

ED 系列电力液压推动器

ED Series Electro-hydraulic Thrusters

一、应用 Application:

电力液压推动器是一种集电机，离心泵，油缸为一体的，结构非常紧凑的驱动控制装置，被广泛用作各种鼓式制动器和盘式制动器的驱动装置，还可用于各种工业阀门，闸门，定向摆动和旋转（<90°）装置（机构）及夹紧装置的驱动控制。

Electro-hydraulic thruster is a kind of drive control system, which is very compact in structure, and integrates electrical motor, centrifugal pump and oil cylinder. It is extensively used as drive mechanism of various drum and disc brakes, and as drive control of various industrial valves, penstock, directional pendulum and steering(<90°) mechanism and clamping devices.

二、工作条件 Working condition:

- 环境温度:-20℃ ~ + 50℃时，使用 DB-25 液压油，低于-20℃时，使用 YH-10 航空液压油。

Ambient temperature:- 20 °C ~ + 50 °C, use the DB-25 hydraulic oil, below -20 °C, using YH - 10 aviation hydraulic oil.

- 相对湿度 Relative humidity:≤90%

- 电源电压: 3 相、交流 380V、50Hz（其他电源电压下的电流参数请与我们技术人员联系）

Voltages: AC 3phase 380V 50Hz (Other voltage can be made as required)

- 工作制: 间歇性 (S3-60%) 和连续 (S1)

Operating duty: intermittent (S3-60%)and continuous (S1).

- 电缆: 电源电缆规格为 4×1.5 mm²，导线截面最大可达到 4×2.5 mm²

The specification of the power cable is 4 x 1.5 mm², and the conductor cross section can reach 4 x 2.5 mm².

- 有特殊要求时在订货时协商确定。

Special requirements can be discussed before production.

三、主要特点 Main Feature:

- 外壳为铸造铝合金，重量轻，外型美观。

The casing is made by casting aluminum alloy, light and good-look.

- 电机为非浸油式结构，F 级绝缘，耐热性好，寿命长。

Electrical motor is of non-under-oil structure, F grade insulation,durable and good heat resistance.

- 电机接线盒盖设有密封，采用电缆填料函进线，牢固可靠，电气外壳防护等级达 IP55

Cover of junction box is tightly sealed. Cable stuffing box is adopted for inlet wire, which is firm and reliable. Electrical protection of casing reaches IP55 grade.

- 电机轴和推杆均表面特殊处理，使密封件寿命大大延长。

The surface of motor axle and pusher is handled specially to make the sealing parts much more durable.

- 油缸壳体在一侧设有平衡气室，可使推动器在 0-180°任何方向安装，从而扩大其使用范围。

Balancing air house is set at one side of oil cylinder casing,which can make the thruster to be installed at any direction within range of 0~180° and enlarge the using range.

- 全部密封件和轴承采用世界名牌产品，密封可靠，寿命长。

All sealing parts and bearing of Ed series are all world famous products. The sealing is reliable and durable.

四、符合标准 Standards compliant:

- Ed 系列电力液压推动器符合 DIN15430 标准。

ED series Electro-hydraulic thruster comply with DIN15430 standard.

五、附加装置（选择）Options and accessories (selection):

- UL-上升限位开关，可指示制动器是否打开，推杆是否推到规定位置信息；

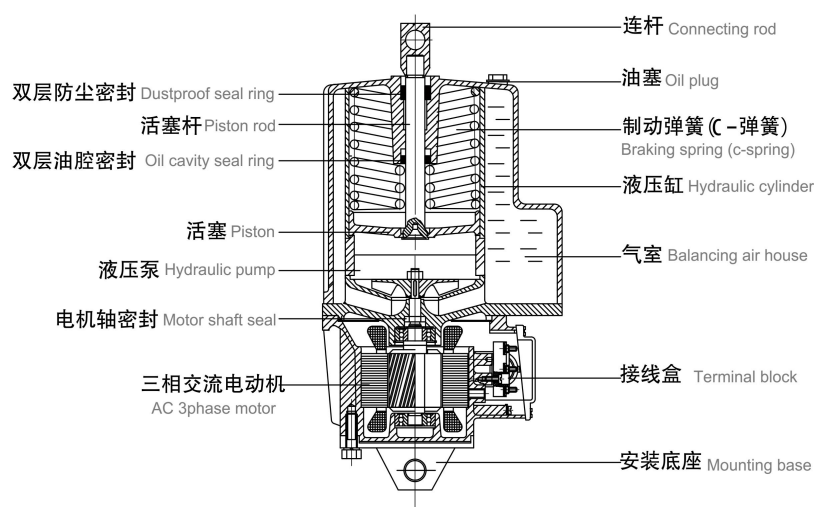
Upper limit switch, which can indicate whether brake is open, or whether the thruster is at the right position.

- DL-下降限位开关，可指示制动器是否正确闭合，推杆是否回到规定位置信息，可同时设置上下限位开关；

Lower limit switch, which can indicate whether the brake is properly close, whether the thruster return to right position. Up and down limit switches can be set together.

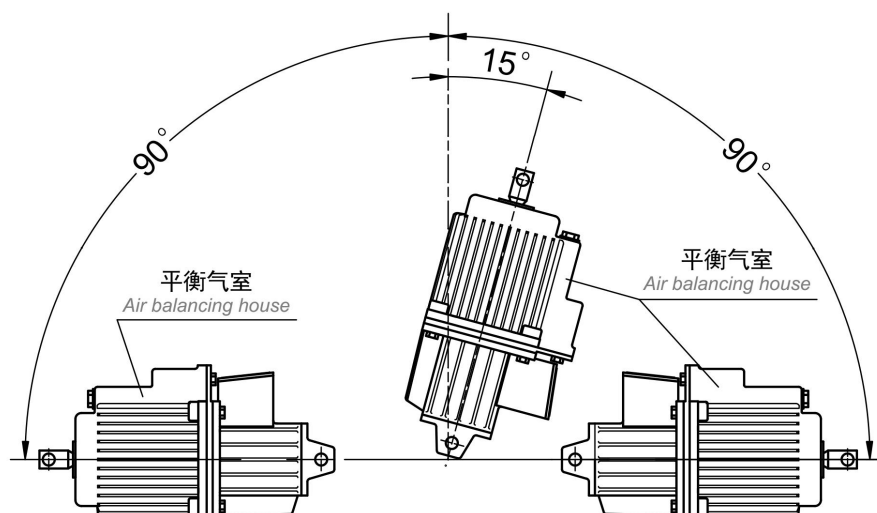
- C-增设内置式弹簧（仅短行程推动器可以），弹簧力可由用户确定，但不得超过内置弹簧力（见参数表）；
Build-in spring or release spring (only for short stroke thruster). Spring force can be decided by customers, but within the force limit of built-in spring (refer to parameter tables).
- H 上升延时阀和 S 下降延时阀，可无级延长上升或下降时间，延时范围为 5 秒至 30 秒，具体延时值可根据用户要求调定。
Ascending time-delay valve, descending time-delay valve or ascending/descending time-delay valve can steplessly prolong the rising and falling time, delay range is from 5s to 30s, specific delay time can be set as customers' requirements.
- R 增设加热器：在使用地点环境温度低于-25℃时，如用户需要，可增设加热器，加热器参数见附表 1。
Heater: Customers can require heaters in the place where ambient temperature is below -25℃. Parameters of heaters are attached.(refer to Tab.1)

六、推动器剖视图 Thruster section view

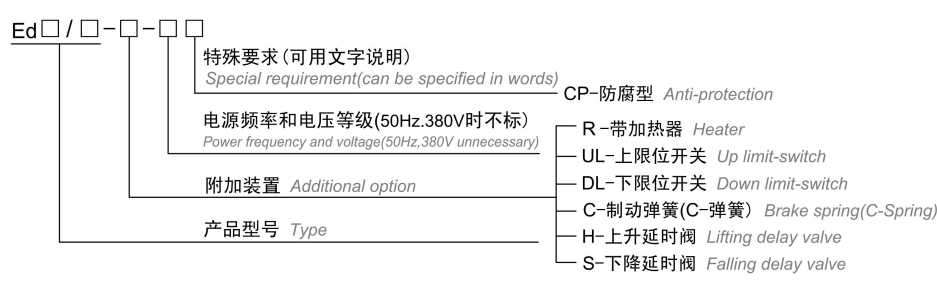


七、安装方式 Mounting:

- 除 400N 以下(含 400N)规格，底座均可旋转 90° 安装(用户在订货时注明)，连杆头可 360°任意旋转,全部推动器可垂直，倾斜(15°)安装，也可大于 15° 倾斜或水平安装，但平衡气室应朝上(如下图所示)：
Except for type $\leq 400\text{N}$, the foot lugs can be installed around 90° (please indicate at order), head of thruster can turn freely around 360° , all thrusters can be installed perpendicularly or horizontally, angularity ($< 15^\circ$ or $> 15^\circ$),The balancing air house should be set upward.



八、订货标记 Order mark



订货示例 Order Example: Ed80/6 Ed80/6-S.C Ed80/6-UL.S.C-440V60Hz

九、技术参数(表.1)Technical data (Table.1)

推动器型号 Thruster type	额定推力 Lifting thrust (N)	额定行程 Stroke (mm)	弹簧制动力 Braking spring force (c-spring) (N)	消耗功率 Power consumption (W)	额定电流 Rated current (A)	额定电压 Rated voltage (V)	最大操作频率 Max.Operating frequency (1/h)	重量 Weight (kg)
Ed23/5	220	50	180	165	0.52	380	2000	10
Ed30/5	300	50	270	200	0.46	380	2000	14
Ed40/4	400	40	270	200	0.46	380	2000	14
Ed50/6	500	60	460	210	0.48	380	2000	21
Ed70/5	700	50	460	210	0.50	380	2000	21
Ed80/6	800	60	750	330	1.42	380	2000	24
Ed100/6	1000	60	750	330	1.42	380	2000	29
Ed121/6	1250	60	1200	330	1.44	380	2000	39
Ed201/6	2000	60	1900	450	1.45	380	2000	39
Ed301/6	3000	60	2700	550	1.46	380	1500	40
Ed50/12	500	120		210	0.48	380	1200	26
Ed80/12	800	120		330	1.42	380	1200	27
Ed121/12	1250	120		330	1.44	380	1200	39
Ed201/12	2000	120		450	1.45	380	1200	39
Ed301/12	3000	120		550	1.46	380	900	40
Ed450/12	4500	120		1100	2.56	380	900	45
Ed630/12	6300	120		1100	2.40	380	630	50
Ed121/8	1250	80		330	1.44	380	1200	39
Ed201/8	2000	80		450	1.45	380	1200	39
Ed301/8	3000	80		550	1.46	380	900	40
Ed450/8	4500	80		1100	2.56	380	900	45

- 1) 内置弹簧力是推动器推动额定行程 1/3 时的力;
- 1) Build-in spring force equals the force the thruster applying to 1/3 of rated stroke.
- 2) 当推进器内置上弹簧时, 输出推力为零;
- 2) When springs listed in above tables are equipped in thruster, output thrust is zero.
- 3) 有关其他电源电压下的电流参数, 请联系我们的技术人员。
- 3) For current parameters under other voltage, please contact with our technicians.

加热器 Heaters	推动器型号 Thruster type	Ed23	Ed30	Ed50	Ed80	Ed121	Ed201	Ed301
	功率 Power (W)	220			350			
	电源 Power supply	AC 110/220V 50/60Hz						
液压油 Hydraulic oil	环境温度 Ambient temperature	使用液压油牌号 Use hydraulic oil model			推动器油量 Oil cylinder volume(L)			
	-20℃ ~ +50℃	DB-25、HL10、DTE-21 (Mobil)			Ed23/5≈1.5	Ed30/5≈2	Ed50/6(12)≈4	
	-40℃ ~ +50℃	YH-10、DB-45			Ed80/6(12)≈5	Ed121.201.301/6(12)≈10		
电缆规格 Cable size	主电源 Main power supply	4×2.5/1.5 mm ²		限位开关 Limit switch	电源 Power supply		AC 40~60 Hz≤500V	
	加热器 Heater	2×2.5/1.5 mm ²			电缆规格 Cable size		2×1.5 mm ²	

行程-动作时间曲线 Stroke-action time diagrams
 (在20℃, 用砝码测定的 at 20℃, measured by weight)

短行程系列 Short-stroke versions

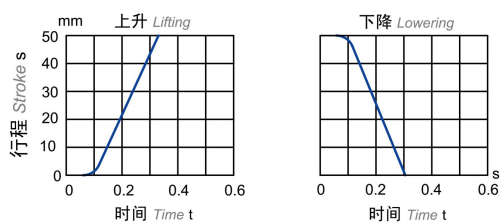


图 Fig 1-1 Ed23/5、Ed30/5

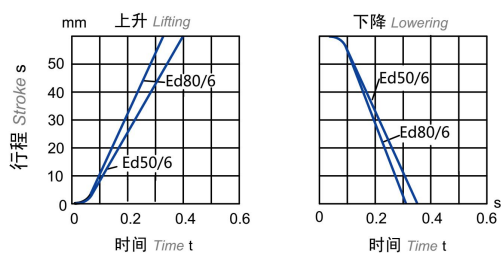


图 Fig 1-2 Ed50/6、Ed80/6

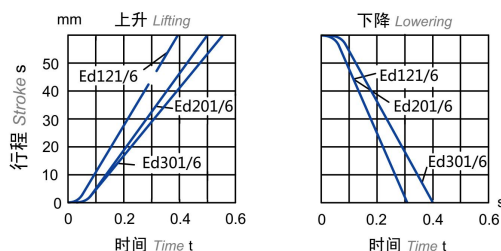


图 Fig.1-3 Ed121/6、201/6、301/6

长行程系列 Long-stroke versions

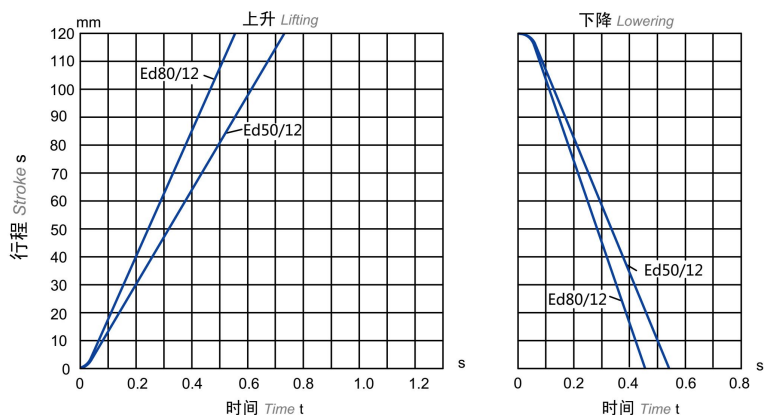


图 Fig.1-4 Ed50/12、Ed80/12

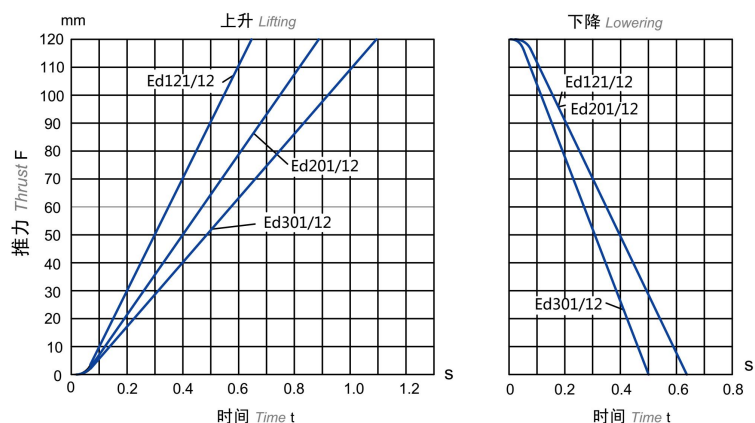


图 Fig.1-5 Ed121/12、Ed201/12、Ed301/12

推力-行程曲线 Thrust-stroke diagrams

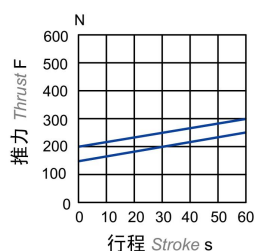


图 Fig.2-1 Ed23/5

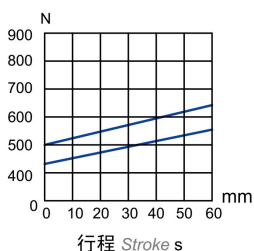


图 Fig.2-3 Ed50/6

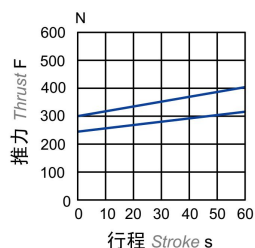


图 Fig.2-2 Ed30/5

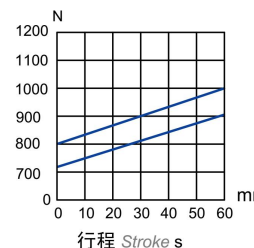


图 Fig.2-4 Ed80/6

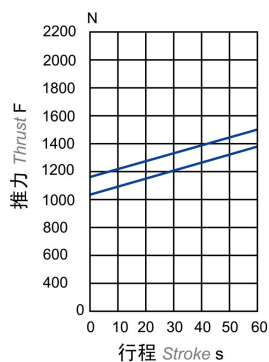


图 Fig.2-5
Ed121/6

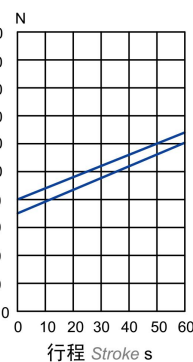


图 Fig.2-6
Ed201/6

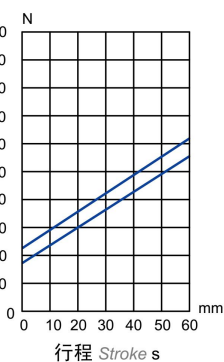
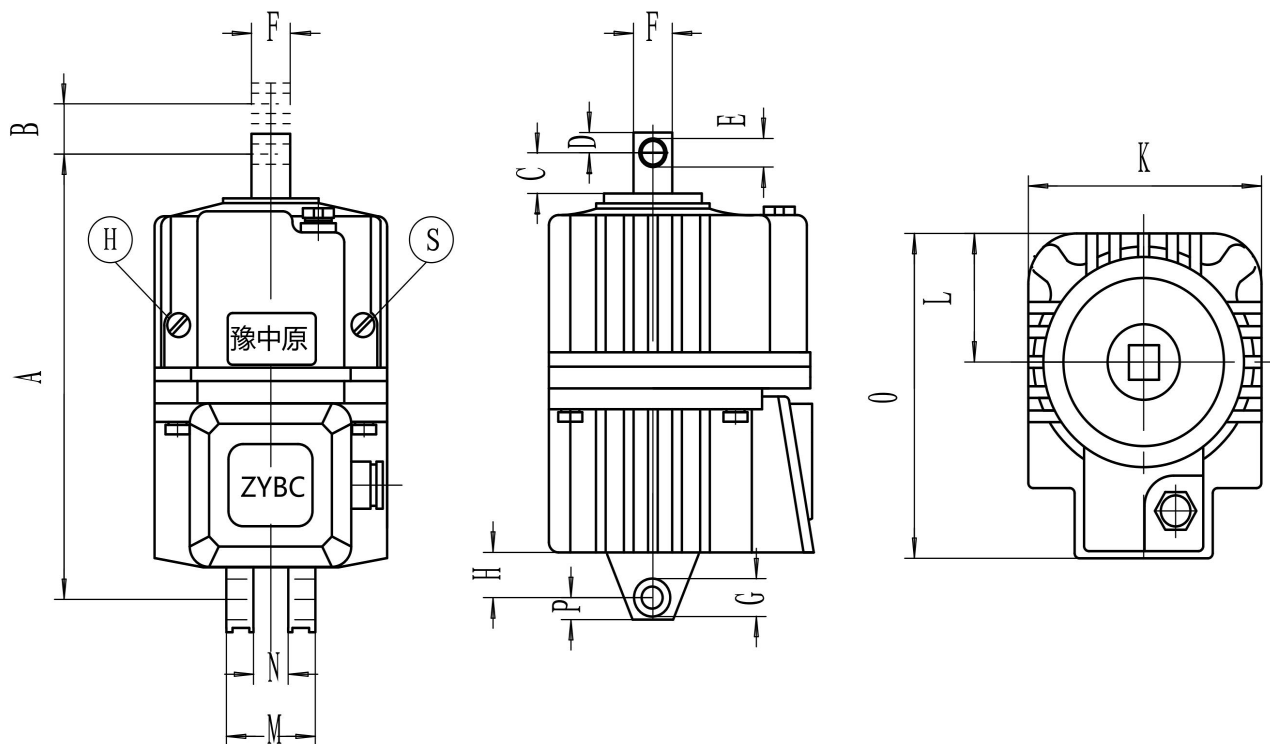


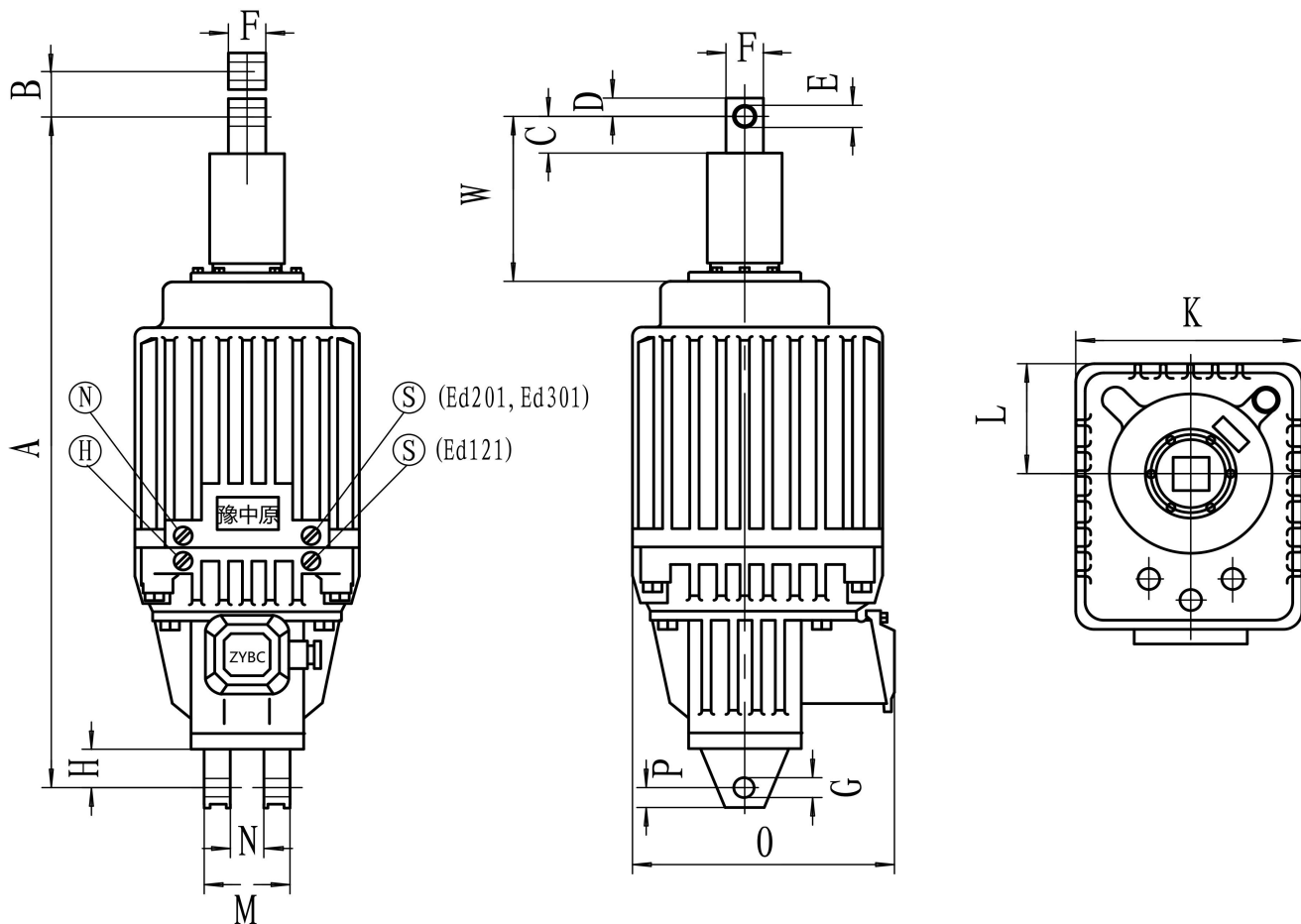
图 Fig.2-7
Ed301/6

十、安装及外形尺寸 Outline and installation dimension

◆型号 Type: Ed23、Ed30、Ed40、Ed50、Ed70、Ed80、Ed100



◆◆型号 Type: Ed121、Ed201、Ed301、Ed450、Ed630



说明 Note:

- (1) H=上升阀(上升延时),S=下降阀(下降延时)。
- (1)H=Lifting valve(lifting delay)S=falling valve(falling delay)
- (2) Ed23、Ed30 及 Ed40 的底座与电机壳体是铸为一体的,其余规格的底座与电机壳体是通过螺栓连接。
- (2)The foot lugs of Ed23,Ed30,Ed40 are minted together with their motor casing. Foot lugs and motor casings of other types are connected by bolt.
- (3) 连杆头可 360° 任意旋转。
- (3)The thruster head can be revolved freely in 360°

十一、安装尺寸(表.2) Dimensions of Ed series thruster (Table.2)

推动器型号 Thruster type	尺寸 Dimensions (mm)														
	A	B	C	D	E	F	G	H	K	L	M	N	O	P	W
Ed 23/5	286	50	26	12	12	20	16	20	160	80	80	40	200	16	
Ed 30/5	370	50	34	15	16	25	16	18	160	80	80	40	197	16	
Ed 40/4	377	40	41	15	16	30	16	18	160	80	80	40	197	16	
Ed 50/6	435	60	36	18	20	30	20	23	190	95	120	60	254	22	
Ed 70/5	450	50	31	18	20	30	20	23	190	95	120	60	254	22	
Ed 80/6	450	60	36	18	20	30	20	23	190	95	120	60	254	22	
Ed 100/6	570	60	50	18	20	30	25	123	190	95	110	60	254	25	
Ed 121/6	645	60	38	25	25	40	25	35	240	112	90	40	260	25	130
Ed 201/6	645	60	38	25	25	40	25	35	240	112	90	40	260	25	130
Ed 301/6	645	60	38	25	25	40	25	35	240	112	90	40	260	25	130
Ed 50/12	515	120	36	18	20	30	20	23	190	95	120	60	254	22	
Ed 80/12	530	120	36	18	20	30	20	23	190	95	120	60	254	22	
Ed 121/12	705	120	38	25	25	40	25	35	240	112	90	40	260	25	190
Ed 201/12	705	120	38	25	25	40	25	35	240	112	90	40	260	25	190
Ed 301/12	705	120	38	25	25	40	25	35	240	112	90	40	260	25	190
Ed 450/12	850	120	48	35	30	50	30	40	290	145	110	60	325	30	190
Ed 630/12	865	120	38	25	25	40	25	40	270	127	110	60	327	25	
Ed 121/8	665	80	38	25	25	40	25	35	240	112	90	40	260	25	150
Ed 201/8	665	80	38	25	25	40	25	35	240	112	90	40	260	25	150
Ed 301/8	665	80	38	25	25	40	25	35	240	112	90	40	260	25	150
Ed 450/8	810	80	48	35	30	50	30	40	290	145	110	60	327	30	150