Protection Class	IP67							
Installation Angle	360° at any angle							
Electric Interface	Two G1/2 Water-proof Cable Connectors, one for power line and one for signal line.							
Ambient Temperature	-25°C ~ +55°C							
Optional Function	◆Over-torque Protector ◆Dehumidify Heater ◆Passive contact switch ◆Dome indicator ◆Handle							
Remark	Any other input or output signal needed ,please specified in purchase order							

DCL-MZZ Subminiature Multi-turn type Electric Actuator

- Super mini volume (Smaller than a cola tin)
- Large torque (18Nm/5r/min)
- Adopted Brushless motor
- Torque closes valve and highly sealed in close position



Overall Dimension Drawings

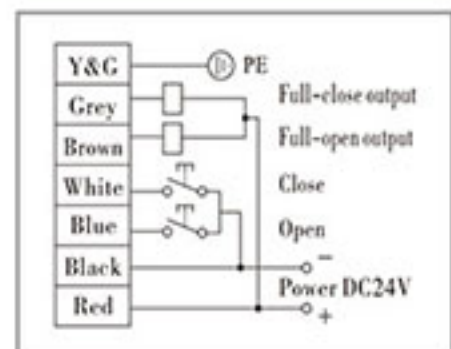


Square	□9×9, □11×11
Flange	F03, F04, F05
Valve Stem	Height ≤ 16mm

Performance Parameters

Parameters	Type	DCL-MZZ
Power		DC24V
Motor Power		20W
Rated Current		1.1A
Standard Time/Torque		18Nm
Optional Time/Torque		
Turning Angle		3r
Total Weight		1.2Kg
Insulating Resistance		100MΩ/250VDC
Withstand Voltage Class		500VAC 1minute
Protection Class		IP67
Installation Angle		360° at any angle
Electric Interface		7-core cable for connection
Ambient Temperature		-25℃ ~ +55℃
Fuse		2A

Control Circuit



1. Optimal Motor Features

The rotating speed of DC 24V brushless motor is in proportional to voltage and inversely proportional to output torque which is proportional to current.

2. Permanent Magnet rotor has no fever phenomenon

The whole set temperature rising is about 20 degree lower compared with AC motor. Frequently start-up won't cause motor and drive circuit fever and it can meet the requirement of open and close frequency more than 1,200 times per hour.

3. Large Start-up torque and strong overload capacity

While actuator opening the valve, the motor rotating speed starts from low range and gradually accelerate to normal speed and thus reduced the start-up current (no more than rated current) and the impact comes from mechanical driving devices while actuator starts-up, that effectively extend the life of actuator and avoid the "Water Hammer" phenomenon which can happen in the pipe with liquid medium.

4. Flexible open and close function

When actuator is operating in open or close position and valve opening degree is close to the set value, the control circuit will automatically slow down the rotating speed of motor and effectively cut down the rotating inertia of motor and enhance positioning accuracy, also reduces the impact of valve and mechanical drive device while positioning.

5. Reverse electromagnetic brake function

Considering the characteristic of brushless motor and control circuit, when actuator is positioning the set opening position, it can easily accomplish reverse electromagnetic brake and enormously improve the positioning accuracy (error no more than $\pm 0.1\%$) by coordinating with flexible close function and achieve non- concussion orientation which means damping characteristic is zero. Because this kind of brake is non-mechanical friction, so that effect can stay in long-term stability.

6. Torque test control & over-torque protection

Since Electromagnetic torque of brushless motor only connect with current thus Electric actuator can precisely and stably realize the torque test control and over-torque protection.


7. Automatically low speed and large torque push forward function

Sometimes valves may happen "Jamming" phenomenon due to factors such as uneven thermal expansion or eccentric moment and other influences.

"Jamming": The torque that valve needed in certain open position or open district is larger than normal value.

When it happens, the actuator will automatically reverse back up a bit, then with low speed and large torque to push forward until "Jamming" phenomenon disappeared and then automatically return to normal speed and torque.

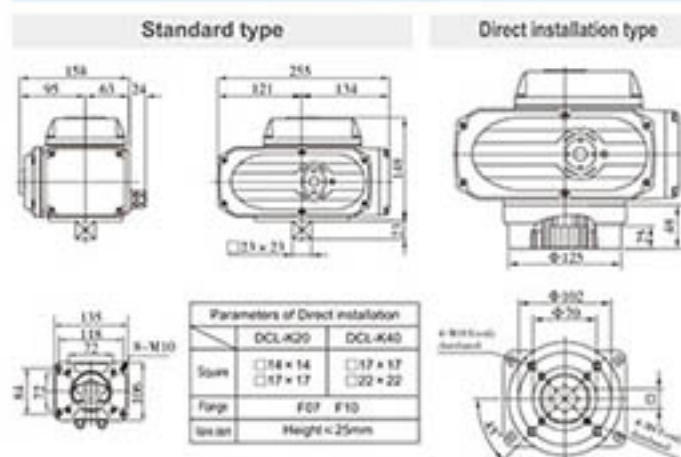
Overall Dimension and Performance Parameters of Quick open series

 <p>Standard type</p> <p>Direct installation type</p> <p>Standard type</p> <p>Direct installation type</p>	Product Type	DCL-K20			DCL-K40		DCL-K100
	Power Supply	DC24V	AC24V AC110V AC220V	AC380V	AC24V AC110V AC220V	AC380V	AC110V AC220V AC380V
	Motor Power	35W	40W	30W	90W	40W	120W
	Rated Current	6.0A	3.65A 0.65A 0.37A	0.15A	6.80A 1.12A 0.57A	0.29A	1.93A 0.94A 0.44A
	Torque/Time	50Nm/2S 100Nm/4S 200Nm/8S			80Nm/2S 160Nm/4S 330Nm/8S		500Nm/4S 800Nm/8S 1200Nm/12S
	Available Control Circuit	Type G	Types of AB	Type H	Types of AB	Type H	Types of ABH
	Turning Angle	0 ~ 90° Adjustable			0 ~ 90° Adjustable		
	Total Weight	9Kg			9.5Kg		19Kg
	Insulating Resistance	DC24V : 100MΩ/250VDC AC24V~380V : 100MΩ/500VDC					
	Withstand Voltage Class	DC/AC24V: 500VAC 1minute AC110/220V:1500V 1minute AC380V:1800V 1minute					
	Protection Class	IP67					
	Installation Angle	360° at any angle					
	Electric Interface	Two G1/2 Water-proof Cable Connectors					
Ambient Temperature	- 25℃ ~ + 55℃						
Optional Function	◆Dehumidify Heater ◆Dome indicator ◆Handle						

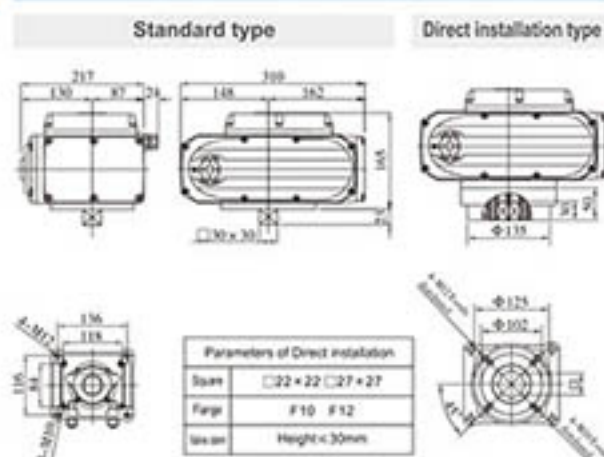
Remark: 1.The time in the sheet is the time for 0-90° running time.

2.Quick open series are not fit for the circumstances of butterfly valves and others valves that requires self-lock function.

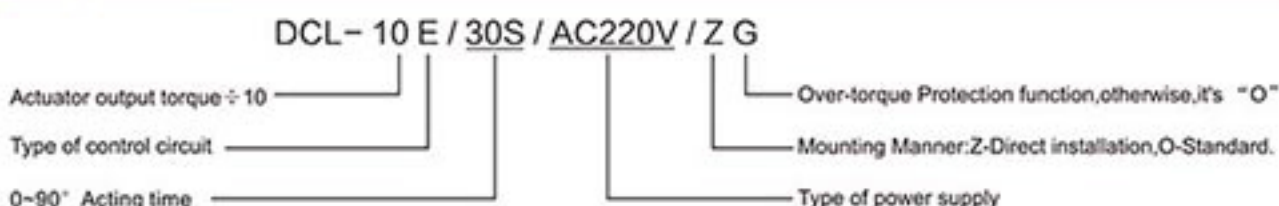
DCL-K20/40 Dimensions Fig



DCL-K100 Dimensions Fig



Design of Model

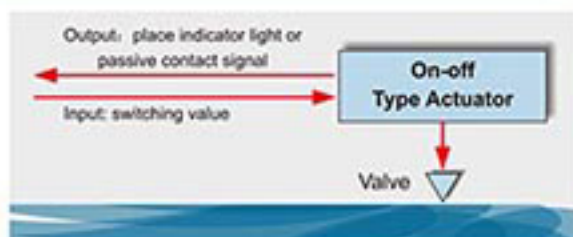


On-off Type Actuator

Control circuit of Type A, B, D, G, H

On-off type has only Full-open and Full-close limit positions. You can preset middle position (type B, G, H) if you need. Actuator will drive valve to Full-open or Full-close or middle position etc. when receiving proper command.

Adopt the S2 short-time duty, the time of continuous operate less than 15 minutes.

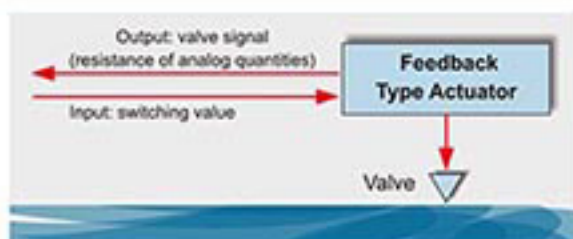


Feedback Type Actuator

Control circuit of Type C, D, F

During the actuator drives valve, it will full-range feedback valve signal to Central Control System at the same time. Type C, D feedbacks valve signal of resistance quantity, type F feedbacks valve signal of analog quantity.

Adopt the S2 short-time duty, the time of continuous operate less than 15 minutes.

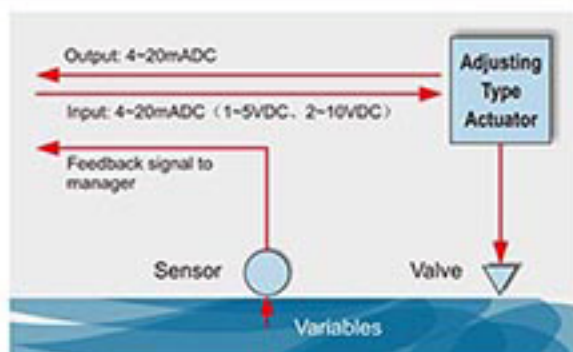


Adjusting Type Actuator

Control Circuit of Type E

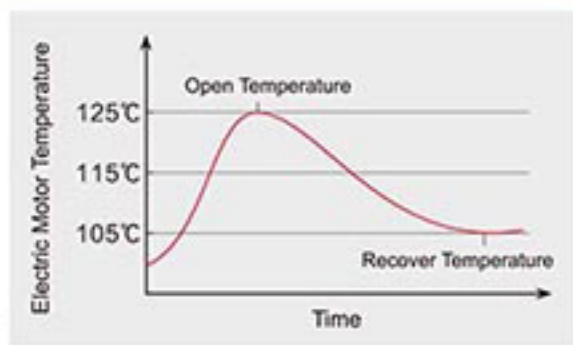
The Servo-Controller is located inside of the actuator. It receives command of the Central Control System and drives valve to proper opening Position according to varying conditions of Variables (Flow, Pressure, Temperature, Fluid level) in the pipe.

Adopt character of service of S4 Intermittent Type, working frequency reaches 1200 times /hour.



Electric Motor

Electric motors of DCL series electric actuator have some particular designs: Electric motor of actuator has higher starting torque. This is due to the working characteristic of valve; the actuator is required to have full-load starting ability at the opening, closing and any other intermediate positions. At the same time, electric motor of actuator has less rotation inertia because of the need for adjustment of the flow (opening range). Actuator stilled causes a rapid rise in temperature of the motor. For protecting electric motor and control system, PTC overheating protector located in electric motor winding will switch off the circuit when the temperature up to 125°C, the circuit will recover through when temp. drops to 90-105°C.



Servo-Controller

The unique circuit design, imported technical grade electronic parts and components and modern making technology of circuit board of the DCL ensures high quality and reliability of the Servo-Controller. The circuit board with resin plastic package makes shock and humidity resistance better. The unique electronic brake function makes actuator dead-beat when position is fixed, the period of damping character is zero times (Standard: less than 3.5 times).



Micro Regulation Device of Electric Limit Stroke

It is very easy to adjust open-direction and close-direction electric limit strokes of actuator with a hexagon spanner because of unique patent technology of DCL. Meanwhile, the unique micro regulation function makes adjustment of electric limit stroke more precise.

Patent NO. : ZL201020214725.8

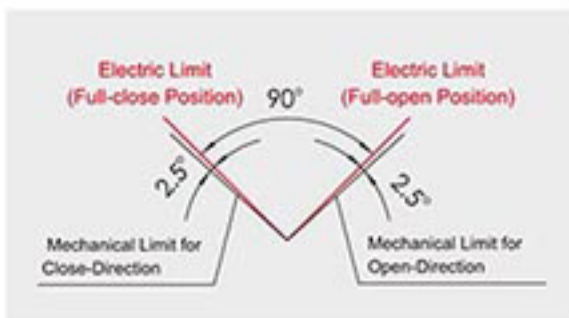


Electric & Mechanical Limit Function

The function of electric limit: The electric limit switch located inside the actuator will switch off the circuit to protect actuator when actuator reaches Full-open and Full-close limit positions or any given position between them.

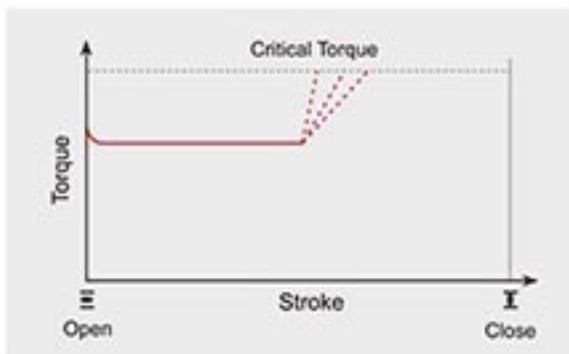
Mechanical limit function of output shaft: When the electric limit function is out of work, the output shaft of actuator will be lock-in by mechanical limit device to protect valve from damage.

Graphical representation is position relation of electric limit and mechanical limit.



Over-Torque Protection Function(Optional)

When valve is stuck in the working because of impurity and foreign matters in the pipe or other causes, the output torque of the actuator will rise rapidly to a critical value (preset), the torque switch will switch off the circuit to protect valve and actuator from damage.



Heating& Dehumidification Function(Optional)

The electric Cavity of DCL Series actuator can be equipped with PTC electronic heating component to prevent electronic component from damage resulting from condensation. It's used at the area relatively moist and when difference in temperature of day and night is biggish. The heater will operate continuously and it always electriferous no matter when the actuator works or not.

Optional Excerpt for Application Field and Outstanding Achievements



Petroleum

Applied in Metallurgy and Colored Industrial

Wuhan Iron and steel (group) Corp
Echeng Steel
Jigang Group Co., Ltd
Chongqing Iron & Steel Company
Highsee Iron and Steel Group Co., Ltd
Maanshan Iron & Steel Company Ltd
Liuzhou Iron & Steel Co., Ltd
Capital Iron and Steel Company
Xinjiang Ba Yi Iron & Steel Co., Ltd
Jiangsu Shagang Group Huaigang Special Steel CO., Ltd
Wuxi Seamless Steel Tube Co., Ltd
Shanxi Dehui Seamless Steel Tube Co., Ltd
Shanghai Sigma Metal, Inc.
Henan Branch China Aluminum
Jilin Liyuan Aluminum Group Co., Ltd
Henan Wanji Aluminum Co., Ltd
Shan Xi Zhuo Feng Titanium Industry Co., Ltd
Magnesium Co., Ltd
Ningxia Sunshine Silicon Industry
Hubei Daye Nonferrous Copper Co., Ltd

Applied in Petroleum and Chemical Industrial

Heilongjiang Daqing Oilfield
Panjin Liaohe Oilfield
The Shengli Oilfield
Hubei Qianjiang Oilfield
Shaanxi Changqing Oilfield
Karamay Oilfield
Henan Zhongyuan Oilfield
Sinochem Fuling Chongqing Chemical Industry Co., Ltd
Do-Fluoride Chemicals Co., Ltd
Henan Billions Chemicals Co., Ltd
Jiangxi Provincial Jiahua Fluorochemical Industry Co., Ltd
Guanghua chemistry co., Ltd
Shanxi Xinhua Chemical Co., Ltd
Inner Mongolia Tongliao Jianlong acid Co., Ltd
Xinjiang Akesu Huajin fertilizer Co., Ltd
Jiang Su Qizhou Green Chemical Co., Ltd
Jiangsu Yangnong Chemical Group Co., Ltd

Hubei Huangmeiling Phosphate Chemical Group Company
Hubei Xiangyun (Group) Chemical CO.,LTD
Zhejiang Lianhe Chemical Technology

Applied in Energy Sources and Electric Power Industrial

Shenzhen Daya Bay Nuclear Power Station
Institute of Thermal Engineering, Tsinghua University
Henan Anyang Power Plant
Henan Xinxiang Power Plant
Datang Sanmenxia Power Generation Co., Ltd
Hunan Xiangtan Power Plant
Hunan Zhuzhou Power Plant
Fujian Longyan Thermal Power Co., Ltd
Ulan Coal Group Erdos Power Plant
Kunshan Lucheng Garbage Power Co., Ltd
Jiangxi Ruijin Lujin Dam Hydropower Co., Ltd
China Gezhouba Group Company Limited
Hubei Xiangfan Power Plant
Hubei ezhou Power Plant
Shandong Wanda Thermoelectric Co., Ltd
Qinhuangdao Power Company Limited
Hainan Grid Haitan Power Plant
Shanxi Shuozhou Shentou Power Plant



Chemical Industry



Electric Power

Applied in Traffic, Light Industry and Building Materials Industrial

Beijing Capital International Airport
Chengdu Shuangliu Airport
Wuhan Tianhe Airport
Guangzhou Metro ventilation project
Shanghai Metro ventilation project
Wuhan Boiler Factory
Handan Dongfeng Manufacturing Co., Ltd
Jilin Jiangcheng Fan Factory
Zhongzhou Auxiliary Boiler Co., Ltd
Jidong Cement Co., Ltd
Huaxin Cement Co., Ltd
Hubei Echeng Cement plant
Hubei Yichang Cement Co., Ltd
Liaoning Qianshan Cement Co., Ltd



Metallurgy

The electric actuator of DCL series is widely applied in various industrial field, such as metallurgy, colored, petroleum, chemical ,electric power, traffic, building materials, light industry, environmental protection, water treatment, shipbuilding, paper-making, brewage, food process, pharmaceutical and the automation system for the building, etc.



Electric ball valve



Electrically actuated butterfly valve

Optional Excerpt for Application Field and Outstanding Achievements

Applied in HVAC, Environmental protection and water treatment Industry

Wuhan Furniture CBD building cooling systems
 Central Air Conditioning System in Henan Mobile
 Central air-conditioning system in Shijiazhuang
 China Unicom
 Central air conditioning system in Zhengzhou
 XinHua Jianguo Hotel
 Central air conditioning system in Ningbo Ocean
 Blue Diamond Tower
 Central air conditioning system in NPC building
 Wuhan Safety and Environmental Protection
 Research Institute
 Tsinghua Tong Fang artificial environment
 Co., Ltd
 Huzhou Sitong Environmental Technology
 Co., Ltd
 Shashi Yuexing Environmental Protection
 Equipment Factory
 Changsha Xinhe Water plant
 Dongguan, Wadi Water Equipment Co., Ltd
 Zhuhai Tsinghua Soft Water Treatment Co., Ltd
 Wuhan HanXi Sewage Treatment Plant
 Shanghai Jiading New Town Sewage Treatment
 Plant
 Shanghai Songjiang Wastewater Treatment
 Plant
 Sanya Wastewater Treatment Plant
 Taiyuan Wastewater Treatment Plant
 Jinan Wastewater Treatment Plant
 Tangshan Wastewater Treatment Plant

Applied in shipbuilding Industry

204 Department of Naval Engineering University
 Shipbuilding 715
 Shipbuilding 719
 Shanghai Jiangnan Shipyard
 Wuhan Qingshan Shipyard
 Tianjin Xingang Shipyard
 Guangzhou Huangpu Shipyard
 Jiangxi Jiangzhou Shipyard
 Shandong Weihai Shipyard
 Chongqing Zesheng Shipping Co., Ltd
 Qingdao Haohai Shipping Co., Ltd

Jiangxi Shipbuilding Marine Instrument Co., Ltd

Applied in Paper-making Industrial

Shan Dong Sun Paper Industry Joint Stock
 Co., Ltd
 Shandong Chenming Paper Holdings Limited
 Shandong Qingyuan Paper Co., Ltd
 Shandong Golden Cailun Paper Co., Ltd
 Henan Aobo Paper Co., Ltd
 Jiamusi Longjiang Fu Pulp & Paper Co., Ltd
 Inner Mongolia Venus Pulp & Paper Co., Ltd
 Wuhan Chenming Hanyang Paper Co., Ltd
 Wuhan Jindie Paper Co., Ltd
 Hubei Yicheng Changfeng Paper Co., Ltd
 Hubei Xiantao Hengda Paper Co., Ltd
 Sichuan Jinfeng Paper Co., Ltd
 Yibin Paper Industry Co., Ltd
 Chongqing Longzhang Paper Co., Ltd
 Zhe Jiang Lan Tian Paper Co., Ltd
 Jiaying Dahua Paper Industry Co., Ltd
 Nine Dragons Paper (holdings) Limited
 Zhongshan Yongfa Paper Co., Ltd
 Guangdong Jiangnan Paper Co., Ltd
 Jiangmen Zesen Paper Co., Ltd
 Qingyuan Senyo(qingxin) Paper Co., Ltd
 Zhengzhou Huafeng Paper Co., Ltd

Applied in Medical Equipment, Pharmaceutical and food Industrial

Lianyungang Qianning Medical Equipment
 Co., Ltd
 Wuhan Jiangnan Medical Equipment Co., Ltd
 Hubei Guangji Pharmaceutical Co., Ltd
 Yangtze River Pharmaceutical Group
 Zhejiang Zhenyuan Pharmaceutical Co., Ltd
 Sichuan Kelun Pharmaceutical Co., Ltd
 Tianjin Tianyao Pharmaceutical Co., Ltd
 Xinjiang Yilite Industry Co., Ltd
 Xi'an Hans Brewery Co., Ltd
 Heilongjiang YiAn Ruixue Sugar Co., Ltd
 Henan Qi Xue Starch Co., Ltd
 Zhengzhou Taikoo Coca-Cola Beverages Co., Ltd
 Langfang Yili Dairy Co., Ltd
 Jiujiang Huiyuan Beverage & Food Co., Ltd



HVAC



Water Treatment



Paper-making



Shipbuilding



Electrically actuated ball valve



Electric ball valve

For the following process control, DCL series electric actuator is your ideal choice:

- Butterfly Valve, ball valve, plug valve, globe valve and other rotating-type valves
- The industrial process control system for flow, temperature, pressure and fluid level
- Automation and computer controlled system
- The mechanically positioned rotation

- Feb. - Sept. 2004: Z Type (DCL-03, 05 Series) successfully developed;
- December 2004: 7300 sets of various types and specifications of electric actuators sold in total in the year, and first batch of DCL Series electric actuators sold to Europe;
- January 2005 Passed inspection and test of SITIIAS (Shanghai Inspection and Testing Institute of Instruments and Automatic Systems), the protection class reaches to IP68 according to the standard of GB4208-1993 (Protection Class for Casings) ;
- Feb. - Sept. 2005: L Type (DCL-100, 160, 200 Series) successfully developed;
- December 2005: First time in breaking the annual sale record of 10000 sets of electric actuators;
- Aug.-Dec. 2005: Direct installation type of electric actuator successfully developed;
- January-June 2007: DCL-02 series subminiature electric actuator is successfully developed and awarded patent authority by the National Patent Office;
- July.-Oct. 2007 The Electric Magnetic Compatibility (EMC) and Low Voltage (LVD) of DCL Series Products have been assessed by SGS Taiwan Ltd and found to be in compliance with the requirements of CE Standard;
- Sept. 2007 The products are inspected and tested by SITIIAS (Shanghai Inspection and Testing Institute of Instruments and Automatic Systems), and found to be in compliance with the requirements set forth by GB/T7094-2002 (Vibration Test Method (Sine) for Electric Equipment of Ship) ;
- October 2009: Micro regulation device of electric limit stroke and opening display device of adjustment convex type are developed successfully and awarded patent authority by the National Patent Office;
- December 2009: Our Company has self-support import and export authority awarded by Foreign Affairs Economic Committee of Wuhan City;
- Feb-Aug 2010: Compact Anti-explosion series electric actuator is developed successfully and awarded Patent authority by the National Patent Office;
- December 2010: Anti-explosion series electric actuators of EXQZ, EXQS and EXQM passed test (Shanghai national grade Supervise Inspection Station of Instruments Anti-explosion Safety, according to the standard of GB3836.1-2010, GB3836.2-2010 and awarded qualification certificate of Anti-explosion;
- June 2011 : Drafted out the standard of 【 Marine Electric control butterfly valve】 and 【 Marine Electric control ball valve】 two standards, approved by ship Standardization Committee, and issued by the Ministry of Industry and Information technology;
- 6th Jun, 2013 ,DCL all series products passed CSA certification;
- 13th Sep, 2013, Company relocated to No.6 Hengroad, liufangyuan, East-lake, Hi-tech Development Zone, Wuhan;
- 11th Apr, 2014, DCL-MZZ multi -rotation actuator successfully developed;
- 25th Aug, 2014, DCL all series of products passed the EU RoHS Certification;
- 14th Oct, 2014, Company achieved high-tech enterprise certification;
- 7th May, 2015, DCL05-60 series 24VDC modulating type successfully developed;
- 8th Oct, 2015 DCL-K05 ~ K100 quick-open series launched out and mass production, it can be customized within the range of 15Nm-1200Nm and with time around 2S/4S/8Seconds;
- 3rd Nov, 2015, DCL series electric actuators won the Excellent Award of Electronic Instruments in the "Made in China Beauty 2015" annual award.



◀ Assembling workshop

Quality inspection equipment ▶



◀ Housing processing

Warehouse ▶



▲ Sample listing room





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