

Selection table

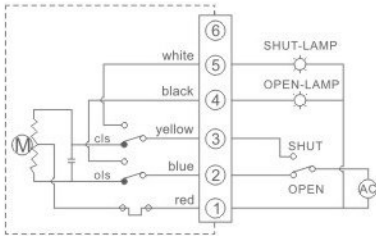


ITEM	OUTPUT TORQUE	ACTION TIME (0~90°)	POWER	METAL SEAL BUTTERFLY VALVE	SOFT SEAL BUTTERFLY VALVE	BALL VALVE	AERATION BUTTERFLY VALVE	
				≤PN1.6MPa				≤0.1MPa
FS-ZX	6N·m	7S	AC85 ~ 260V、 50/60Hz、 AC/DC24V、DC12V	/	DN25 ~ DN40	≤DN20	/	
	8.5N·m	9S			DN25 ~ DN40	≤DN25		
	12N·m	13S						
FS-05	15N·m	10S	AC24V、110V、 220 ~ 240V、 380 ~ 420V; 50/60Hz; DC24V、 DC12V、 DC220V	/	DN25 ~ DN50	≤DN25	/	
	30N·m	20S			DN25 ~ DN65	≤DN32	≤DN50	
	50N·m	30S			≤DN80	≤DN32	≤DN80	
FS-10	50N·m	13S	AC24V、110V、 220 ~ 240V、 380 ~ 420V; 50/60Hz; DC24V、 DC12V、 DC220V	/	≤DN80	≤DN32	≤DN80	
		15S						
	60N·m	20S			≤DN80	≤DN40	≤DN80	
	100N·m	30S			DN40 ~ DN65	DN80 ~ DN125	DN40 ~ DN50	DN100 ~ DN200
FS-20	80N·m	9S	AC24V、110V、 220 ~ 240V、 380 ~ 420V; 50/60Hz; DC24V、 DC12V、 DC220V	/	DN40 ~ DN65	DN80 ~ DN125	DN40 ~ DN50	DN100 ~ DN200
	100N·m	15S			DN80	DN80 ~ DN125	DN40 ~ DN65	DN100 ~ DN200
	150N·m	20S			DN80	DN80 ~ DN125	DN40 ~ DN65	DN100 ~ DN200
	200N·m	30S			DN80 ~ DN125	DN150 ~ DN200	DN65 ~ DN80	DN250 ~ DN300
60S								
FS-50	150N·m	9S	AC24V、110V、 220 ~ 240V、 380 ~ 420V; 50/60Hz; DC24V、 DC12V、 DC220V	/	DN80	DN80 ~ DN125	DN40 ~ DN65	DN100 ~ DN200
	250N·m	15S			DN80 ~ DN125	DN150 ~ DN200	DN65 ~ DN80	DN250 ~ DN300
	300N·m	20S			DN80 ~ DN125	DN150 ~ DN200	DN65 ~ DN80	DN250 ~ DN300
		60S			DN150 ~ DN200	DN250	DN100 ~ DN125	DN350 ~ DN500
FS-100	300N·m	15S	AC24V、110V、 220 ~ 240V、 380 ~ 420V; 50/60Hz	/	DN80 ~ DN125	DN150 ~ DN200	DN65 ~ DN80	DN250 ~ DN300
	800N·m	30S			DN250	DN300 ~ DN350	DN150	DN600
	1000N·m	50S			DN250	DN300 ~ DN350	DN150 ~ DN200	DN600 ~ DN800
FS-200	2000N·m	100S			DN300 ~ DN400	DN400 ~ DN500	DN200 ~ DN250	DN800 ~ DN1000
FS-400	4000N·m	100S			DN400 ~ DN500	DN500 ~ DN600	DN300 ~ DN400	DN1000 ~ DN1200
FS-600	6000N·m	150S			DN500 ~ DN600	DN600 ~ DN700	DN400 ~ DN500	DN1400 ~ DN1600

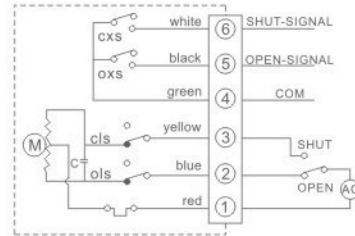
Suggestion:

when select electric actuators,choosing 60%~80% of electric actuators` output torque as valve`s running torque would be better.

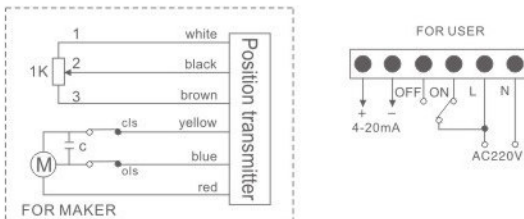
B:ON-OFF wiring drawing(220VAC)



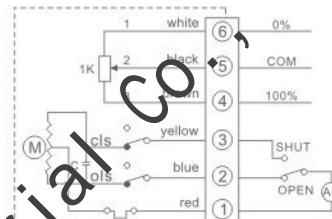
S:With 4×SPDT wiring drawing(220VAC)



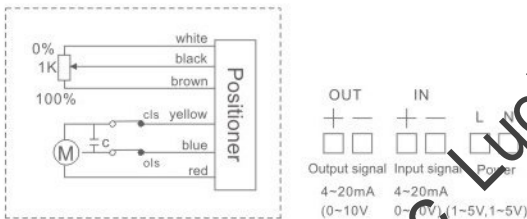
**K:Input signal:ON-OFF,
Output signal:4~20mA or 1-5V,0~10V(220VAC)**



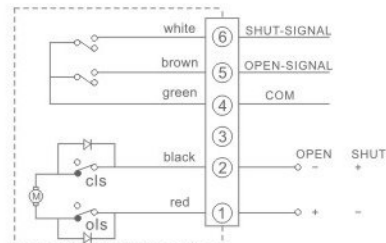
R:With potentiometer(220VAC)



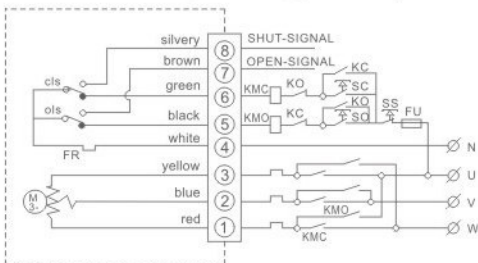
**A:Input signal:4~20mA(1-5V,0~10V)
Output signal:4~20mA(1-5V,0~10V)(220VAC)**



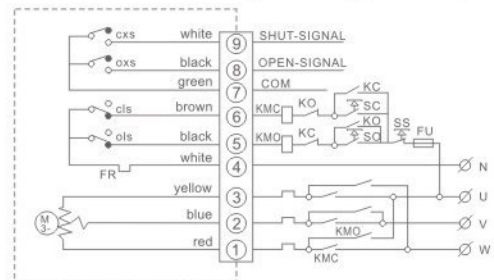
D:DC wiring drawing



H:ON-OFF wiring drawing(380VAC)



T:With 4×SPDT wiring drawing(380VAC)



The inside of frame is electric actuator's inner wiring, the right hand part for customer reference.

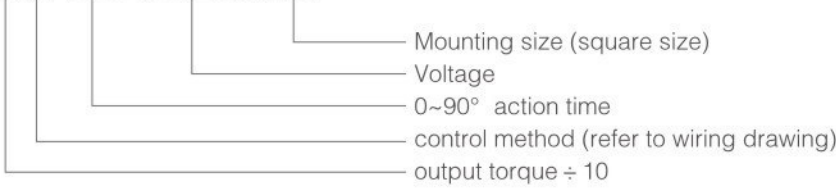
Can't connect two or several electric actuators power lines in parallel, can't control several electric actuators with the same joint;

Otherwise out of control and overheated with the electrical machinery.

Any special requirements, please contact with factory.

Item meaning

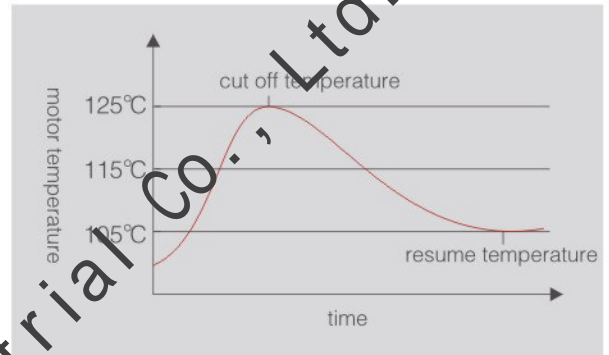
FS-10 A / 30S / AC220V / M11



Motor

As a result of the characteristics of the valve, electric actuators required has full load starting capability at on/off or any intermediate position, so the motor required has a high starting torque. At the same time due to the adjustment of flowrate, motor must also have a small moment of inertia. HL type motor response to these requests with a special design.

When the actuator turn blocked, the motor temperature will rise rapidly. When the motor temperature rises to 125 °C, built in PTC thermal protector will cut off the circuit to protect the motor and control system. When the motor temperature dropped to 90~105 °C, the circuit will resume on.

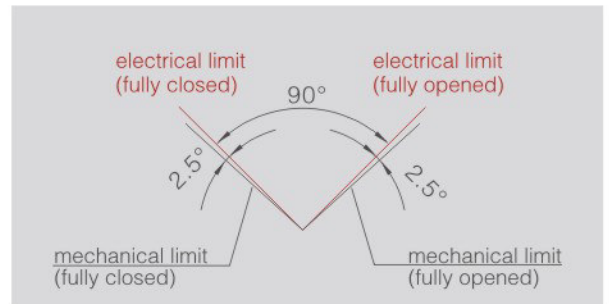


Function of electrical limit and mechanical limit

Electrical stroke limit function: When the actuator reaches at fully opened/ fully closed or the middle position, the built-in electrical limit switch will cut off the circuit to protect the actuator.

Mechanical limit function of output shaft: When electrical stroke limit function fails, output shaft will be locked by mechanical limit to protect the valve from damage.

Shown position relationship between electrical limit and mechanical limit.



Heater Space function (optional)

Heater space can be configured for used in a large temperature difference between day and night or relatively humid place, and prevent actuators damage from condensation . The heater space will operate continuously, with charged state even if the actuator is not running.

Optional



Long distance vision



Flat cover



With handwheel

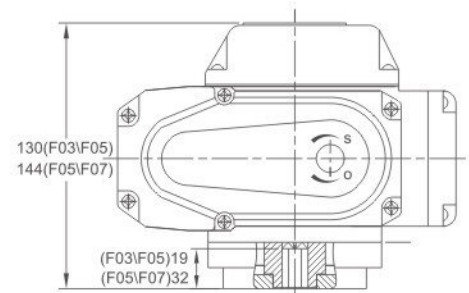
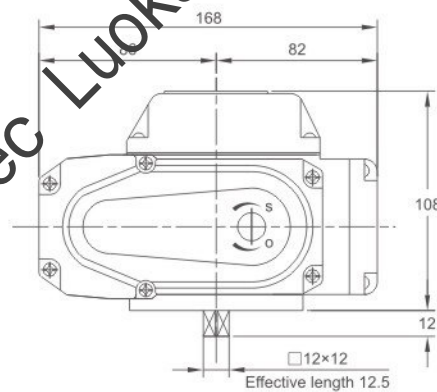
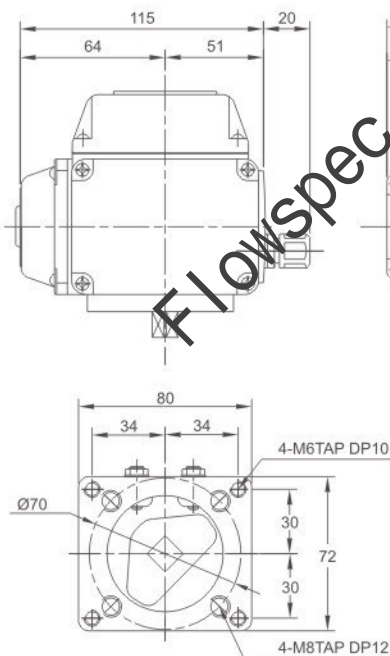


Standard

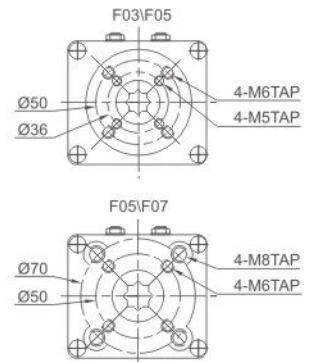


Direct Installation

Item	FS-05							
Performance Power	DC12V	DC24V	DC220V	AC24V	AC110V	AC220V	AC380V	AC415V
Motor power	20W			10W				
Rated current	3.8A	2A	0.21A	2.2A	0.48A	0.24A	0.15A	0.17A
Standard time/torque	2S/10Nm, 10S/50Nm			30S/50Nm				
Optional time/torque	6S/30Nm			6S/10Nm, 10S/15Nm, 20S/30Nm				
Wiring	B、S、R、H、A、K、D、T、Z							
Rotary angle	0~90° Max.0~300°							
Weight	2.2kg(Standard type)							
Voltage-withstandingvalue	500VAC/1minute (DC24V/AC24V)		1500VAC/1minute (AC110V/AC220V)			2000VAC/1minute (AC380V)		
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)			100MΩ/500VDC (AC110V/AC220V/AC380V)				
Protection class	IP-67							
Surrounding temperature	-25°C~60°C(The other temperatures can be customized)							
Installation angle	Any angle							
Case material	Aluminium die-casting components							
Optional function	Overtorque protection、Heater space、Overheat protection							
Product color	off-white (other colors customized)							



Direct Installation Data		
Square size	□9×9 □11×11 □14×14	
Flanged	F03 F05	F05 F07
Stem	Height ≤ 19mm	Height ≤ 32mm



FS-10 series performance parameters

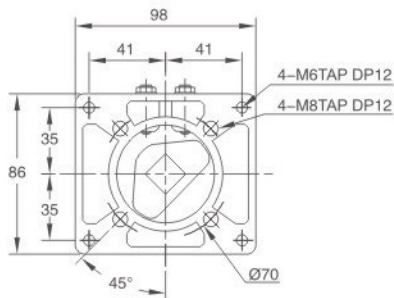
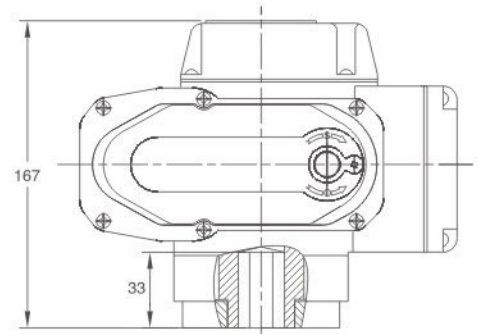
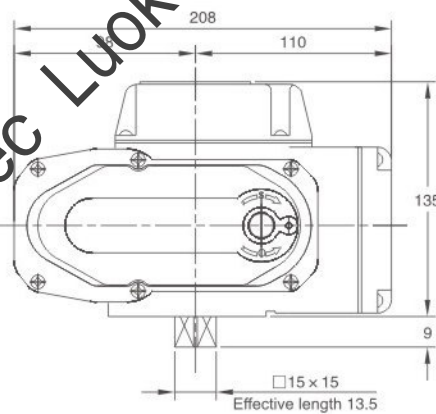
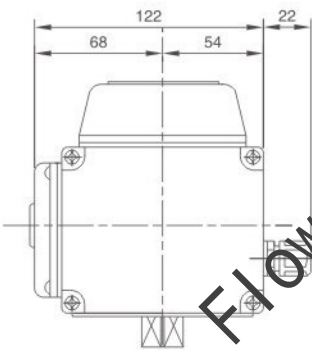


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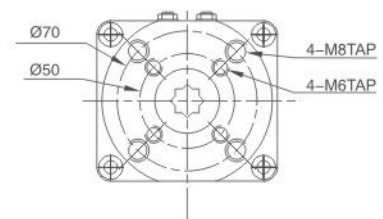


Direct Installation

Item	FS-10								
	Power	DC12V	DC24V	DC220V	AC24V	AC110V	AC220V	AC380V	AC415V
Performance									
Motor power	40W				23W				
Rated current	4.8A	2.4A	0.32A	3A	0.64A	0.32A	0.19A	0.21A	
Standard time/torque	10S/100Nm				30S/100Nm				
Optional time/torque	5S/50Nm				13S/50Nm, 15S/50Nm, 20S/60Nm, 60S/100Nm				
Wiring	B、S、R、H、A、K、D、T、Z								
Rotary angle	0~90° Max.0~105°								
Weight	4kg(Standard type)								
Voltage-withstandingvalue	500VAC/1minute (DC24V/AC24V)			1500VAC/1minute (AC110V/AC220V)			2000VAC/1minute (AC380V)		
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)				100MΩ/500VDC (AC110V/AC220V/AC380V)				
Protection class	IP-67								
Surrounding temperature	-25°C~60°C(The other temperatures can be customized)								
Installation angle	Any angle								
Case material	Aluminium die-casting components								
Optional function	Over torque protection、Heater space、Overheat protection								
Product color	off-white (other colors customized)								



Direct Installation Data	
Square size	□11×11 □14×14 □17×17
Flanged	F05 F07
Stem	Height ≤32mm



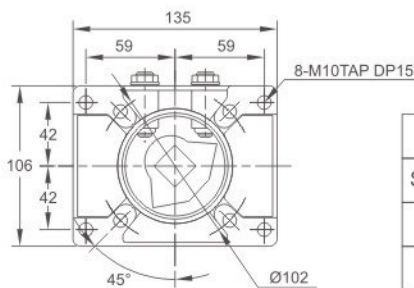
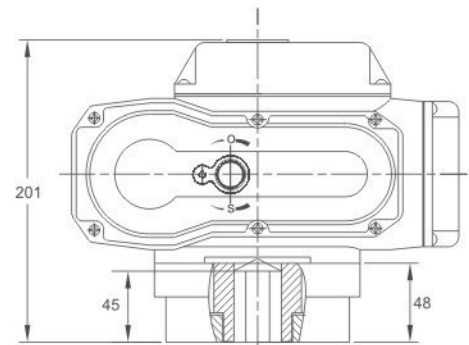
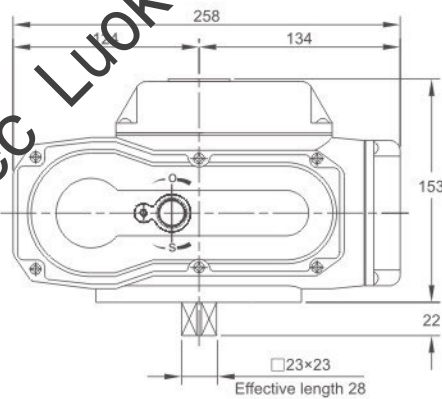
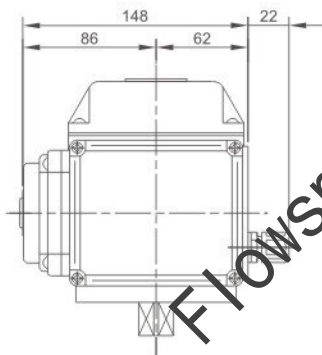


Standard

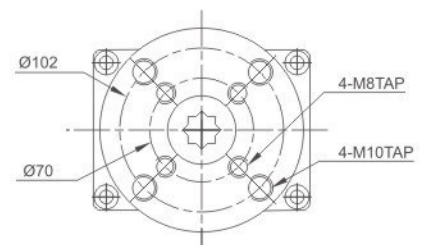


Direct Installation

Item	FS-20						
	DC24V	DC220V	AC24V	AC110V	AC220V	AC380V	AC415V
Performance Power	40W						
Motor power	40W						
Rated current	3.8A	0.5A	5A	0.9A	0.48A	0.25A	0.28A
Standard time/torque	15S/200Nm		30S/200Nm				
Optional time/torque	5S/100Nm		9S/80Nm, 15S/100Nm, 20S/150Nm, 60S/200Nm				
Wiring	B、S、R、H、A、K、D、T、Z						
Rotary angle	0~90° Max.0~105°						
Weight	7kg(Standard type)						
Voltage-withstandingvalue	500VAC/1minute (DC24V/AC24V)		1500VAC/1minute (AC110V/AC220V)		2000VAC/1minute (AC380V)		
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)			100MΩ/500VDC (AC110V/AC220V/AC380V)			
Protection class	IP-67						
Surrounding temperature	-25℃~60℃(The other temperatures can be customized)						
Installation angle	Any angle						
Case material	Aluminium die-casting components						
Optional function	Overtorque protection、Heater space、Overheat protection						
Product color	off-white (other colors customized)						



Direct Installation Data	
Square size	□14×14 □17×17 □22×22 □27×27
Flanged	F07 F10
Stem	Height ≤44mm



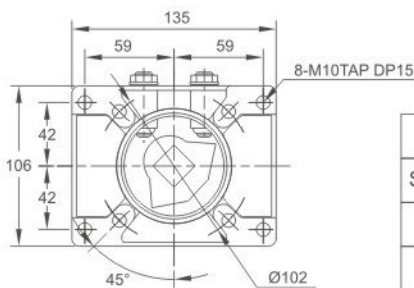
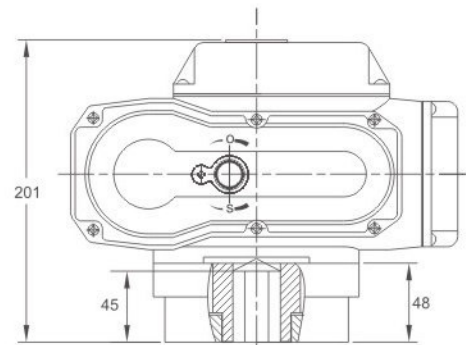
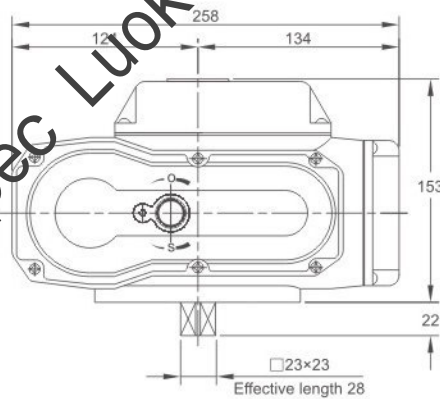
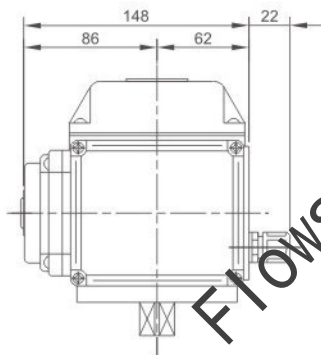


Standard

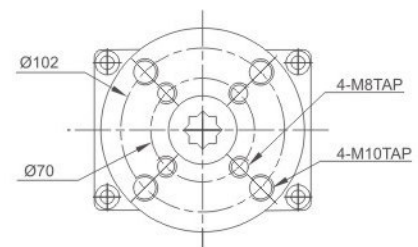


Direct Installation

Item	FS-50						
Performance Power	DC24V	DC220V	AC24V	AC110V	AC220V	AC380V	AC415V
Motor power	90W						
Rated current	8A	1.35A	8A	2A	0.92A	0.45A	0.51A
Standard time/torque	15S/500Nm		30S/500Nm				
Optional time/torque	9S/150Nm, 15S/250Nm, 20S/300Nm, 60S/500Nm						
Wiring	B、S、R、H、A、K、D、T、Z						
Rotary angle	0~90° Max.0~105°						
Weight	7.8kg(Standard type)						
Voltage-withstanding value	500VAC/1minute (DC24V/AC24V)		1500VAC/1minute (AC110V/AC220V)		2000VAC/1minute (AC380V)		
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)			100MΩ/500VDC (AC110V/AC220V/AC380V)			
Protection class	IP-67						
Surrounding temperature	-25°C~60°C(The other temperatures can be customized)						
Installation angle	Any angle						
Case material	Aluminium die-casting components						
Optional function	Over torque protection、Heater space、Overheat protection						
Product color	off-white (other colors customized)						



Direct Installation Data	
Square size	□14×14 □17×17 □22×22 □27×27
Flanged	F07 F10
Stem	Height ≤44mm



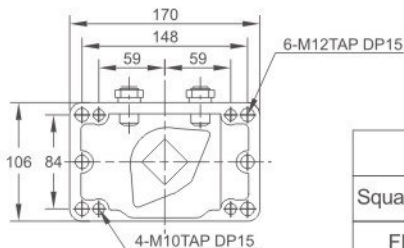
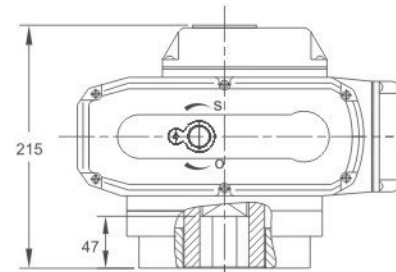
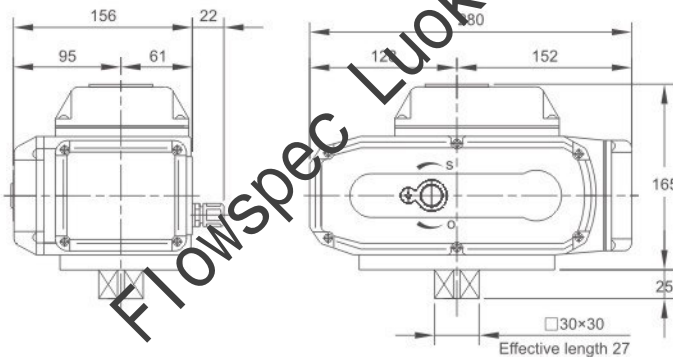


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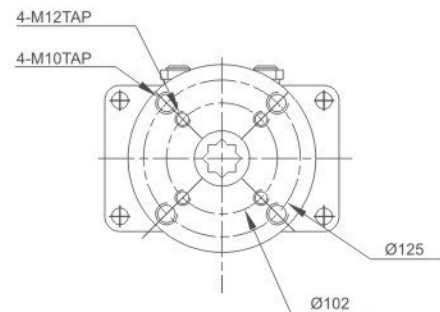


Direct Installation

Item	FS-100						
	DC24V	DC220V	AC24V	AC110V	AC220V	AC380V	AC415V
Performance Power	100W						
Motor power	100W						
Rated current	9A	1.5A	9A	2.2A	1A	0.48A	0.53A
Standard time/torque	25S/1000Nm		50S/1000Nm		30S/1000Nm		
Optional time/torque	/		15S/300Nm, 30S/800Nm		15S/500Nm		
Wiring	B、S、R、H、A、K、D、T、Z						
Rotary angle	0~90° Max.0~105°						
Weight	11.2kg(Standard type)						
Voltage-withstandingvalue	500VAC/1minute (DC24V/AC24V)		1500VAC/1minute (AC110V/AC220V)		2000VAC/1minute (AC380V)		
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)		100MΩ/500VDC (AC110V/AC220V/AC380V)				
Protection class	IP-67						
Surrounding temperature	-25°C~60°C(The other temperatures can be customized)						
Installation angle	Any angle						
Case material	Aluminium die-casting components						
Optional function	Overtorque protection、Heater space、Overheat protection						
Product color	off-white (other colors customized)						



Direct Installation Data	
Square size	□22×22 □27×27 □36×36
Flanged	F10 F12
Stem	Height ≤46mm



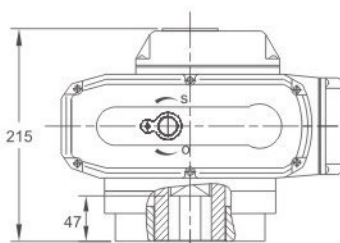
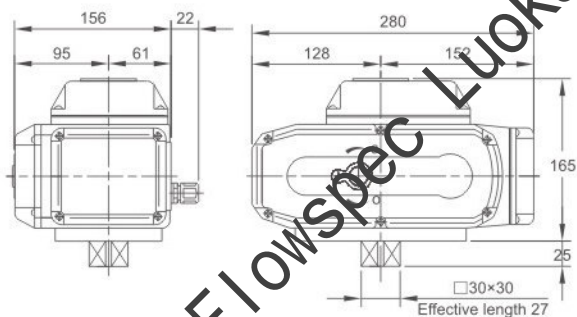


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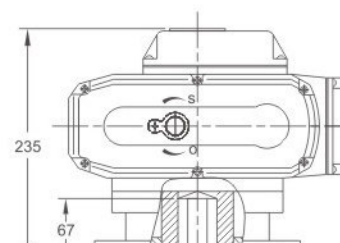


Direct Installation

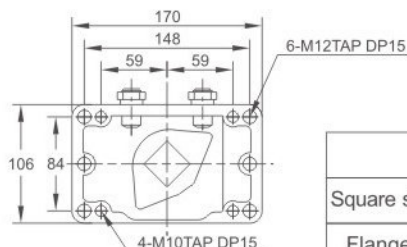
Item	FS-200				
Performance Power	AC24V	AC110V	AC220V	AC380V	AC415V
Motor power	100W				
Rated current	9A	2.2A	1.2A	0.48A	0.53A
Standard time/torque	100S/2000Nm		50S/2000Nm		
Optional time/torque	/		/		
Wiring	B、S、R、H、A、K、D、T、Z				
Rotary angle	0~90° Max.0~105°				
Weight	11.8kg(Standard type)				
Voltage-withstandingvalue	500VAC/1minute (DC24V/AC24V)		1500VAC/1minute (AC110V/AC220V)		2000VAC/1minute (AC380V)
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)		100MΩ/500VDC (AC110V/AC220V/AC380V)		
Protection class	IP-67				
Surrounding temperature	-25°C~60°C(The other temperatures can be customized)				
Installation angle	Any angle				
Case material	Aluminium die-casting components				
Optional function	Over torque protection、Heater space、Overheat protection				
Product color	off-white (other colors customized)				



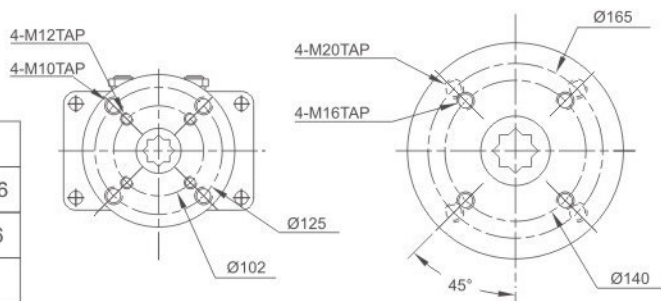
F10/F12



F14 or F16



Direct Installation Data	
Square size	□22×22 □27×27 □36×36
Flanged	F10 F12 F14 or F16
Stem	Height ≤ 66mm



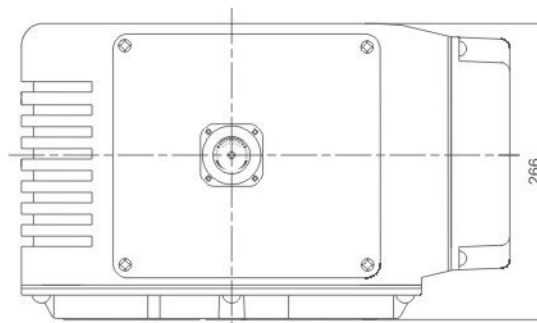
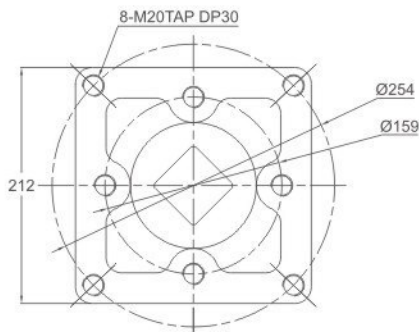
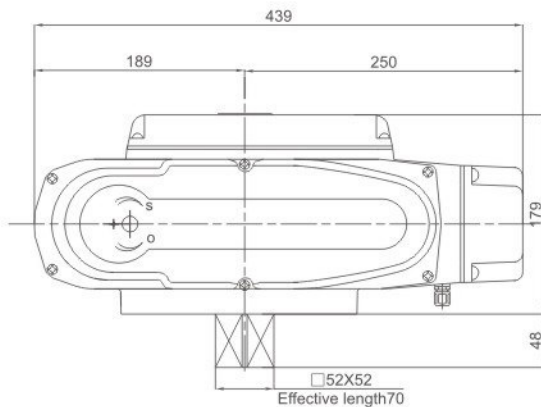
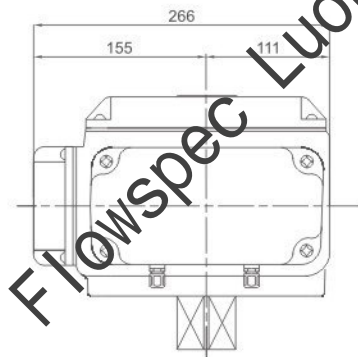


Standard



Standard

Item	FS-400				FS-600			
	Performance Power	AC110V	AC220V	AC380V	AC415V	AC110V	AC220V	AC380V
Motor power	200W				200W			
Rated current	4.1A	2.1A	0.9A	1.08A	4.1A	2.1A	0.9A	1.08A
Standard time/torque	100S/4000Nm、50S/3000Nm				150S/6000Nm			
Wiring	B、S、R、H、A、K、D、T、Z							
Rotary angle	0~90° Max.0~105°							
Weight	31kg(Standard type)							
Voltage-withstandingvalue	500VAC/1minute (DC24V/AC24V)		1500VAC/1minute (AC110V/AC220V)		2000VAC/1minute (AC380V)			
Insulated resistance	100MΩ/300VDC (DC24V/AC24V)				100MΩ/500VDC (AC110V/AC220V/AC380V)			
Protection class	IP-67							
Surrounding temperature	-25℃~60℃(The other temperatures can be customized)							
Installation angle	Any angle							
Case material	Aluminium die-casting components							
Optional function	Over torque protection、Heater space、Overheat protection							
Product color	off-white (other colors customized)							

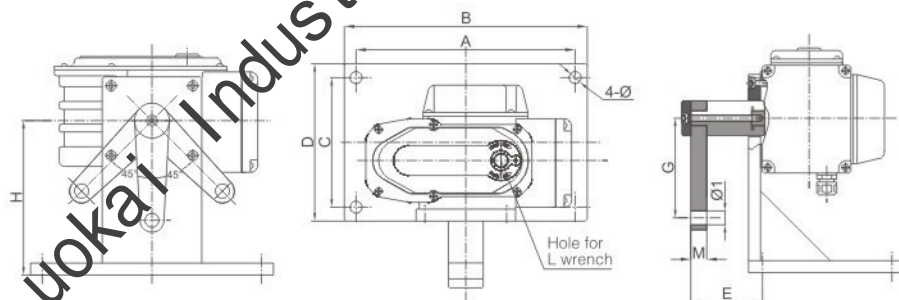




Application:

- If the temperature of valve is too high, the swinging arm can connect valve with actuator from a long distance to prevent the electric actuator from a high temperature.
- By the swinging arm to connect several valves with several actuators together to let them to work at the same time.
- If the installation space is too narrow, no pace to install the actuator or hard to maintain them, through the way of mounting a swinging arm to install the actuator at a more larger space.
- If the valves and actuators must be mounted separately, the swinging arm can connect them together.

Appearance dimensions of with swinging arm



Item	Size	A	C	G	Φ1xM	B	D	4-Φ	H	E
HL-05		180 ± 0.5	100 ± 0.5	70 ± 0.2	Φ10X12	216	136	4-Φ12	120	50
HL-10		220 ± 0.5	130 ± 0.5	100 ± 0.2	Φ14X16	244	158	4-Φ12	155	72
HL-20		260 ± 0.5	100 ± 0.5	120 ± 0.2	Φ16X21	300	130	4-Φ13	165	90
HL-50										
HL-100		320 ± 0.5	130 ± 0.5	150 ± 0.2	Φ20X25	360	162	4-Φ14	200	111
HL-200										
HL-400		510 ± 0.5	270 ± 0.5	215 ± 0.2	Φ30X34	560	320	4-Φ22	274	139
HL-600										