

Ed系列电力液压推动器

Ed SERIES ELECTRO-HYRAULIC THRUSTERS

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，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°）装置及夹紧装置的驱动控制。

APPLICATION

- 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.

主要特点 Main Feature

- Ed系列推动器是引进德国进口全套设计与先进技术生产制造，符合德国DIN15430和JB/T 10603-2006为标准。Ed系列推动器零部件均由数控加工中心加工，从加工到装配，严格的工艺、完善的检测、可靠的性能及寿命试验确保了整机的最佳性能。
- 铝合金外壳全密封单推杆结构，重量轻，性能优良，外形美观。
- 电机为非油浸式结构，F级绝缘，耐热性能好，寿命长。
- 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IP65。
- 电机轴和推杆均表面特殊处理，使密封件寿命大大延长。
- 油缸壳体在一侧设有平衡气室，可使推动器在0~180°任何方向安装使用。

MAIN FEATURE

- Ed series thrusters are designed and manufactured with advanced technology imported from Germany. They are accordance with German standards of DIN 15430 and JB/T 10603-2006. Ed series thruster parts are processed by CNC machining center, from processing to assembly, strict technology, perfect detection, reliable performance and life test ensure the best performance of the whole machine.
- Aluminum alloy shell fully sealed single push rod structure, light weight, excellent performance, beautiful appearance.
- Electrical motor is of non-under-oil structure, F grade insulation (according to customer's requirements), durable and good heat resistance.
- 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 IP65 grade.
- The surface of motor axle and pusher is handled specially to make the sealing parts much more durable.
- 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.

使用条件 Operating Condition

- 环境温度：-20℃~+50℃时，用DB-25液压油，低于-20℃时用YH-10航空液压油，可不装加热器，用DB-25液压油，必须装加热器。
- 连续工作S1，断续工作AS3-60%
- 电源电压：3相、交流380V、50Hz（其它电源等级可按需要协商订货）
- 使用地点的海拔高度符合GB755-2019标准。

OPERATING CONDITION

- Ambient temperature: -20℃~+50℃ using DB-25 hydraulic oil, lower than -20℃ with YH-10 aviation hydraulic oil, not mounted heaters; using DB-25 hydraulic oil must be retrofitted with heaters.
- Continuous operation S1, intermittent operation AS3-60%
- Voltages: AC 3 phase 380V, 50Hz (Other voltage can be made as required)
- The altitude of the site is in accordance with the GB755-2019 standard.

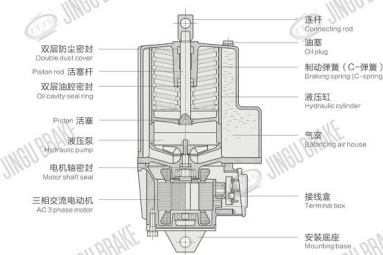
型号意义 Model Significance



推动器附加装置 ADDITIONAL FUNCTION TABLE

功能代号 Function code	表示意义 Model Significance
C	制动弹簧 Brake spring
W	复位弹簧 Reset spring
R	缓冲弹簧 Buffer spring
H	上升延时阀 Rise delay valve
S	下降延时阀 Descent delay valve
E1	上升机械行程开关 Increased mechanical limit switch
E2	下降机械行程开关 Decline mechanical limit switch
EB	感应行程开关 Inductive limit switch
R	加热器 Heater

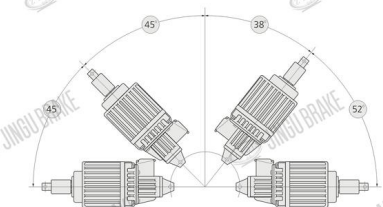
推动器剖视图 Thruster Section View



安装方式的选择 Selection of installation mode

- 垂直安装：活塞杆连接块朝上。
- 水平安装和中间任意位置：安装形式如下图所示。
- 所有推动器的推杆连接块都可以旋转。Ed50-Ed301安装底座可作90°旋转，Ed23-Ed30安装底座也可提供90°旋转，但安装高度尺寸A增加8毫米。
- 无论何种安装位置，活塞杆都不能承受径向力，以免影响使用寿命。

- Vertical installation: the connecting block of piston rod is upward.
- Horizontal installation and any position in the middle: the installation form is shown in the figure below.
- The push rod of all pushers can rotate with lumps. Ed50-Ed301 mounting base can be used for 90° Rotation. Ed23-Ed30 mounting base can also provide 90° Rotate, but increase the mounting height dimension A by 8 mm.



附加装置 Additional devices

- 根据用户需要可安装各种附加装置，满足不同工作需要。
- 上升或下降阀：加装上升阀“H”，下降阀“S”或上升下降阀“H、S”可使上升下降时间无限延长，可调整的最大值可达额定值的10~20倍，阀在外部调节。带阀的推动器（阀全开时），其上升下降时间将会有所延长，短行程延长0.1~0.2秒，长行程延长约0.2~0.4秒。
- 制动弹簧：（C-弹簧）它产生的制动力，可由用户确定，但不得超过技术数据中所列内置制动力，技术数据表中所列的制动力值为上升行程的1/3（下降行程的2/3）时的制动力。
- 复位弹簧：工作原理同C-弹簧，但复位的制动力较小。
- 缓冲弹簧：（d-弹簧）加缓冲弹簧（仅适用于短行程推动器），主要调节制动过程：缓冲制动的非周期瞬变过程，使制动平稳，它代替推杆连杆在活塞杆上，不改变推动器的行程。注意：安装d-弹簧的推动器不能装行程开关且须和C-弹簧配套使用。
- 加热器：在环境温度低于-20℃的地区，可根据用户需要加装加热器，加热器为AC110V或AC220V两种电压，订货时需注明、温度的控制调节方法由用户自己选择。
- 行程开关：根据用户需求，可安装机械式行程开关或接近开关。

ADDITIONAL DEVICES

- According to the needs of users, various additional devices can be installed to meet different work needs.
- Increased or decreased valves: increased retrofit by valve "H", dropped valve "S", increase or dropped valve "H, S" can rise fall time continuously extended, you can adjust the maximum values up to 10-20 times of the rated value, and the valve can be adjusted externally. When the valve is fully open, the rising and falling time of the pusher with valve will be extended, the short stroke will be extended by 0.1~0.2 seconds, and the long stroke will be extended by about 0.2~0.4 seconds.
- Brake spring: (C-spring) the brake force generated by it can be determined by the user, but it shall not exceed the built-in brake spring force listed in the technical data sheet. The brake spring force listed in the technical data sheet is the spring force when 1/3 of the up stroke (2/3 of the down stroke).
- Reset spring: the working principle is the same as C-spring, but the force of reset spring is small.
- Buffer spring: (d-spring) plus buffer spring (only applicable to short stroke pusher), mainly adjusts the braking process. Buffer braking non-periodic transient process, makes the braking stable. It instead of push rod connecting rod, without changing the stroke of the pusher. Note: the pusher with d-spring cannot be equipped with limit switch, and must be used with C-spring.
- Heater: in the area where the ambient (temperature is lower than -20 °C, the heater can be installed according to the user's needs. The heater has two kinds of voltage: AC110V or AC220V, indicate when ordering. Temperature control method is used by the user's own choice.
- Limit switch: according to the user's requirements, a propulsion system can be mounted with mechanical limit switch or proximity switches.

加热器参数值 HEATER PARAMETERS

加热器型号 Heater type	推动器型号 Thrusters type						
	Ed23	Ed30	Ed50	Ed80	Ed121	Ed201	Ed301
AC110V时功率 (W)	220	220	350	350	350	350	350
AC220V时功率 (W)							

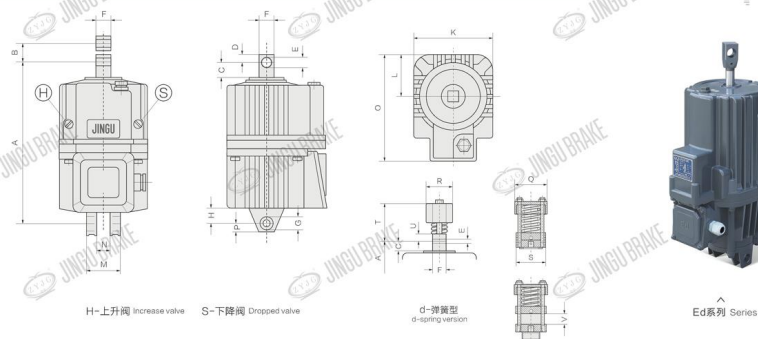


安全制动·金箍掌控

DRIVING DEVICE 驱动装置

安装及外形尺寸 Outline And Installation Dimension

型号 Type: Ed23-Ed80



Ed 系列电力液压推动器技术参数 TECHNICAL DATA OF ED SERIES ELECTRO-HYDRAULIC THRUSTERS

表一

推动器型号 Thruster type	额定推力 Rated thrust (N)	额定行程 Rated stroke (mm)	制动弹簧力 Brake spring force (N)	复位弹簧力 Reset spring force (N)	额定频率 Rated frequency (Hz)	输入功率 Input power (W)	额定电压 Rated voltage (V)	额定电流 Rated current (A)	最大工作频率 Maximum operating frequency (Hz)	重量 Weight (kg)
短行程推动器 Short-stroke propulsion system										
Ed 23/5	220	50	180	105	50	165	380	0.52	2000	10
Ed 30/5	300	50	270	95	50	200	380	0.46	2000	14
Ed 40/4	400	40	270	95	50	200	380	0.46	2000	14
Ed 50/6	500	60	460	267	50	210	380	0.50	2000	21
Ed 70/6	700	50	460	267	50	210	380	0.50	2000	21
Ed 80/6	800	60	750	267	50	330	380	1.42	2000	24
Ed 121/6	1250	60	1200	700	50	330	380	1.44	2000	39
Ed 201/6	2000	60	1900	700	50	450	380	1.45	2000	39
Ed 301/6	3000	60	2700	700	50	550	380	1.46	1500	40
长行程推动器 Long-stroke propulsion system										
Ed 50/12	500	120	—	—	50	210	380	0.48	1200	26
Ed 80/12	800	120	—	—	50	330	380	1.42	1200	27
Ed 121/12	1250	120	—	—	50	330	380	1.44	1200	39
Ed 201/12	2000	120	—	—	50	450	380	1.45	1200	39
Ed 301/12	3000	120	—	—	50	550	380	1.46	900	40
Ed 630/12	6300	120	—	—	50	1100	380	2.4	630	—

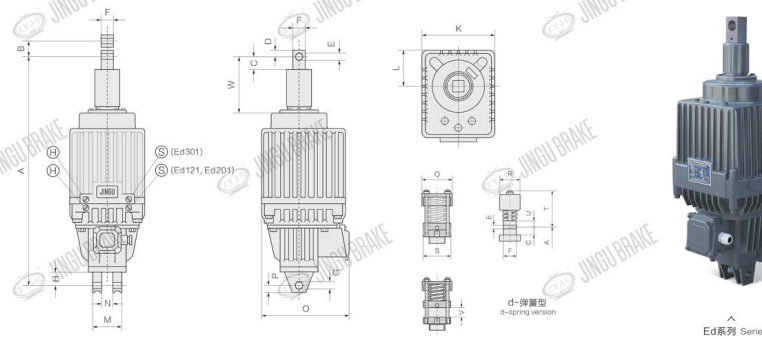
P091/ 河南金箍®工业制动系统提供商



DRIVING DEVICE 驱动装置

安装及外形尺寸 Outline And Installation Dimension

型号 Type: Ed121-Ed630



Ed 系列电力液压推动器外形尺寸 DIMENSIONS OF ED SERIES ELECTRO-HYDRAULIC THRUSTERS

表二

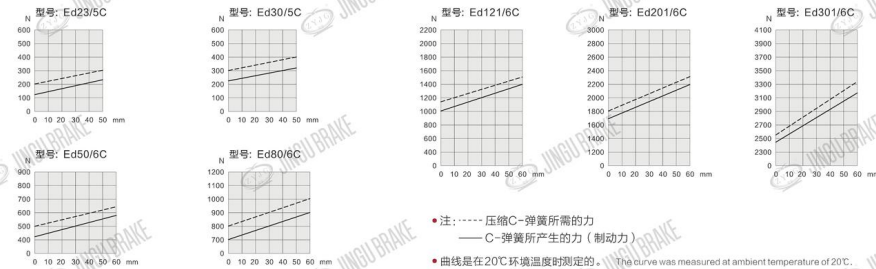
推动器型号 Thruster type	安装及外形尺寸 Dimensions (mm)																		
	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	R	S	T	U
Ed 23/5	286 ^①	50	26	12	12	20	16	20	160	80	80	40	200	16	85	55	75	98	20
Ed 30/5	370 ^②	50	34	15	16	25	16	18	160	80	80	40	197	16	85	55	75	98	20
Ed 40/4	377	40	41	15	16	30	16	23	190	95	80	40	197	16	—	—	—	—	—
Ed 50/6	435	60	36	18	20	30	20	23	190	95	120	60	254	22	85	55	75	100	22
Ed 70/5	430	50	31	17	—	—	—	24	—	—	100	41	—	—	—	—	—	—	—
Ed 80/6	450	60	—	—	—	—	—	—	—	—	—	—	—	—	85	55	75	100	22
Ed 50/12	515	120	36	18	20	30	20	23	190	95	120	60	254	22	—	—	—	—	—
Ed 80/12	530	120	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ed 121/6	645	60	38	25	25	40	25	35	240	112	90	40	260	25	130	80	120	147	35
Ed 201/6																			
Ed 301/6																			
Ed 121/12	705	120	38	25	25	40	25	35	240	112	90	40	260	25	—	—	—	—	190
Ed 201/12																			
Ed 301/12																			
Ed 630/12	865	120	38	25	25	40	25	40	270	127	110	60	327	25	—	—	—	—	—

* ① 旋转 90° 时, A=294 ② 旋转 90° 时, A=378 ③ A=294 ④ 当旋转 90° 时, A=378

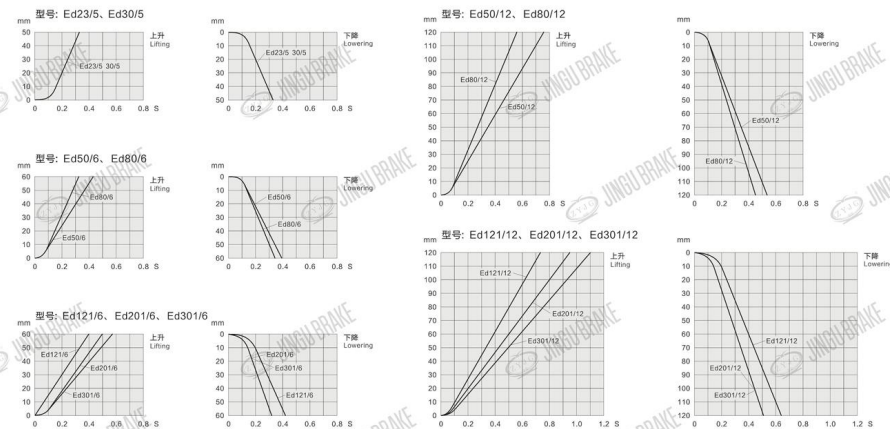
* 注: 具体型号、结构及外形尺寸保留更改的权利。 Note: The size of the specific type and structure should be retained.

JINGU BRAKES / P092

C-弹簧曲线 C-Spring coil curve



行程时间曲线 Route of travel time curve



ZED 交直流两用电力液压推动器 ZED AC DUAL-PURPOSE ELECTRO-HYDRAULIC THRUSTERS

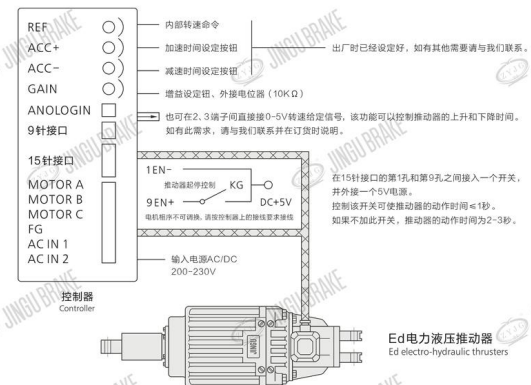
应用 Application

- Zed系列交直流两用电力液压推动器, 是我公司在Ed推动器的基础上自行研制的专利产品, 采用先进的无刷电机, 辅以数字控制电路, 适用于DC220V、AC220V的供电系统; 具有启动平稳, 噪音低, 抗干扰和节能环保等特点。广泛用于以前使用变频器的场合, 以提高系统的性能(调速范围、精度), 降低成本。

APPLICATION

- Zed series AC/DC dual-purpose electro-hydraulic thruster is a patented product developed by our company on the basis of Ed thruster. It adopts advanced brushless motor and digital control circuit, which is suitable for DC 220V and AC 220V power supply system. It has the characteristics of stable starting, low noise, anti-interference, energy saving and environmental protection. It is widely used in previous occasions where frequency converter is used to improve system performance (speed range, precision) and reduce cost.

电气原理图 Electrical schematic diagram



使用条件 Operating Condition

- 环境温度: $-20^{\circ}\text{C} \sim +45^{\circ}\text{C}$
当温度低于 -20°C 时, 需要装加热器或使用HY-10航空油;
- 空气相对湿度: 不大于90%;
- 通电持续率: 0~100%;
- 室内使用, 并且周围环境符合GB/T15957的相关规定。
- 有特殊要求时, 在订货时协商确定。

OPERATING CONDITION

- Ambient temperature: $-20^{\circ}\text{C} \sim +45^{\circ}\text{C}$
When the temperature is lower than -20°C , it is necessary to install heater or use hy-10 aviation oil;
- Air relative humidity: $\leq 90\%$;
- Electric continuous rate: 0~100%;
- Indoor use, and the surrounding environment accords with the relevant provisions of GB/T15957.
- Special requirements can be discussed before production.

主要特点 Main Feature

- 该产品由控制器和Ed电力液压推动器两部分组成。
- 注意: 在控制器带电或两个LED灯发光期间, 禁止打开控制器或接触控制盒内部, 否则有触电的危险!

MAIN FEATURE

- The product consists of controller and Ed electro-hydraulic thruster.
- Note: when the controller is charged or two LED lights are on, it is forbidden to open the controller or touch the interior of the controller, otherwise the danger of electric shock!

- 该产品技术参数和外形尺寸均与Ed相同, 本说明恕不再赘述。请参照Ed系列电力液压推动器。
The technical parameters and dimensions of the product are the same as those of Ed, so this description will not be repeated.