

PER

角行程电动执行机构

PART-TURN SERIES
ACTUATORS



PER 角行程电动执行机构

一、概 要:

PER 系列角行程电动执行机构产品是采用行星轮系减速装置,结构紧凑、重量轻、体积小、高效率、高精度、噪音低、性能稳定,输出扭矩大的角行程电动执行机构。可对阀门、风门、进行精确可靠的开关控制和调节控制,该产品可广泛用于电力、冶金、石油、化工、制药、环保等行业。

二、性能参数

供电电源 power supply: AC220V, 50Hz

环境温度 temperature: $-20^{\circ}\text{C} \sim +70^{\circ}\text{C}$

相对湿度 relative humidity (RH): 30% ~ 95%

防护等级 IP Class: IP67

工作制式 working form:

启动频次 Start frequency 630c/h; 持续率 adherence rate: 50%; 启动频次 Start frequency 630c/h800c/h; 持续率 adherence rate: 30%;

转角 Angle: $0 \sim 90^{\circ} \pm 5^{\circ}$

扭矩 Torque: 35~3500N·m

输入信号 Input signal: 4 ~ 20 mA/ DC 1~5V /DC 2~10V

输出信号 Output signal: 4 ~20 mA /DC 2~10V

基本误差 Basic error: $\pm 1\%$

回 差 Return bad: 1%

死 区 Dead zone: 0.8 ~5.0 %

连接标准 Connection standard: ISO 5211 阀门驱动装置法兰标准 Valve actuation device flange standards

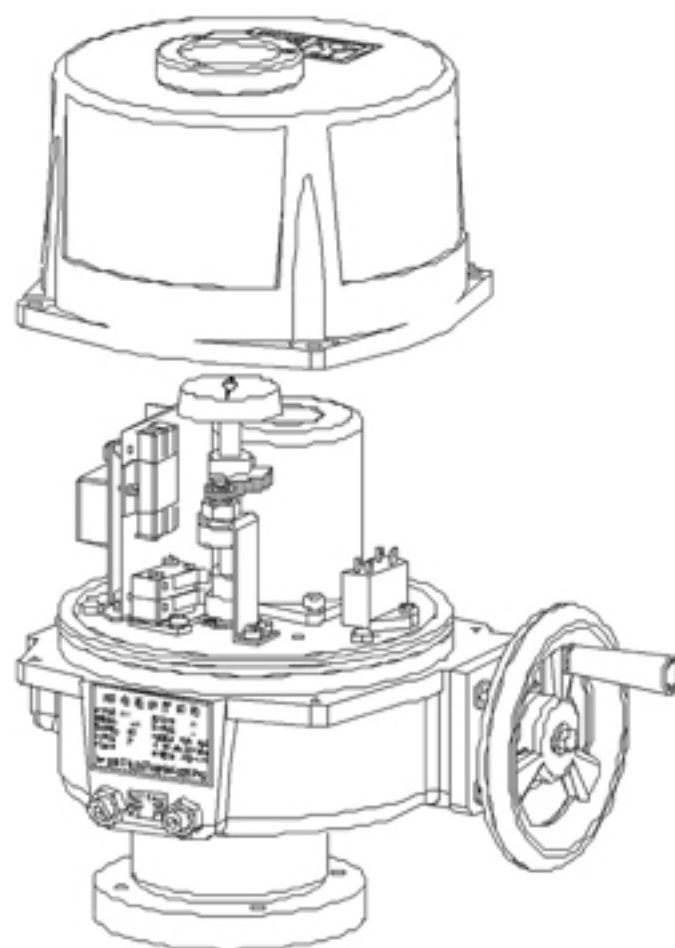
三、基本信息 The basic information

型号 Model No.	功率 Power(W)	额定扭矩 Max Torque(N·m)	转速 Speed(s/90°)	重量 Weight(Kg)	手轮 Manual Override	连接法兰 Mounting Flange (ISO5211)
PER0035	10W	35	12	2.0	Lever	F05/F03
PER0050	16W	50	12	2.0	Lever	F05/F03
PER0090	25W	90	27	11.0	Hand-wheel	F07/F10
PER0150	40W	150	27	11.0	Hand-wheel	F07/F10
PER0300	60W	300	27	11.0	Hand-wheel	F07/F10
PER0400	40W	400	36	22.0	Hand-wheel	F10
PER0500	40W	500	36	22.0	Hand-wheel	F10
PER0650	60W	650	46	22.0	Hand-wheel	F10
PER1000	60W	1000	46	36.0	Hand-wheel	F14
PER1500	90W	1500	46	36.0	Hand-wheel	F14
PER2000	90W	2000	60	56.0	Hand-wheel	F14/F16
PER2500	120W	2500	60	56.0	Hand-wheel	F16
PER3000	120W	3000	82	56.0	Hand-wheel	F16
PER3500	120W	3500	82	56.0	Hand-wheel	F16

PER part-turn series actuators

GENERAL

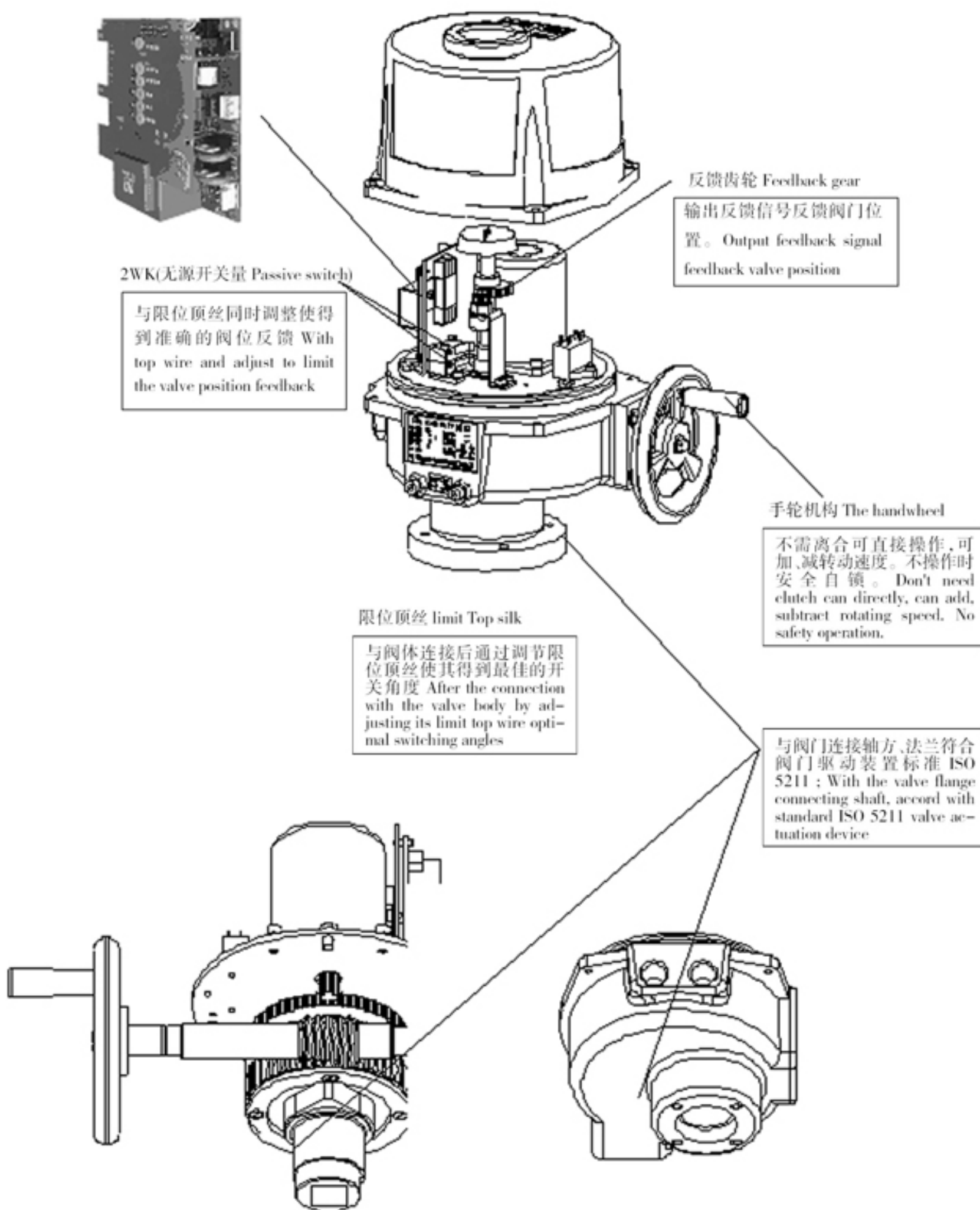
PER part-turn series actuators products is the planet was slow slow device, compact structure, small volume, light weight, high efficiency, high precision, low noise, stable performance, the output torque of electric quarter-turn will compose. The valve can be accurate, reliable applications, the switch control and adjust the control, the product can be widely used in electric power, metallurgy, petroleum, chemical, pharmaceutical, environmental protection, etc.



技术参数

型 号 Series	PER
形 式 Type	角行程(0~90° ±5°)
壳 体 Enclosure	防护等级:IP67 NEMA 4X
	材质:ZL104
电 机 Motor	标准交流可逆电机 Standard extended duty cycle induction motor.
	绝缘等级:B insulation class
	内置热保护(135℃) Built-in thermal protection (135℃) prevents motor burning out.
状态指示 Position Indicator	所有规格的执行机构顶端都有可视指示标识 All models have continuous position indicator on the top of actuator cover.
手动操作 Manual Override	不需离合可直接操作,可加、减转动速度。 Non-clutch design, the manual operation can be operated without any lever, clutch or break upon power outage.
	为了安全,在电机工作同时不要进行手动操作。 When electric motor is operating, manual hand-wheel won't rotate for person safe purpose.
传动齿轮 Gear Train	具有自锁功能,可避免阀门反转。 High alloy steel gear trains provide self-locking function to avoid valve back drive.
	出厂时传动齿轮已经涂有耐高温润滑剂。 Gear trains have been already lubricated sufficiently with anti-high temperature lubricant at the factory.
工作条件 Working Conditions	环境温度:-30℃ ~ +65℃
	环境湿度:30% ~ 95%
可选项 Various Options	隔热装置 Space heater.
	附加限位开关(2个) Additional limit switches (2 units)
	电位器(1K Ohm 或 5K Ohm) Potentiometer unit (1K Ohm or 5K Ohm)
	就地控制单元(就地 / 远传,开 / 关) Local control unit (local/remote ,on/off)
	接口(1/2"PS,3/4"PF,1/2"NPT) Conduit entrance (1/2"PS,3/4"PF,1/2"NPT)
	力矩开关(2个) Torque switches (2 units)
	阀位反馈(输出 4-20mA) Current position transmitter(output 4-20mA)
	调制控制 Modulating controller
	多种电压 Various voltages
	尼龙壳体 Nylon enclosure material
认证 certificates	ISO 9001
	CE.
	CSA.(Conforming to the test standard of outdoor usage.)

四、产品结构 Product structure



五、产品选型

订购代码 PER

基本规格代号(注:此项不可缺省)

额定扭矩(Nm)	转速 (s/90°)	规格
35	12	0035
50	16	0050
90	27	0090
150	27	0150
300	27	0300
400	36	0400
500	36	0500
650	46	0650
1000	46	1000
1500	46	1500
2000	60	2000
2500	60	2500
3000	82	3000
3500	82	3500

控制部件 Control unit

功能描述	代号
两位式控制模式(配两位式控制模块)不带阀位反馈输出	L
调节式控制模式 输入/输出 4~20mA DC	M
独立阀位反馈输出 输出 4~20mA DC	F
两位式+阀位反馈输出	LF
调节式+数字监控	MD
调节式+数字监控+数字设定器	MDS
调节式+数字监控	(缺省)
智能控制板	HK
MODBUS 总线智能控制板	MB

附加限位开关 Additional limit switches

功能描述	代号
附加限位开关(在适当反馈位置无源输出)	2WK
不带附加限位开关	(缺省)

特殊订货代号

功能描述	代号
特殊订货代号(代号后注明特殊订货要求)	T
普通订货	(缺省)

- 注:1. 与阀门组配时,开关是以计算扭矩的 1.2 倍选择 PER 角行程电动执行机构;调节式以计算扭矩的 1.5 倍选择 PER 角行程电动执行机构。
2. 如有要求,选型时请备注 " 顺开 / 顺关 " 和 " 安全位置(全开 / 全关 / 保位)"。

Product selection

Specifications: PER

Basic norms code (Note: the default)

Rated torque(Nm)	Speed (s/90°)	Specifications
35	12	0035
50	16	0050
90	27	0090
150	27	0150
300	27	0300
400	36	0400
500	36	0500
650	46	0650
1000	46	1000
1500	46	1500
2000	60	2000
2500	60	2500
3000	82	3000
3500	82	3500

Control unit

Functional	code
ON/OFF	L
Modules: IN / OUT 4-20mA DC	M
ON/OFF + OUT4-20mA DC	F
Modules: IN / OUT 4-20mA DC + Digital control	MD
Modules: IN / OUT 4-20mA DC + Digital control+ Digital Settings	MDS
Intelligent control panel	HK
MODBUS Bus intelligent control panel	MB

Additional limit switches

Functional	code
Additional limit switches in the appropriate feedback position (passive output).	2WK
Don't take additional limit switch	(default)

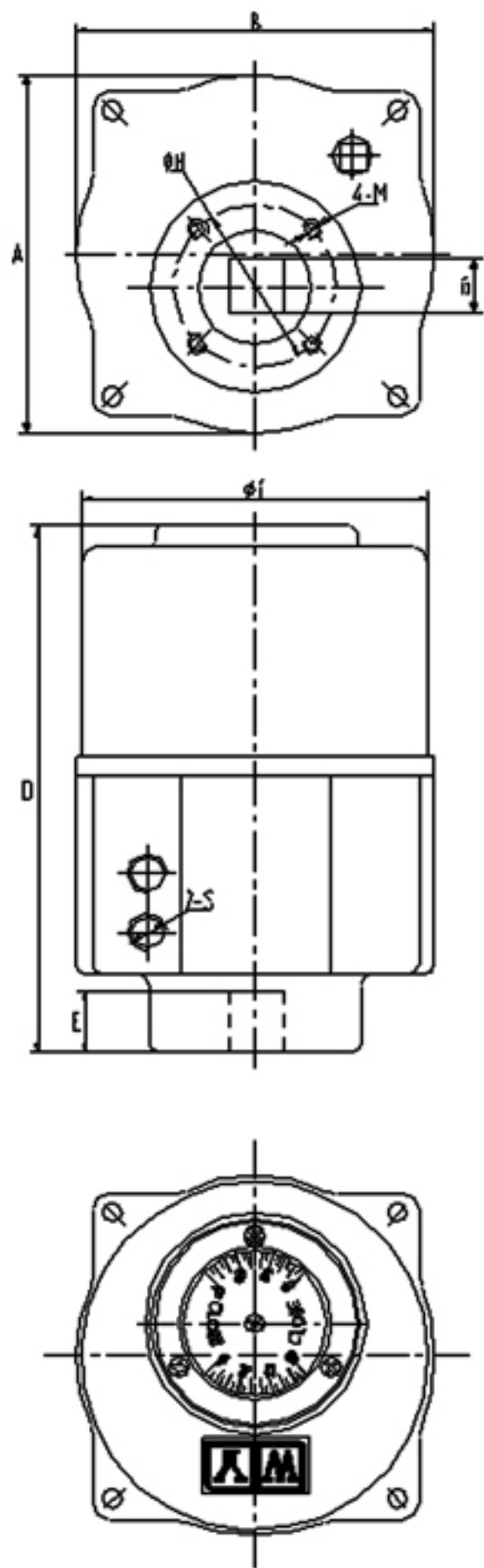
Special orders

Functional	code
Special orders code (special request after code indicating)	T
Ordinary order	(default)

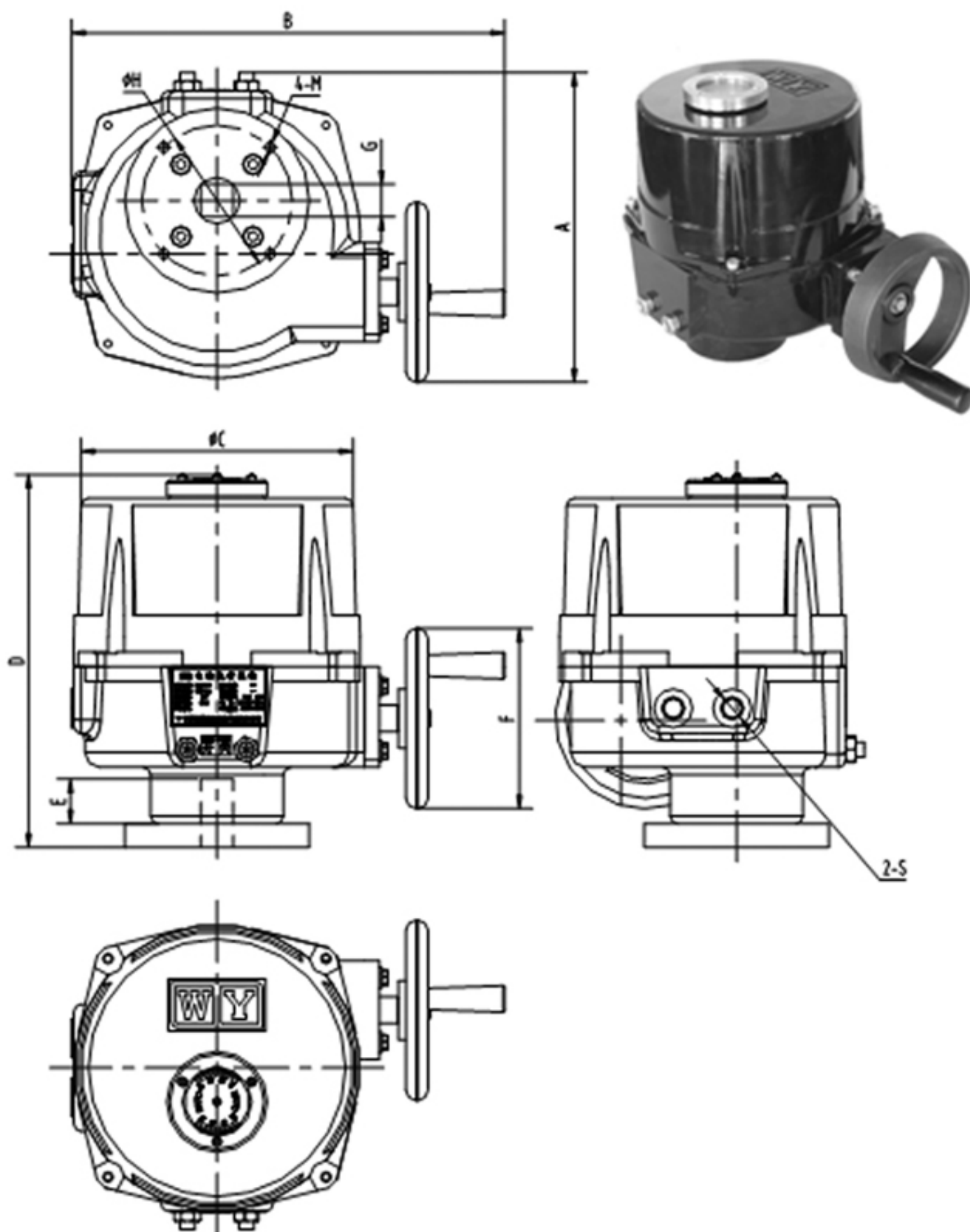
Note:

1 and when the valve is matched stack, switch on calculation of torque 1.2 times choose far quarter-turn actuators, To adjust torque 1.5 times of computation select far quarter-turn electric actuators.

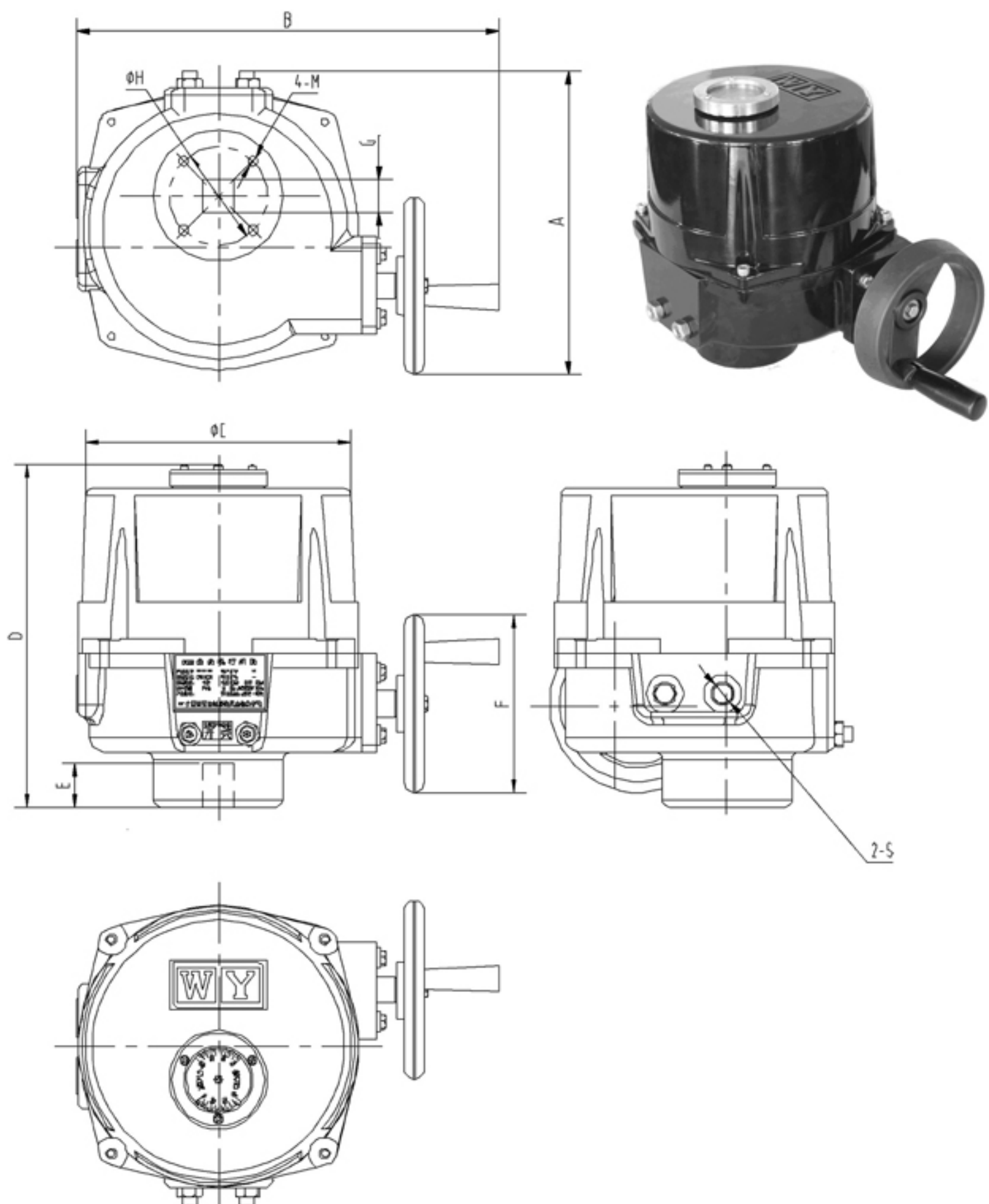
2 if required, please note "open/close" and "the safe location (open/sexual/insurance).



型号 Model	A	B	C	D	E	G (MAX)	H	M	S	法兰 Flanges
PER0035/0050	110	110	107	160	15	14	50	M6	M12x1.5	F03/F5



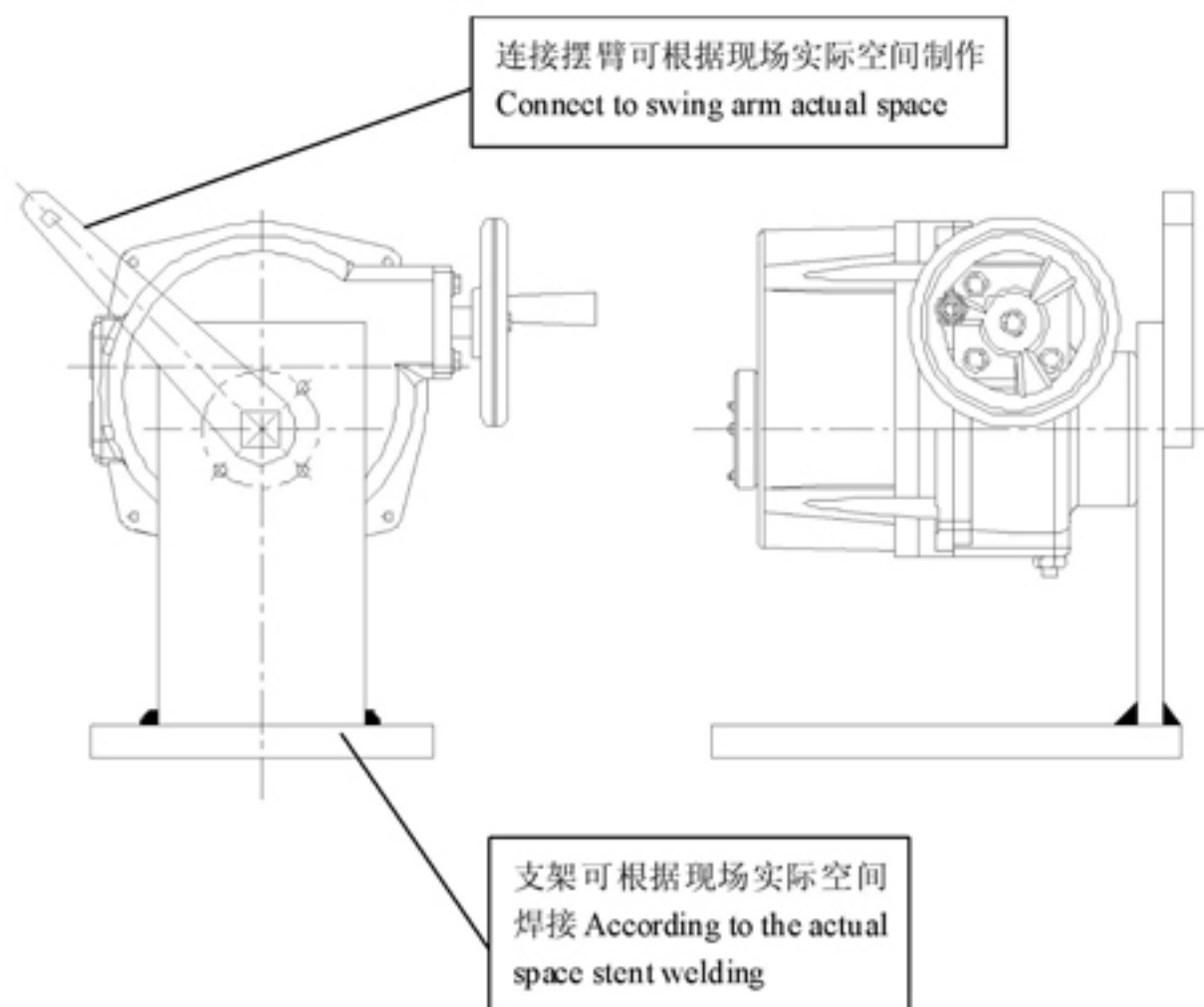
型号 Model	A	B	C	D	E	F	G (MAX)	H	M	S	型号 Model
PER0090-0300	203	326	184	255	30	123	22	102	M8	M20x1.5	F07/F10



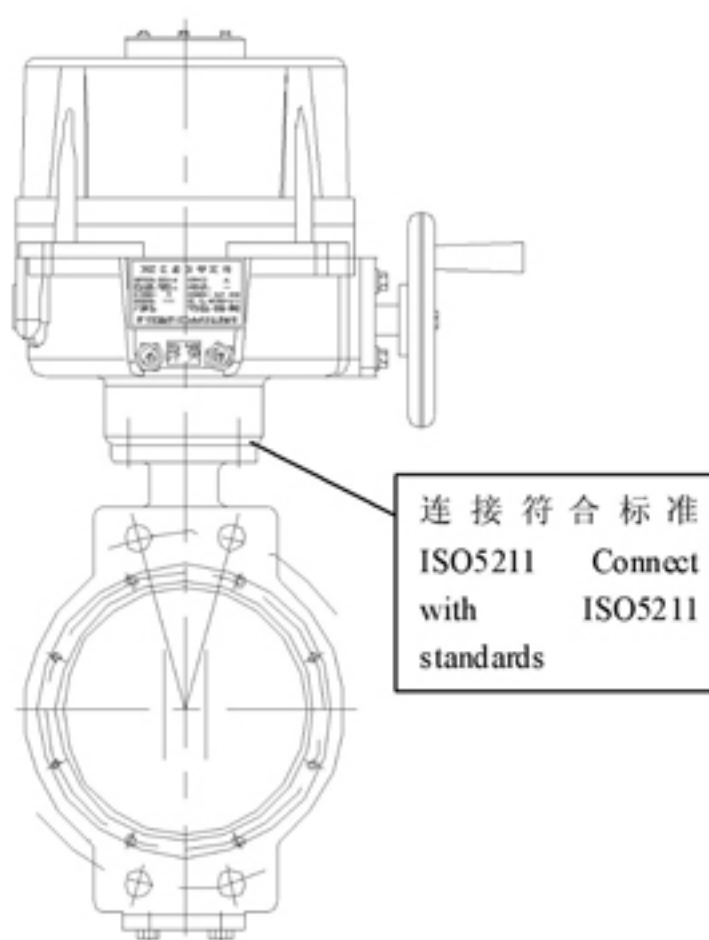
型号 Model	A	B	C	D	E	F	G (MAX)	H	M	N	S	法兰 Flanges
PER2000-3500	350	470	260	590	100	320	45	165	M12	4	M20x1.5	F16

七、安装 Installation :

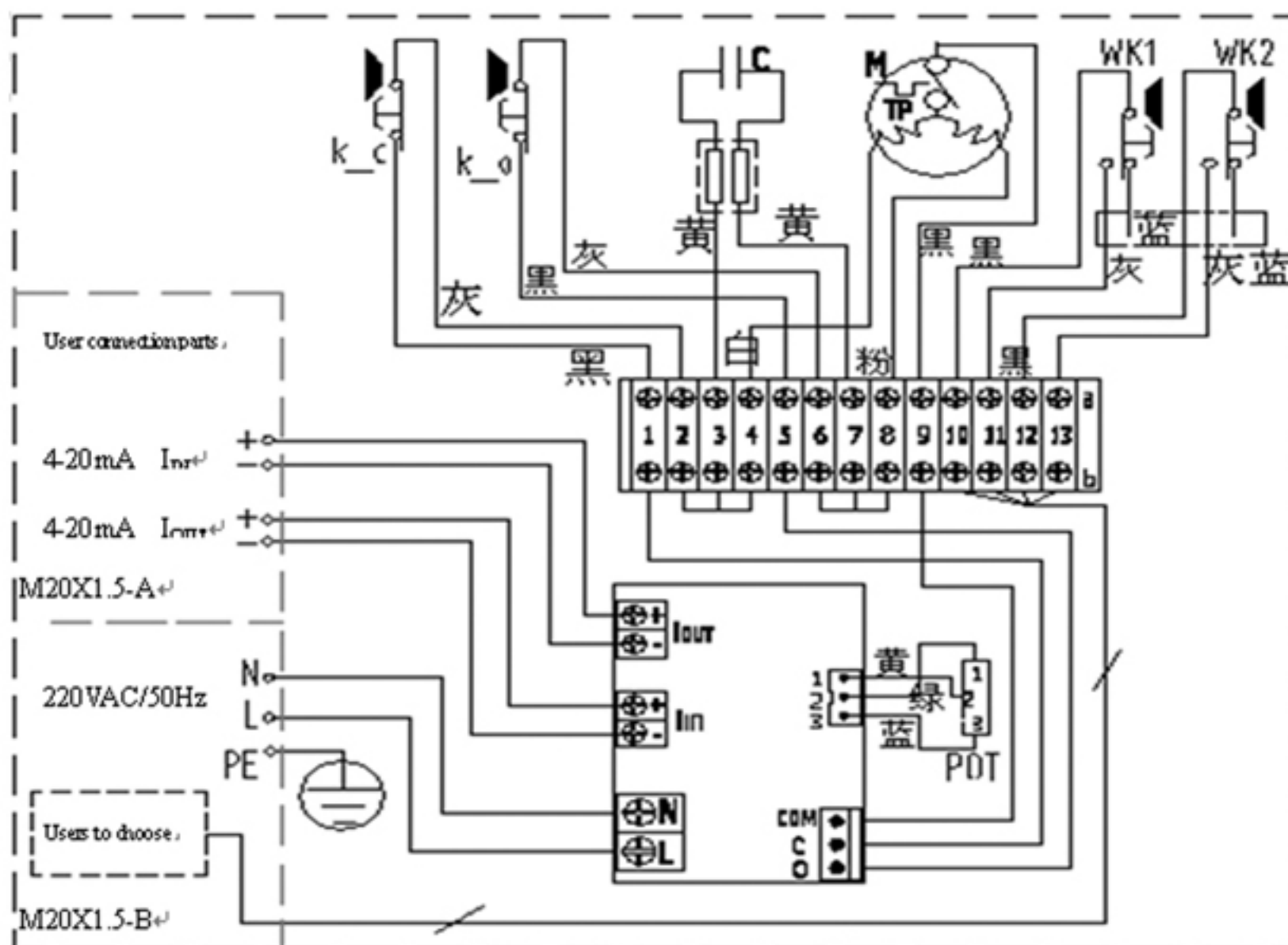
1. 摆臂安装形式 Installation of swing arm:



2. 直接连接形式 Direct connection form:



3、端子接线图 Terminal connection fig.



进线要求 Coil in request

- 1、电 源 线 N、L: 从 M20X1.5-B 进线口进线, 紧固并密封, 确保内外接地线可靠接地
- 2、控制信号输入线 IIN : 从 M20X1.5-A 进线口进线, 不要和控制信号输入线绞合, 并保证密封
- 3、反馈信号输出线 IOUT : 从 M20X1.5-A 进线口进线, 不要和控制信号输入线绞合, 并保证密封

【1、Electricity Source N, L: From the M20X1.5-B coil in mouth coil in, fastens and seals, guarantees the inside and outside to meet the grounding reliable earth.

2、Signal input IIN : From the M20X1.5-A coil in mouth coil in, do not have with the control signal input line lay-up, and guarantees the seal.

3、Feedback signal output IOUT: From the M20X1.5-A coil in mouth coil in, do not have with the control signal input line lay-up, and guarantees the seal. 】

接线要求 Wiring request

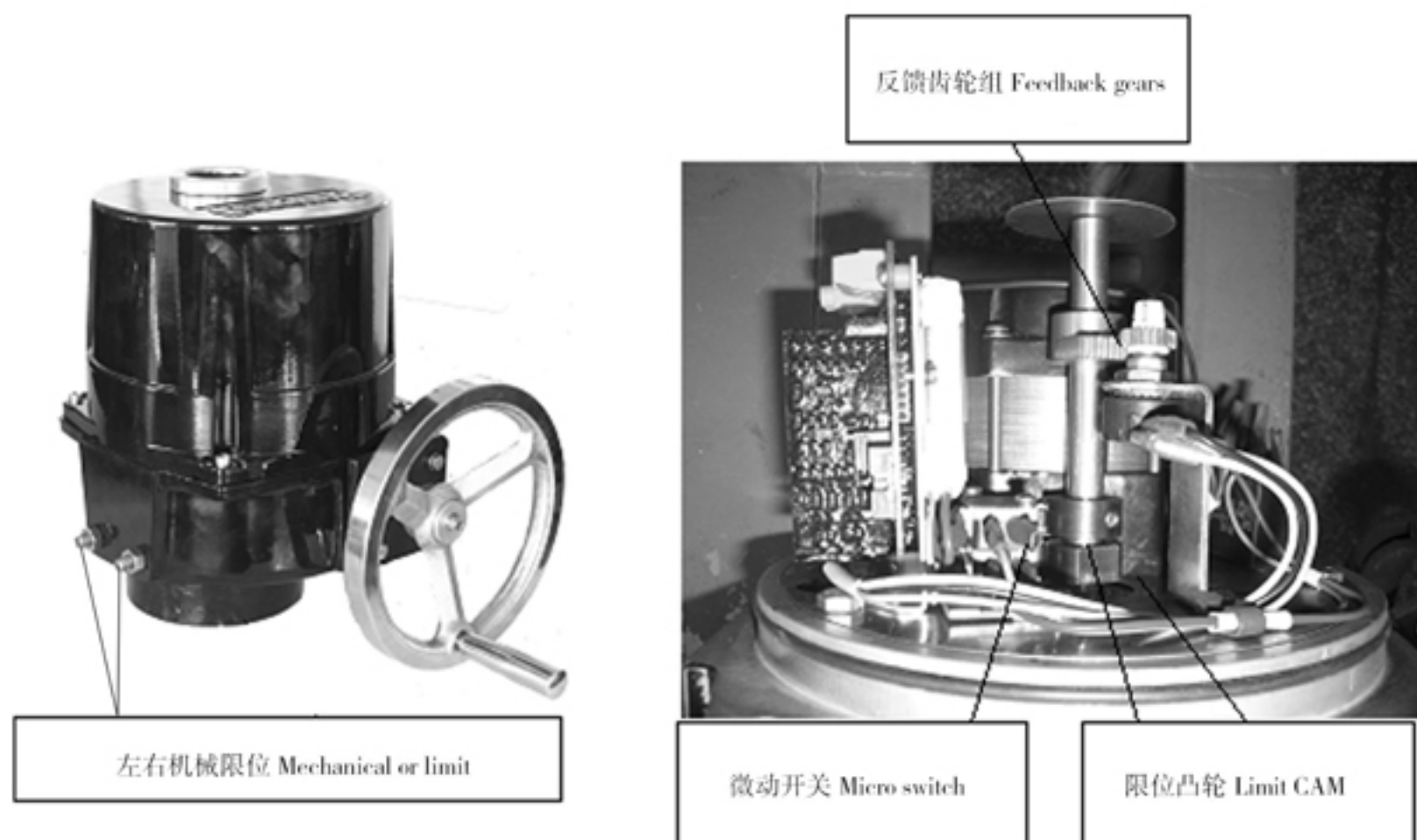
- 1、电 源 线 N、L: 区分零(N)、火(L)按上图标记接线, 压紧螺钉, 不可有搭接。
- 2、控制信号输入线 IIN : 区分正(+)、负(-)按上图标记接线, 压紧螺钉, 屏蔽层接 PE 点。
- 3、反馈信号输出线 IOUT : 区分正(+)、负(-)按上图标记接线, 压紧螺钉, 屏蔽层接 PE 点。

【1、Electricity Source N, L: Discrimination N, L presses down the chart mark wiring, the compression screw, cannot have joining.

2、Signal input IIN : Differentiates (+), (-) presses down the chart mark wiring, the compression screw, the shielding layer meets the PE spot.

3、Feedback signal output IOUT : Differentiates (+), (-) presses down the chart mark wiring, the compression screw, the shielding layer meets the PE spot. 】

4. 限位调整 limit switch adjustment



TK_C - 下限位凸台调整螺钉 down Limit CAM bolt

TK_O - 上限位凸台调整螺钉 up limit CAM bolt

基本调整步骤:

1. 将执行机构与阀体可靠连接。
2. 转动手轮使阀分别处于全开、全关位,通过图示中机械限位顶丝限定行程转角机械位置。
3. 调整反馈齿轮,使其在执行机构全行程的中间位置时与电位器齿轮的啮合位也处于扇形齿轮的中间位置。
4. 限定机械限位的同时,调整反馈轴上限位凸轮的位置,使其在全开、全关位刚好触碰使微动开关动作。

Basic adjust steps:

1. The enforcement agencies and reliable connection of valve.
2. Turn the handwheel to 2) respectively, seated valve is shown, by mechanical limit top corner machinery limited trip wire.
3. Adjusting feedback, make it in gear actuators whole trip to the middle of gear engagement with potentiometer is in the middle of the gear sector.
4. Limited mechanical limit, adjust the position of CAM shaft ceiling feedback, make its position in the full open and sexual just touch the switch.

八、产品调试

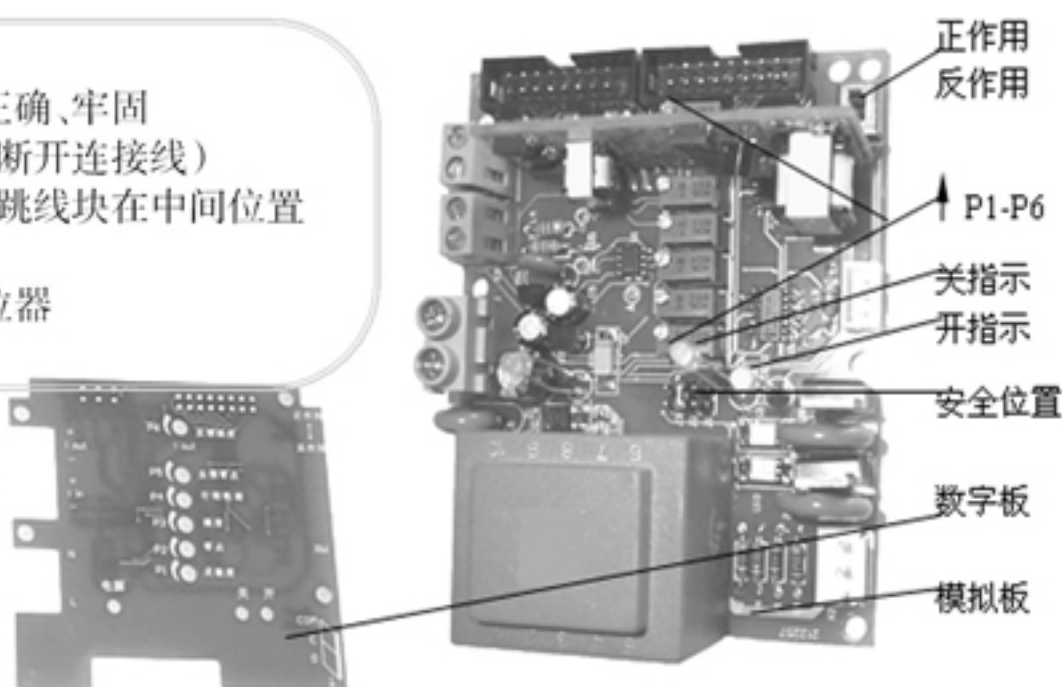
(一)模拟控制板调校

调试步骤

- 1 按数字板上的标示确认接线正确、牢固
- 2 从塑料卡座上拆下数字板(不断开连接线)
- 3 设置正反作用形式;安全位置跳线块在中间位置
- 4 进行常规调较或基本调校
- 5 完成调校后用快干漆点封电位器
- 6 装好数字板

电位器注释

- P6—span(反馈满度)
 P5—zero(反馈零点)
 P4—行程微调 P3—满度
 P2—零点 P1—死区



常规调校(伺服放大器出厂前已完成基本设定,仅需按如下步骤对执行机构零点和满度进行调整)

(1)将执行机构调到全关位置(输入 4mA 信号),右旋执行机构位置反馈电位器(POT)到 0 欧姆,测量反馈输出电流为 4mA。

(2)将执行机构调到全开位置(输入 20mA 信号),调整电位器 P3 测量反馈输出电流为 20mA。

注:如反馈输出零点 4mA 和反馈满度 20mA 稍有偏差,分别旋转电位器 P5 和 P6 予以调整,重复 1-2 次即可完成。

基本调校(当已将电位器 P1 到 P6 调乱,可按下列步骤恢复出厂设置)

1 将正反作用开关置于正作用端。

2 零点调整:

- ①输入 4mA 信号,执行器将向关方向动作,右旋反馈电位器 POT,执行机构动作使关限位开关 Kc 动作。
- ②左旋反馈电位器 POT 到 0 欧姆(旋不动为止),并调整 P2 使关指示灯常亮。
- ③调整 P5 使反馈电流信号为 4mA(顺时针增大);
- ④调整 P2 使 A 与 B 点间的电压为 5.02VDC。

3 行程调整:

①输入 20mA 信号,执行器将向开方向动作,直到开限位开关 Ko 动作。(若在此过程中开指示灯灭,顺时针旋转 P4 使之常亮。)

②调整 P3(顺时针增大)使 C 与 B 点间电压为 10 VDC。

③调整 P6(顺时针增大)使反馈电流信号为 20mA。

④调整旋转 P4 调整 A 与 B 点间的电压为 5.0VDC。

4 重复以上 2、3 步骤,使阀位反馈信号精确达到 4-20mA 值为止。

5 灵敏度调整:若执行机构振荡,可通过 P1 来调整灵敏度(顺时针减小)。注:应将灵敏度调整到系统所允许的最小值,这样会减少维护的工作量,延长执行机构的使用寿命。

6 安全位置(断信号保护):出厂设置为保位,用户可根据需要进行调整。

断信号全开:短路插件在 1 位,断信号后执行机构向全开动作;

断信号保位:短路插件在 2 位,断信号后执行机构停止动作;

断信号全关:短路插件在 3 位,断信号后执行机构向全关动作;

7 作用形式调整:如果与执行器所配阀门为上关下开式,可将正反作用开关置于反作用位置,调试方法同上 2-6 步。

Product commissioning

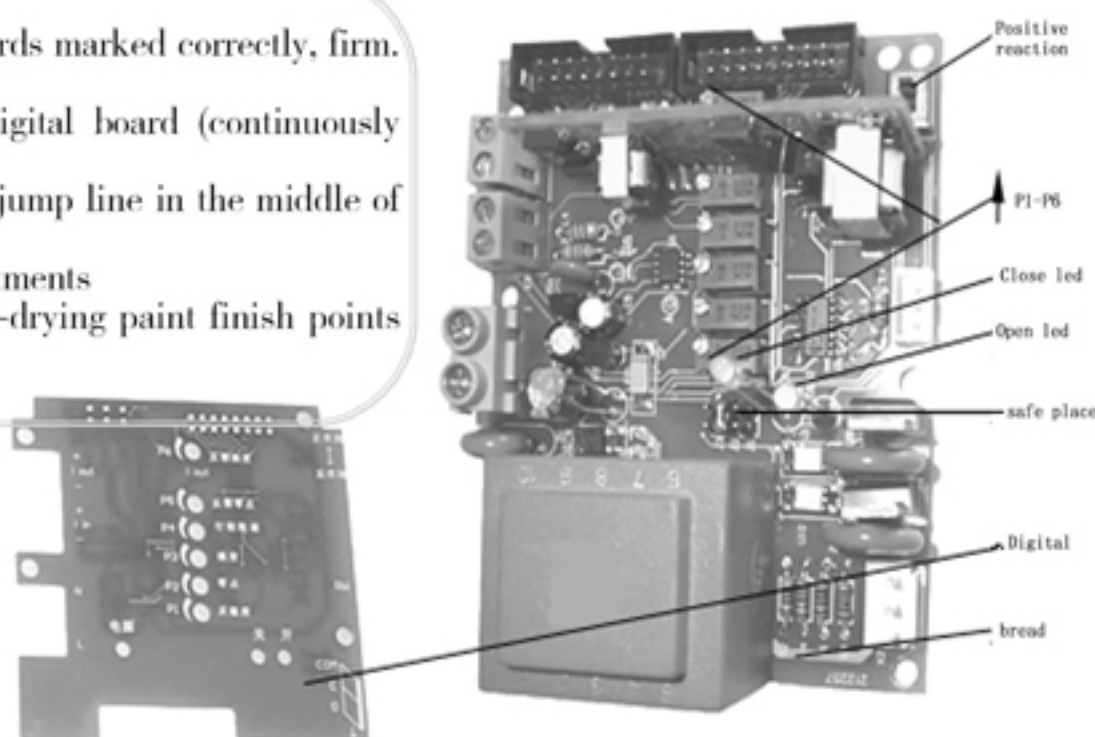
Simulation control panel

Commissioning procedures

- 1 According to the number of boards marked correctly, firm. Confirm wiring
- 2 From plastic gets stuck in digital board (continuously drive connections)
- 3 Set positive role; Safe position jump line in the middle of the block
- 4 For regular adjustment or adjustments
- 5 After the adjustment with fast-drying paint finish points sealing potentiometer
- 6 Pack good digital board

Potentiometers debugging

- P6-Feedback span
- P5-Feedback zero
- P4-Travel span
- P3-Travel
- P2-Travel zero
- P1-Dead zone



Conventional calibration (servo amplifier has completed before they leave the factory, only with the following basic set of steps and actuators are adjusted)

(1) actuators to sexual position (4mA input signal, and dextral actuator position feedback POT) to 0 (potentiometer ohm, measuring the output current feedback for 4mA.

(2) actuators to fully open position (input signal), adjust potentiometer 20mA output current for measuring feedback P3 20mA.

Note: if the feedback 4mA output zero and feedback full 20mA slight deviation, rotating potentiometer P5 and probe, adjust repeated 1-2 times to finish.

Basic set-up (P1 potentiometer when will probe into tone, according to the following steps to recover factory Settings)

1 will be positive role in positive. Switch

2 zero adjustment:

(1) 4mA input signal, actuators to shut, dextral feedback potentiometer POT, actuators to shut limit switch K c.

(2) levorotatory feedback to 0 ohms (POT potentiometer, spin motionless and adjust to shut ChangLiang indicator P2.

(3) P5 to adjust for 4mA feedback current signal (clockwise),

(P2) make A and B adjustment of the voltage is 5.02 VDC.

3 travel adjustment:

(1) 20mA input signal, actuators, to open until K o limit switches in open. In this process, if (open indicator, clockwise P4 make ChangLiang).

(2) to adjust (clockwise) make C B between voltage for 10 VDC.

(3) adjustment (clockwise) probe to feedback current signal for 20mA.

(4) Adjust rotation p4 adjustment between A and B voltage 5.0 VDC.

4 repeat above 2, 3 steps, so the valve position feedback signals to 4-20mA value.

5 sensitivity adjustment: if actuators oscillation, can pass to adjust sensitivity (P1 clockwise decrease). Note: the sensitivity adjustment should be allowed to the minimum, it will reduce the maintenance workload, prolong the life span of the actuator.

6 Safe location : cut signal protection setting for the factory, users can be adjusted as necessary. the plugin signal after:

the short-circuit fault signal in 1, actuators to close action,

the short-circuit fault signal in 2, actuators to stop action,

the short-circuit fault signal in 3, actuators to open action,

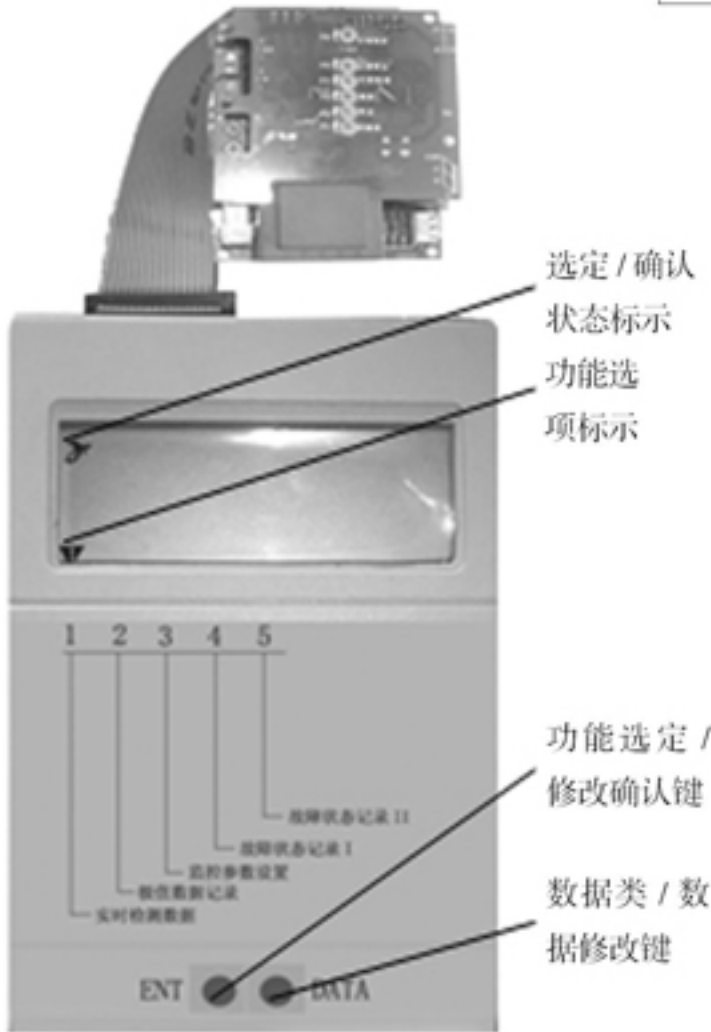
7 Form adjustment function: if the function forms and actuators for valve shut down for the positive role, will be open on reaction, switch debugging method above 2-6 steps.

(二)数字监控板调校

使用现场数字设定器可以很方便的进行数字监控参数的查看和设定，还可以查看执行机构工作状态的极值参数。

- 可查看参数：
- 1 实时检测输入控制电流
 - 2 阀位反馈输出电流
 - 3 环境温度检测
 - 4 电机表面温度检测
 - 5 电机启动频次(平均值)

序 号	数据名称	出厂设置
1	电机堵转时间	3s
2	电机禁行时间	1s
3	允许电机表面温度	80℃
4	数字监控允许	ON 允许
5	正反作用标志	OFF 正作用



- 操作说明：
- 1 设定器数据线连接到数字板的 X7 接口；
 - 2 初始显示只为状态标示和功能项三角标示,这是第一级菜单；
 - 3 按 DATA 键使三角标示移动并从 1-5 循环变化,选定数据类；
 - 4 按 ENT 键进入第二级菜单显示选定数据类数据,液晶左边显示数据序号,右边显示数据值,按 DATA 查看数据,常按 ENT 退出；
 - 5 对第 3 类数据,按 ENT 键可进入第三级,状态标示闪烁,按 DATA 进行参数修改,常按 ENT 键确认修改数据并退回第二级菜单。

- 参数修改设定：
- 1. 电机堵转时间
允许电机堵转的时间;建议设定为 3-7s。

 - 2. 电机禁行时间
电机两次启动的时间间隔,建议设定为 0-3S。

 - 3. 允许电机表面温度
电机表面温度允许达到 90℃,为延长电机寿命,建议设定为 65℃-88℃。

 - 4. 数字监控允许
选择 ON 或 OFF 设定是否启动数字保护功能,建议设置为:ON

 - 5. 正反作用标志
应和模拟控制板的正反作用开关设置一致


注：数字监控部分的第 1、2、4、5 类参数为制造厂家调试及维护用参数,用户无修改权限。

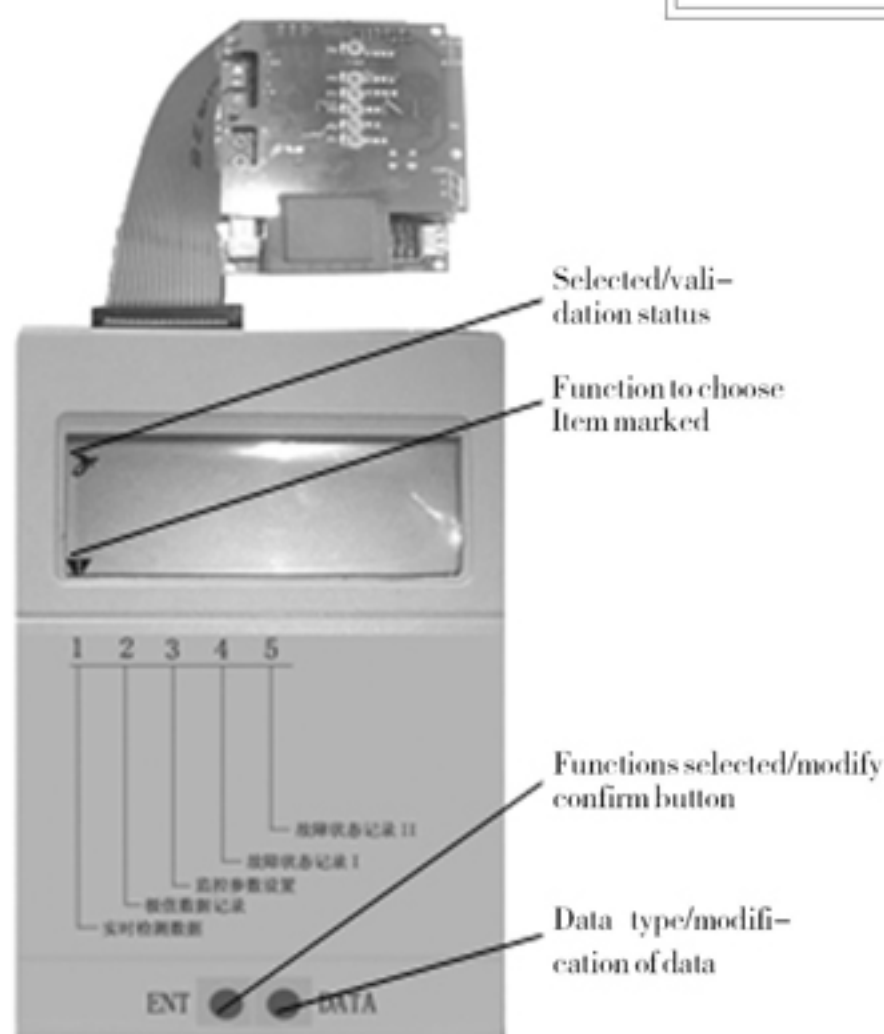
Digital control board set-up

Using field digital Settings can be very convenient for digital monitor parameter setting, also can check and see actuators working state of extreme parameters.

Can check:

- 1 real-time detecting input control current
- 2 the valve position feedback current output
- 3 environmental temperature detection
- 4 motor surface temperature detection
- 5 motor start frequency (average)

number	name of data	Set Factory
1	motor stall time	3s
2	motor drivers time	1s
3	allow motor surface temperature	80°C
4	digital control allow	ON
5	positive role	OFF



Operation:

1 set device connected to digital data plate X7 interface,

2 the initial state that only a triangle mark marking and function, this is the first primary menu,

According to the key DATA and labeled from 1-5 cycle changes, selected DATA, Press ENT button to enter the first four secondary menu display selected DATA type LCD display DATA and the DATA, DATA value, press the right DATA, press ENT check DATA from, 5 for the first three kinds of DATA, press ENT button to enter into the third grade, state, DATA according to the label, often parameters by ENT button to confirm modify DATA and return to the second menu.

Parameter setting:

1. Motor stall

Allow motor stall of time: suggest setting for 3-7s.



2 motor drivers

Motor start-up time intervals, two Suggestions for 0-3 seconds set.



3. Allow motor surface temperature
Motor surface temperature reached 90 degrees Celsius, for allowing extend lifespan, suggest setting for motor 65 ° c - 88.



4. digital monitor allows

Choose ON or OFF if set start digital protection function, suggested Settings for: ON



5 positive role

The positive and negative effects with analog control switch



Note: digital control part of the article 1, 2, 4 and 5 parameters for manufacturers, commissioning and maintenance without modify permissions user parameters.

使用事项 Use item



- 1、在安装、调试、操作、维护、维修执行机构之前,请认真阅读《使用手册》,并了解相关规定。
- 2、执行机构电源为交流 220V,必须断电接线,保证安全。
- 3、电机使用的表面温度可达 90℃,开盖检查时请注意防护。
- 4、调试完成后必须必须恢复盖好上盖才能正常运行。
- 5、存在关于本产品的所有问题,请用户及时和制造商联系。

1、In front of installment, debugging, operation, maintenance, service actuator, please earnestly read "User's manual", and understands the correlation stipulation.

2、Power supply: 220Vac, must the power failure wiring, the guarantee security.

3、The surface temperature of the motor can be used for 90 degrees, open when the examination please note protection.

4、After must must restore cover to cover normal operation.

5、About this product all existing problems, please contact customer timely and manufacturers.



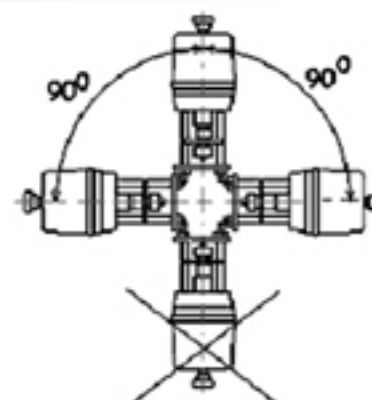
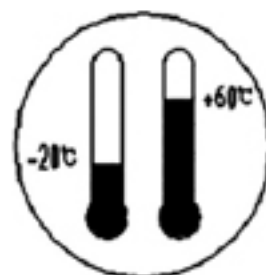
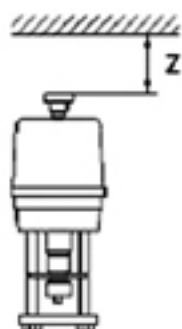
使用故障及处理方法 Using fault and processing method

具体现象 Specific phenomenon	原因 reason	处理办法 Treatment measures
控制板电源指示灯亮,但执行机构不动作 Control power indicator, but no action actuator	1 输入信号线接错 2 输入信号错误 1 input signal faulty 2 the input signal error	1 确定接线是输入信号线 2 输入信号线正、负极性确认 1 determined signal input wiring is 2 input signal positive and negative polarities confirmation
执行机构振荡、电机过热保护 Actuator oscillation, motor overheating protection	1 灵敏度设置过高 2 输入信号干扰信号过强 3 电源中干扰太强 1 set high sensitivity 2 the input signal 3 interference signals The power of interference	1 降低灵敏度 2 按要求配用屏蔽线作信号线或者在输入端并入 470uf/25V 电容 3 改善电源,使供电能达到技术要求 1 reduce sensitivity 2 the shield is made according to the requirements in the input signal or 470uf into 25V/capacitance 3 to improve power, power supply can achieve technical requirements
执行机构在运转中自动停止 Actuator in operation of automatic stop	1 阀门卡住 2 环境温度过高,电机过热保护 3 启动频次过高,电机过热保护 1 the valve stuck 2 high temperature environment, motor overheating protection 3 starter motor overheating protection, high frequency	1 确定执行机构正常后检修阀门 2 执行机构安装在通风或远离高温管道的地方 3 改善系统控制性能,降低启动频次 1 determine normal after repair valve actuator 2 actuators installed in ventilation or away from heat pipe 3 to improve system performance and reduce start frequency control
无阀位反馈信号或阀位反馈信号调整不到 20mA No valve position feedback signals or valve position feedback signal 20mA less	1 阀位反馈信号线接错 2 阀位反馈信号的负载阻抗过大(大于 400Ω) 3 连接尺寸不够 4 10V 电压调整不准确 1 the valve position feedback pick the wrong signal 2 the valve position feedback signal of the load impedance (more than 400 too Ω) 3 connection size is not enough 4 10V voltage adjustment is not accurate	1 确认阀位反馈信号输出线正确连接 2 降低阀位反馈信号的负载(<400Ω) 3 根据安装尺寸及机械连接重新连接 4 按调试方法调准 10V 电压 1 to confirm the valve position feedback signal output line properly connected 2 reducing valve position feedback signal load (< 400 Ω) 3 according to installation dimensions and mechanical connection 4 10V adjusted according to debug method
阀位达不到全关 The valve position to reach sexual	1 精密电位器零位调整不良 2 上、下限位块调整不良 3 连接尺寸不够 1 precision potentiometer zero adjustment 2 upper and lower limit a block adjustment 3 connection size is not enough	1 检查精密电位器调整情况 2 重新调整 3 根据安装尺寸及机械连接重新连接 1 check precision potentiometer 2 to adjust 3 according to installation dimensions and mechanical connection



注意事项：运输、贮存、安装、维护、保养
Note: transportation, storage, installation and maintenance

PER	K(mm)
$\leq 300\text{Nm}$	150
$300\text{Nm}\sim 900\text{Nm}$	190
$> 900\text{Nm}$	230



运输与贮存

- ① 执行机构必须按技术要求进行包装后运送到安装地点。
- ② 禁止安放任何装置于执行机构上。
- ③ 存放于干燥、通风良好的地方，并防止受潮。
- ④ 遮盖以防止灰尘和雨水。

Transportation and storage

- ① the actuator must press technology requirements to install place after packing.
- ② was banned from any device on the executing agency.
- ③ deposited in the dry and ventilated place, and to prevent moisture.
- ④ to prevent dust covered with rain.

安装要求

① 执行机构安装前，应进行外观检查确认有无损伤，并仔细细心查对铭牌所标的型号、全行程时间、输出推力、额定电压及接线方式等是否符合使用要求。

- ② 安装位置应易于接近。
- ③ 应留有足够的拆卸空间(K 值见 " 产品安装 ")，以便整机拆装或移去防护壳。
- ④ 执行机构不可倒置。

Installation requirements

① actuators before installation, check should look for any damage and careful careful check mark model, the nameplate, export thrust travel time, rated voltage and wiring way, etc.

- ② should be accessible location.

③ the dismantling space should be adequate K value (see "products"), to install the disassembling or remove protective shell.

- ④ actuator not inversion.

维护和保养

注 意：如果安装正确且防护罩也合适，则润滑油可维持三年，不需要维修；进行任何维修工作前应切断执行机构电源。

运行后：如需要，请重新喷漆以防腐蚀。

维护周期：运行后每六个月检查执行机构性能。

润 滑：油脂 浓度 NO.2。

一 年 后：检查与阀的机械联接是否可以保证，如果需要，重新上紧螺纹。

大 检 修：一年后需再次加油或需要进行维修时，请向我们询问综合维修方案。

Maintenance and maintenance

Note: if the correct installation and shields are appropriate, lubricant, does not need to maintain.

Before any repair work should be cut off power actuators.

After shipment, if need be, please repainted in corrosion.

Maintenance cycle: every 6 months after operation inspection actuators performance.

Embellish smooth concentration. 2: grease.

A year later, check and valve mechanical connection could guarantee, if needed, to tighten the screw.

Fix: after a big inspection to refuel or need maintenance again, please ask us for comprehensive maintenance plan.

50年控制阀制造经验
QUALITY SINCE 1959

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