

Ed Series electro-hydraulic thrusters

Ed系列 电力液压推动器



Ed Series

DRIVING DEVICE 驱动装置

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系列推动器是独家引进原西德EMG公司全套设计与制造技术生产制造，符合德国DIN15430和JB/T10603-2006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，外形美观、重量轻，功能齐全、性能优良，品种规格齐全。
- 电机为非油浸式结构，F级绝缘，耐热性好，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。
- 电机轴和推杆均经过表面特殊处理，使密封件寿命大大延长。
- 传动部分全部为双密封结构，密封可靠。
- Ed推动器油缸壳体一侧设有平衡气室，可在0-180°范围内安装使用。
- 活塞杆采用先进的防护措施可以减少磨损和防腐蚀，有双层防尘密封，液压系统的油腔密封采用双层密封圈，从而大大提高了使用寿命。
- Ed系列推动器连杆的可以360°旋转。
- 附加装置参见附表。

MAIN FEATURE

- Ed series thruster is exclusively manufactured by introducing the full set of design and manufacturing technology of the former West German EMG company, which meets the German standards DIN15430 and JB/T10603-2006. Ed series thruster parts are processed by CNC machining center. From processing to assembly, strict process, perfect detection, reliable performance and life test ensure the best performance of the whole machine.
- Aluminum alloy shell fully sealed single push rod structure, beautiful appearance, light weight, complete functions, excellent performance and complete varieties and specifications.
- The motor is of non oil immersed structure, class F insulation, good heat resistance and long service life.
- The motor junction box cover is provided with a seal and adopts cable stuffing box for incoming, which is firm and reliable, and the protection grade of the electrical enclosure is IP65.
- The motor shaft and push rod have special surface treatment, which greatly prolongs the service life of the seal.
- The transmission part is of double sealing structure, with reliable sealing.
- One side of the Ed pusher cylinder shell is provided with a balance air chamber, which can be installed and used in the range of 0-180°.
- The piston rod adopts advanced protective measures to reduce wear and corrosion. It has double-layer dust seal. The oil chamber seal of the hydraulic system adopts double-layer seal ring, which greatly improves the service life.
- The connecting rod of Ed series thruster can rotate 360°.
- See attached table for additional devices.

DRIVING DEVICE 驱动装置

08

使用条件 Operating Condition

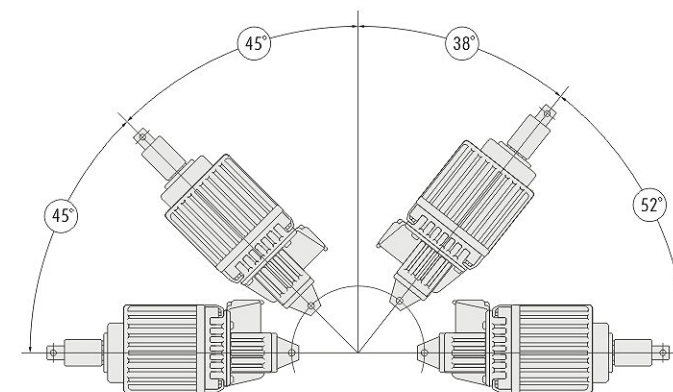
- 环境温度：-20℃~+50℃使用DB-25液压油，低于-20℃时用YH-10航空液压油，可不装加热器；用DB-25液压油，必须装加热器。
- 连续工作S1，断续工作S3-60%。
- 电压和频率：三相交流380V、50(60)Hz，我公司还可提供其它不同频率，不同电压的产品，需要时请协商订货。
- 三相交流异步电机，符合(GB755-2008)规定，性能详见技术参数。
- 绝缘等级：F级、电器防护等级：IP65。
- 电缆：导线截面最大可达4×2.5mm²。
- 高效防腐产品：用于空气中有腐蚀介质和相对湿度高，并由此可能生成凝水情况。电机采用真空注塑的定子，涂漆采用特殊防腐漆，系列产品均可提供防腐产品。用户需要可与公司联系。

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。（订货时请说明）
- 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。

SELECTION OF INSTALLATION MODE

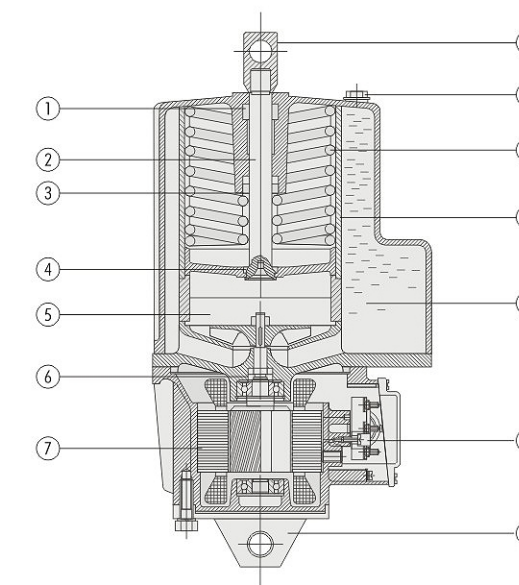
- Vertical installation: the piston rod connecting block faces upward.
- Horizontal installation and any position in the middle: the installation form is shown in the figure below.
- The push rods of all thrusters can rotate even if they are caked. The Ed50-Ed301 mounting base can rotate 90°, and the Ed23-Ed30 mounting base can also rotate 90°, but the mounting height dimension a is increased by 8mm. (please specify when ordering)
- No matter what installation position, the piston rod cannot bear radial force, so as not to affect the service life.



OPERATING CONDITION

- Ambient temperature: -20°C ~ +50°C, DB-25 hydraulic oil shall be used, YH-10 aviation hydraulic oil shall be used when it is lower than -20°C, and heater may not be installed; if DB-25 hydraulic oil is used, a heater must be installed.
- Continuous operation S1, intermittent operation S3-60%.
- Voltage and frequency: three-phase AC 380V, 50 (60) Hz. Our company can also provide other products with different frequencies and voltages. Please negotiate and order when necessary.
- The three-phase AC asynchronous motor complies with the provisions of (GB755-2008). See the technical parameters for the performance.
- Insulation grade: F, electrical protection grade: IP65.
- Cable: the maximum conductor section can reach 4x2.5mm².
- High efficiency anti-corrosion products: used when there is corrosive medium in the air and the relative humidity is high, which may generate condensate. The stator of the motor adopts vacuum injection molding, and the painting adopts special anti-corrosion paint. Anti corrosion products can be provided for a series of products. Users can contact the company if necessary.

推动器剖视图 Thruster Section View



- | | |
|-------------------------------|--|
| ① 双层防尘密封 Double dust cover | ⑧ 连杆 Connecting rod |
| ② 活塞杆 Piston rod | ⑨ 油塞 Oil plug |
| ③ 双层油腔密封 Oil cavity seal ring | ⑩ 制动弹簧(C-弹簧) Braking spring (C-spring) |
| ④ 活塞 Piston | ⑪ 液压缸 Hydraulic cylinder |
| ⑤ 液压泵 Hydraulic pump | ⑫ 气室 Balancing air house |
| ⑥ 电机轴密封 Motor shaft seal | ⑬ 接线盒 Terminal box |
| ⑦ 三相交流电动机 AC3 phase motor | ⑭ 安装底座 Mounting base |

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级延长，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，技术参数中所列的制动弹簧力值为上升行程的1/3（下降行程的2/3）时的弹簧力。
 - 复位弹簧：工作原理同C-弹簧，但复位的弹簧力较小。
 - 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，它代替连杆连接块装在活塞杆上，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，加热器分AC110V或AC220V两种电压（参数见下表），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，推动器可安装机械式行程开关或接近开关。

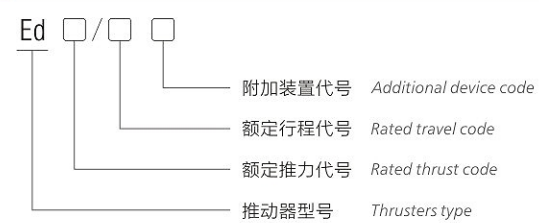
ADDITIONAL DEVICES

- Various additional devices can be installed according to the needs of users to meet different work needs.
- Ascending or descending valve: add ascending valve "H", descending valve "s" or ascending and descending valve "h, s" to continuously extend the ascending and descending time. The maximum adjustable value can reach 10-20 times the rated value. The valve is adjusted externally. For the pusher with valve (when the valve is fully open), its rise and fall time 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 braking force generated by it. The braking spring force listed in the technical parameters is the spring force when it is 1/3 of the rising stroke (2/3 of the falling stroke).
- Reset spring: the working principle is the same as that of C-spring, but the return spring force is small.
- Buffer spring: (d-spring) plus buffer spring (only applicable to short stroke thruster), which mainly regulates the braking process: the aperiodic transient process of buffer braking to make the braking stable. It replaces the connecting rod connecting block and is installed on the piston rod without changing the stroke of the thruster. Note: the pusher with d-spring cannot be equipped with travel switch, and must be used together with C-spring.
- Heater: in the area where the ambient temperature is lower than -20°C, the heater can be added according to the user's needs. The heater has two voltages of AC110V or AC220V (see the table below for parameters). It needs to be noted when ordering. The temperature control and adjustment method is selected by the user.
- Travel switch: the pusher can be equipped with mechanical travel switch or proximity switch according to the needs of users.

加热器参数值 Heater parameters

加热器型号 Heater type	推动器型号 Thrusters type						
	Ed 23	Ed 30	Ed 50	Ed 80	Ed 121	Ed 201	Ed 301
AC110V时功率 (W)							
AC220V时功率 (W)	220	220	350	350	350	350	350

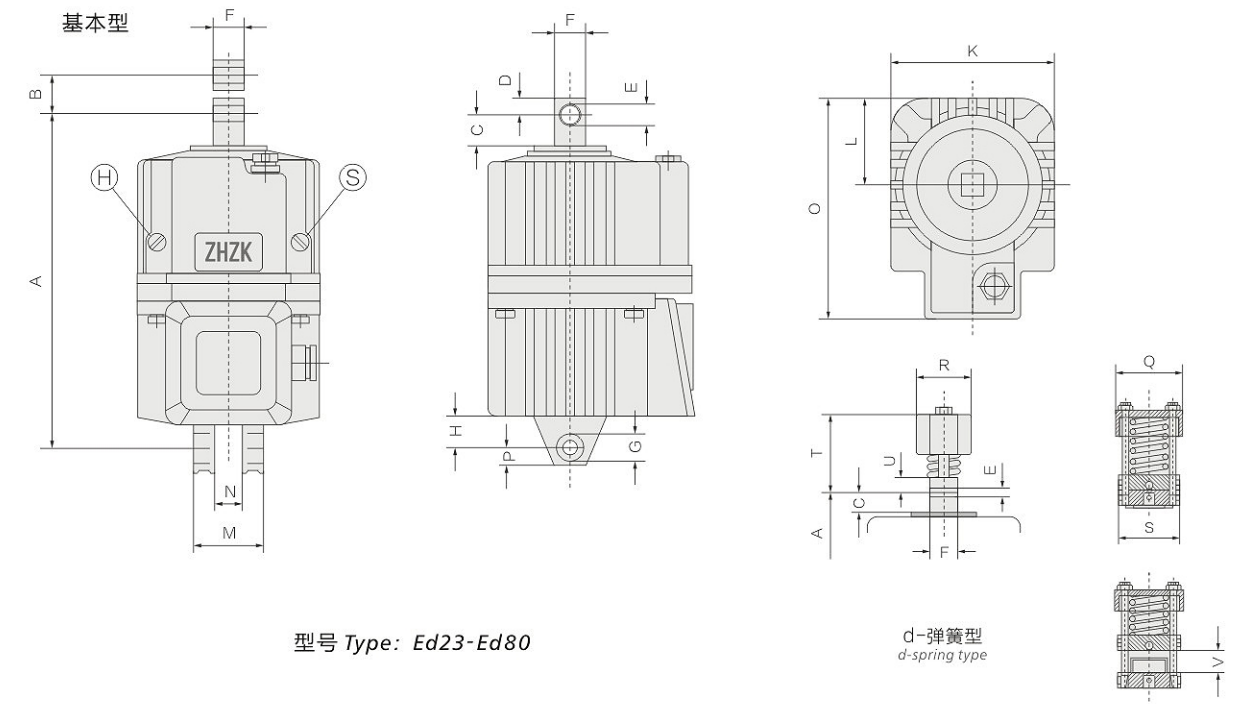
型号意义 Model Significance



推动器附加装置 Additional function table

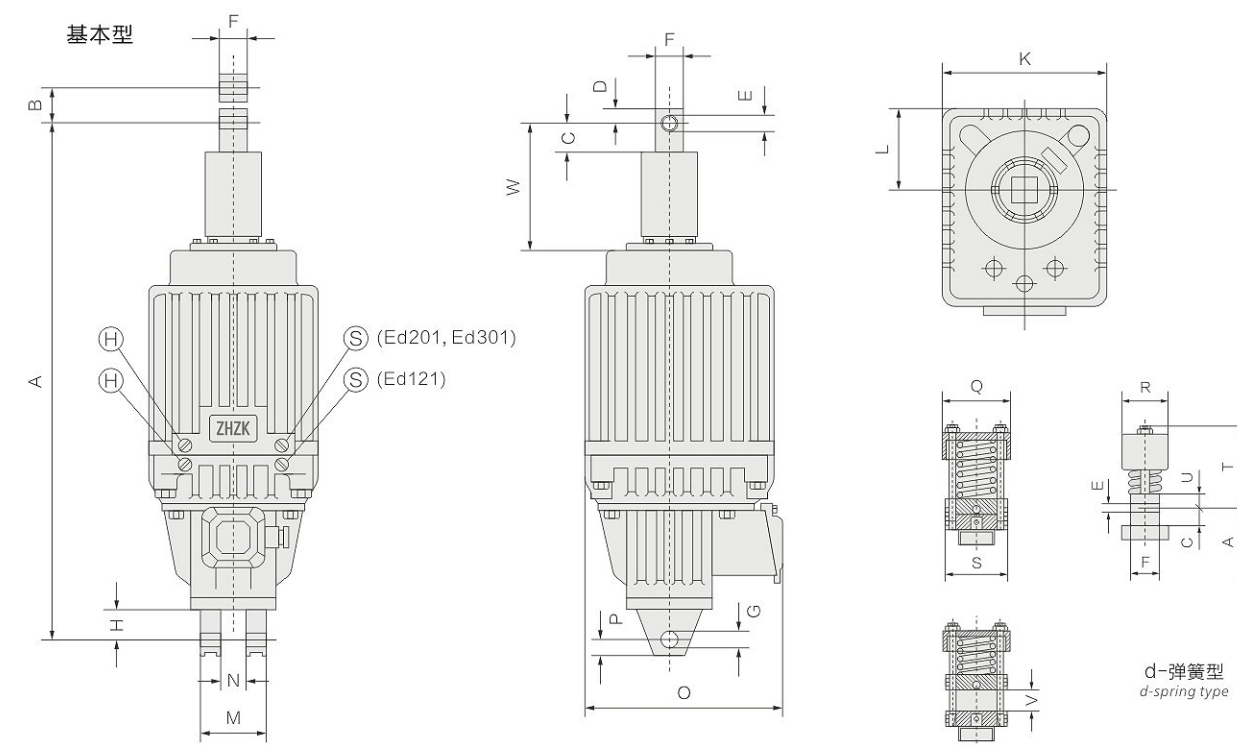
附加装置代号 Additional device code	表示意义 Model Significance
C	制动弹簧 Brake spring
W	复位弹簧 Reset spring
d	缓冲弹簧 Buffer spring
H	上升延时阀 Rise delay valve
S	下降延时阀 Descent delay valve
E1	上升机械式行程开关 Increased mechanical limit switch
E2	下降机械式行程开关 Decline mechanical limit switch
EB	感应式行程开关 Inductive limit switch
R	加热器 Heater
FT	推杆防尘套 Push rod dust boot

安装及外形尺寸 Outline and installation dimension



型号 Type: Ed23-Ed80

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技术参数 Technical data of Ed series electro-hydraulic thrusters

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 (ch)	重量 Weight (kg)
短行程推动器 Short-stroke propulsion system										
Ed 23/5	220	50	180	100	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	0.48	2000	21
Ed 70/5	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	-

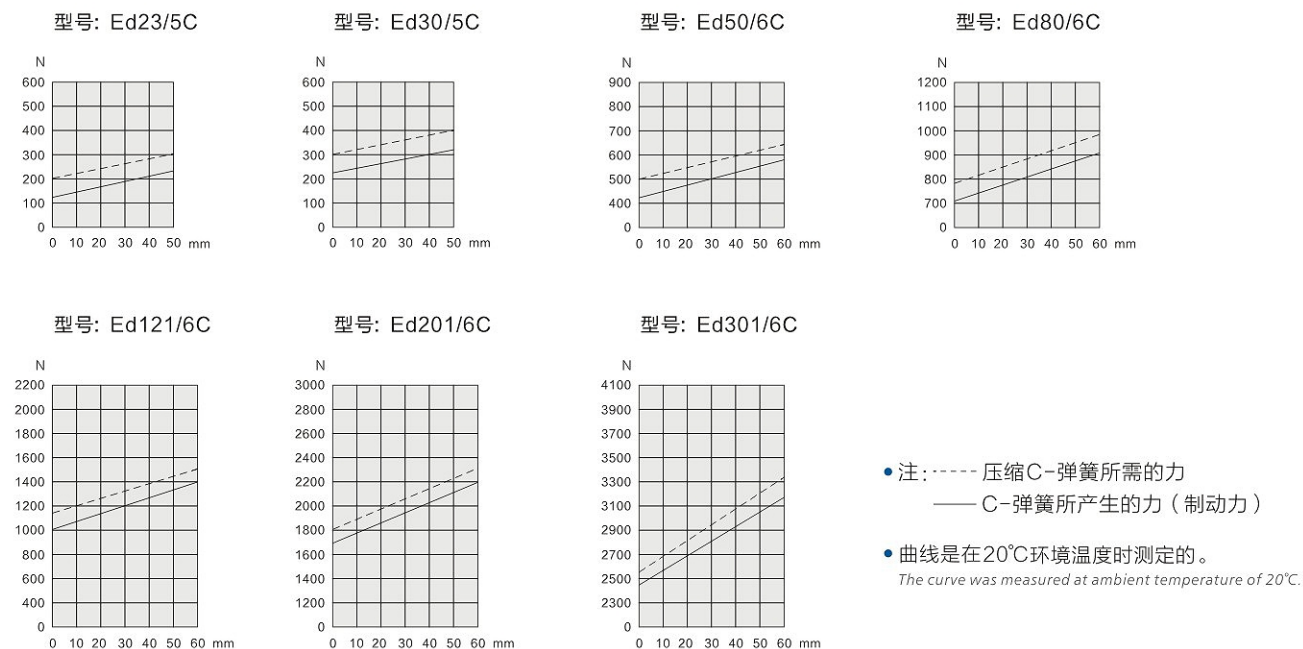
•注：推动器内置上表制动弹簧时，输出的推力为零。 Note: when the brake spring in the above table is built in the pusher, the output thrust is zero.
 •推动器内置上表复位弹簧时，输出的推力相应减小。 When the pusher is equipped with the return spring of the above table, the output thrust decreases accordingly.

Ed系列电力液压推动器外形尺寸 Dimensions of Ed series electro-hydraulic thrusters

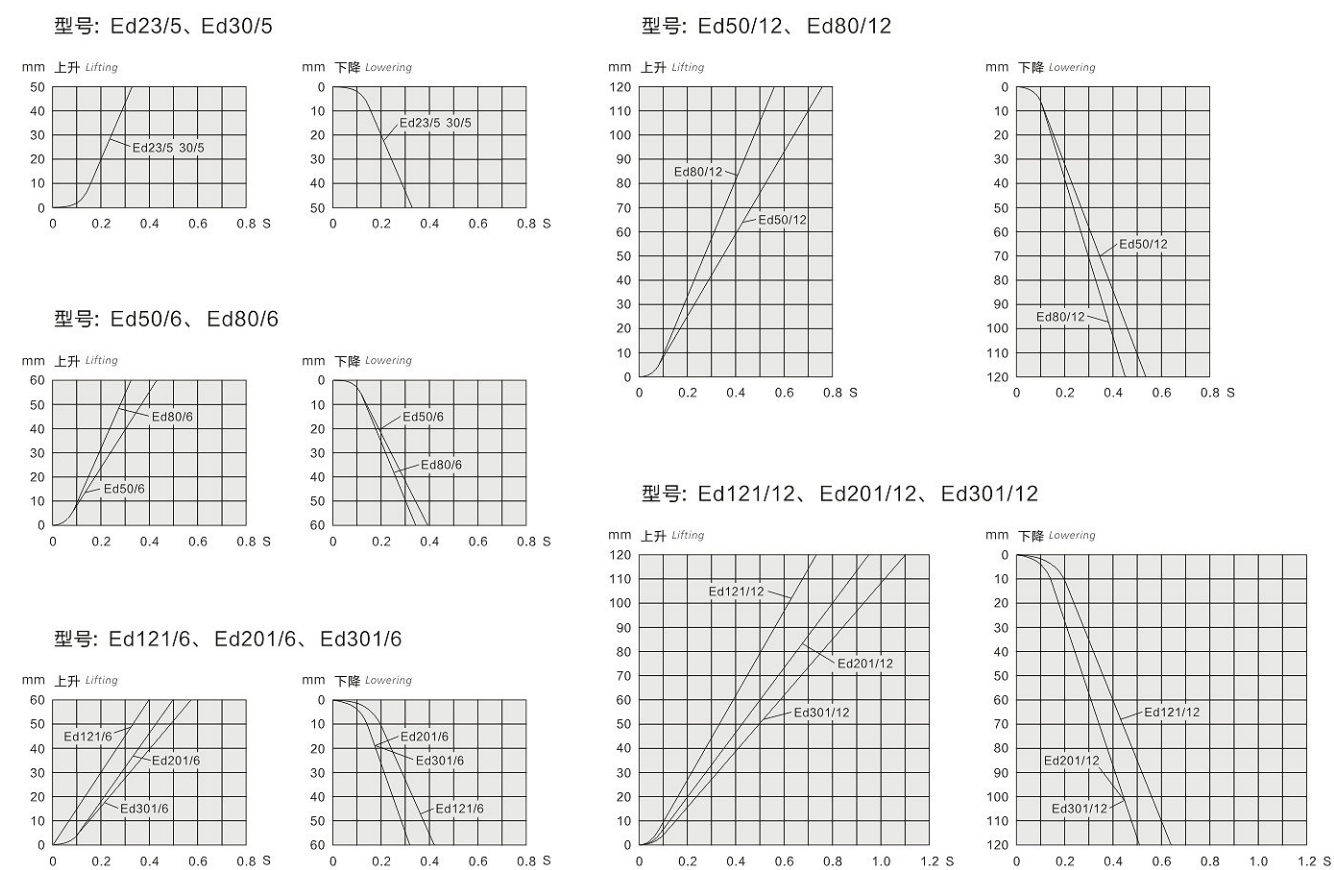
推动器型号 Thruster type	安装及外形尺寸 Dimensions (mm)																					
	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	R	S	T	U	V	W	
Ed 23/5	286 ^①	50	26	12	12	20	16	20	160	80	80	40	200	16	85	55	75	98	20	15	-	
Ed 30/5	370 ^②		34	15	16	25		18														197
Ed 40/4	377	40	41	15	16	30	16	18	160	80	80	40	197	16	-	-	-	-	-	-	-	-
Ed 50/6	435	60	36	18	20		20	23	190	95	120	60	254	22	85	55	75	100	22	15	-	
Ed 70/5	430	50	31	17	20	30	20	24	190	95	100	41	254	22	85	55	75	100	22	15	-	
Ed 80/6	450	60	36	18																		23
Ed 50/12	515	120	36	18	20	30	20	23	190	95	120	60	254	22	-	-	-	-	-	-	-	
Ed 80/12	530																					
Ed 121/6	645	60	38	25	25	40	25	35	240	112	90	40	260	25	130	80	120	147	35	20	130	
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 When rotated 90° A=294 ④ When rotated 90° 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.

C-弹簧曲线 C-Spring coil curve



行程时间曲线 Route of travel time curve



YT₁ Series electro-hydraulic thrusters

YT₁系列 电力液压推动器

YT₁ Series

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.

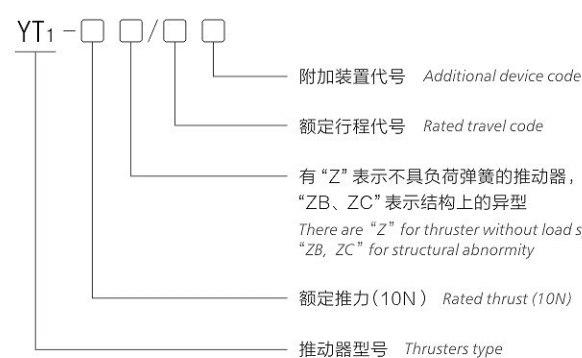
使用条件 Operating Condition

- 环境温度: -25°C ~ +40°C
- 电源电压: 交流380V、50Hz电源。
- 使用地点的空气相对湿度不大于90%。
- 推动器周围工作环境中不得有易燃、易爆及足以腐蚀金属及破坏绝缘的气体和导电尘埃。
- 使用地点的海拔高度符合GB755-2008标准。
- 户外雨雪侵蚀或有腐蚀性气体和介质应采用防腐型产品。

OPERATING CONDITION

- Ambient temperature: -25°C ~ +40°C
- Supply voltage: AC 380V, 50Hz power supply.
- The relative humidity of the air shall not be greater than 90%.
- The working environment around the pusher shall be free of flammable, explosive gas and conductive dust sufficient to corrode metal and damage insulation.
- The altitude of the place of use shall comply with GB755-2008 standard.
- Outdoor rain and snow erosion or corrosive gases and media, anti-corrosion products shall be used.

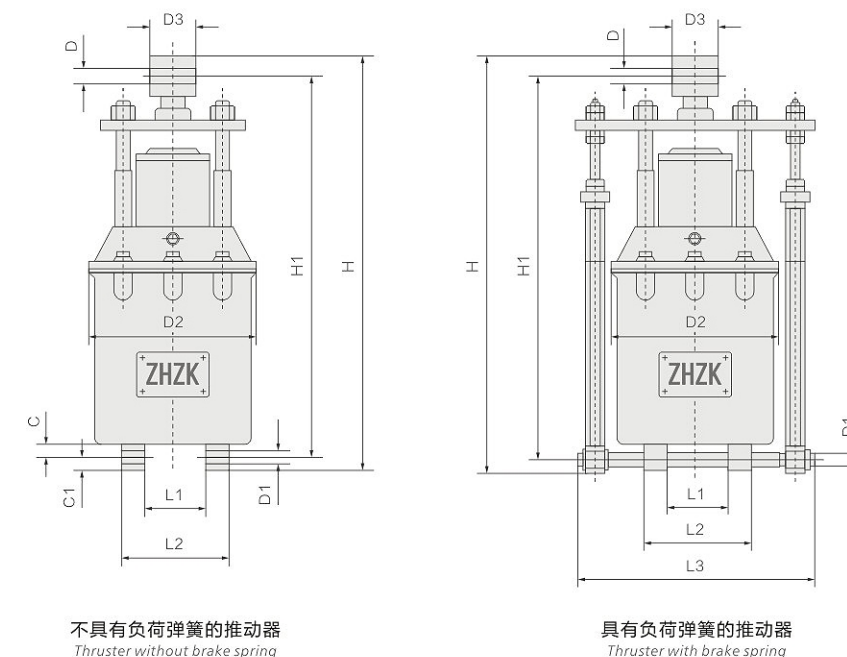
型号意义 Model Significance



推动器附加装置 Additional function table

附加装置代号 Additional device code	表示意义 Model Significance
E1	上升机械式行程开关 Increased mechanical limit switch
E2	下降机械式行程开关 Decline mechanical limit switch
EB	感应式行程开关 Inductive limit switch

安装及外形尺寸 Outline and installation dimension

不具有负荷弹簧的推动器
Thruster without brake spring具有负荷弹簧的推动器
Thruster with brake spring

- YT₁系列电力液压推动器的绝缘等级为B级，外壳防护等级为IP54。

The insulation grade of YT₁ series electric hydraulic thruster is grade B, and the protection grade of shell is IP54.

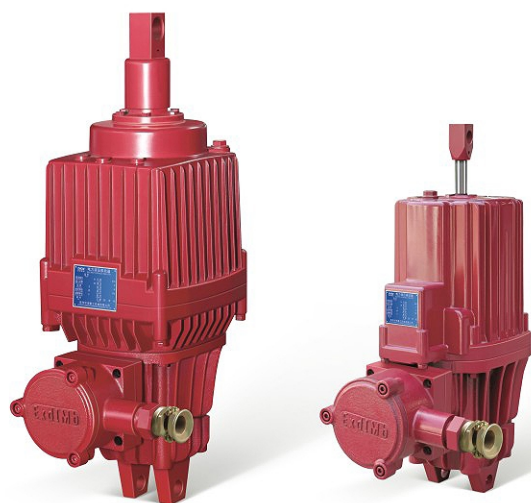
YT₁系列电力液压推动器技术参数及外形尺寸 Technical data and dimensions

推动器型号 Thruster type	额定推力 (kg)	额定行程 (mm)	电动机容量 (kw)	额定电压 (V)	额定电流 (A)	动作时间 (s)		频率 (c/h)	安装及外形尺寸 Dimensions (mm)										重量 Weight (kg)
						上升	下降		D	D1	D2	D3	H	H1	L1	L2	C	C1	
YT ₁ -18ZB/2	18	25	0.06	380	0.28	0.6	0.4	720	12	12	137	25	343	321	25	50	15	12	9
YT ₁ -25ZB/4	25	40	0.08	380	0.32	0.7	0.4	720	12	16	154	25	386	360	32	64	18	16	12
YT ₁ -25ZC/4													408	380					
YT ₁ -45Z/4	45	40	0.14	380	0.39	0.7	0.4	720	16	20	178	30	496	460	47	94	23	20	18
YT ₁ -45Z/5		50																	
YT ₁ -45Z/6		60																	
YT ₁ -90Z/6	90	60	0.25	380	0.62	0.8	0.5	720	20	25	210	40	600	555	60	120	30	25	28
YT ₁ -90Z/8		80																	
YT ₁ -125Z/10	125	100	0.4	380	0.98	0.75	0.6	720	25	25	254	50	745	695	40	90	30	25	52
YT ₁ -180Z/8	180	80	0.4	380	0.98	1	0.6	720	25	30	254	50	820	765	85	170	40	30	55
YT ₁ -180Z/10		100																	
YT ₁ -180Z/12		120																	
YT ₁ -320Z/12	320	120	1.5	380	3.4	0.9	0.9	720	35	35	375	55	877	815	100	190	44	35	125
YT ₁ -320Z/20		200				2.4	2						957	895					135

*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.

BEd Series explosion protected thrusters

BEd系列 隔爆型电力液压推动器



BEd Series

概述 Overview

- BEd系列隔爆型电力液压推动器，主要用途是作为电力液压鼓式制动器的驱动装置，也可通过杠杆机械完成往复、圆周、摆动等形式的快速运动，适用于起重、运输、冶金、矿山、港口、建筑等行业。
- 其隔爆性能符合GB3836.2-2010《爆炸性环境用防爆电气设备、隔爆型电气设备“d”》的规定，防爆标志为“ExdI Mb”、“Exd IIB T4 Gb”，分别用于煤矿井下及IIA、IIB（I类、A级II类、B级II类）温度组别为T1-T4可燃气体或蒸汽与空气形成的爆炸性混合物场所。“Ex tDA21 IP65 T130°C”用于21区、22区温度组别为T130°C可燃性粉尘形成爆炸性混合物的场所。

OVERVIEW

- BEd series flameproof electro-hydraulic thruster is mainly used as the driving device of electro-hydraulic drum brake. It can also complete the rapid movement in the form of reciprocating, circular and swing through lever machinery. It is suitable for hoisting, transportation, metallurgy, mining, port, construction and other industries.
- Its explosion-proof performance complies with gb3836.2-2010 explosion proof electrical equipment and explosion-proof electrical equipment “d” for explosive environment. The explosion-proof signs are “ExdI Mb” and “Exd IIB T4 Gb”, which are respectively used in underground coal mines and places where the temperature group of IIA and IIB (class I, class A, class II and class B II) is T1-T4 combustible gas or explosive mixture formed by steam and air. “Ex tDA21 IP65 T130°C” is used in zones 21 and 22 where combustible dust with temperature group of T130°C forms explosive mixture.

BEd系列隔爆型推动器技术参数 Technical data of BEd series explosion protected thrusters

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)	功率 Power (W)		额定电流 Rated current (A)	工作频率 Operating frequency (ch)	重量 Weight (kg)		动作时间 Action time (S)		额定电压 Rated voltage (V)
				dI	dIIB T4			dI	dIIB T4	dI	dIIB T4	
短行程推动器 Short-stroke propulsion system												
BEd30/5	300	50	270	200	200	0.46	1500	32	27	0.37	0.36	380
BEd50/6	500	60	460	330	330	1.2		47	37	0.62	0.61	
BEd80/6	800		750	330	330	1.42		48	38	0.5	0.49	
BEd121/6	1250	60	1200	365	365	1.44	1500	68	50	0.58	0.54	380
BEd201/6	2000		1900	450	450	1.45		68	50	0.57	0.46	
BEd301/6	3000		2700	550	550	1.46		70	50	0.74	0.44	
长行程推动器 Long-stroke propulsion system												
BEd50/12	500	120	—	330	330	1.2	900	57	40	1.02	0.72	380
BEd80/12	800		—	330	330	1.42		58	41	0.83	0.65	
BEd121/12	1250	120	—	365	365	1.44	900	68	50	0.99	0.81	380
BEd201/12	2000		—	450	450	1.45		68	50	1.10	0.65	
BEd301/12	3000		—	550	550	1.46		70	52	1.31	0.64	

• 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.

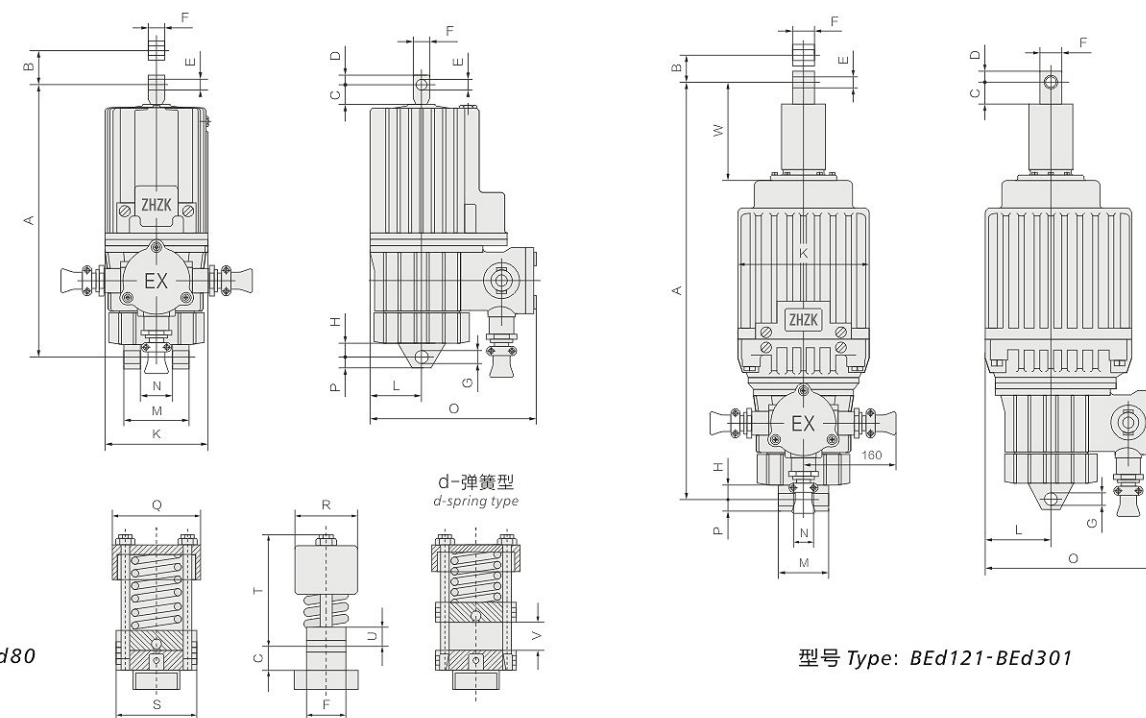
使用条件 Operating Condition

- 环境温度：-20°C ~ +40°C
- 海拔高度不超过1000m。
- 安装地点最湿月的月平均最大空气相对湿度不超过90%。同时该月的平均温度不低于25°C，允许由于温度变化发生在产品表面的凝露。
- 推动器周围环境的污染等级允许为3级。
- ExdI Mb电源为三相交流380V/660V、660V/1140V。
ExdIIB T4 Gb/ExtDA21 IP65 T130°C电源为三相交流380V/460V。

OPERATING CONDITION

- Ambient temperature: -20°C ~ +40°C
- The altitude shall not exceed 1000m.
- The relative humidity of the air at the installation site shall not be greater than 90%. The average temperature shall not be lower than 25°C, and the frost on the product surface due to temperature change is allowed.
- The pollution level of the surrounding environment is allowed to be level 3.
- Exd I Mb power supply is three-phase AC 380V/660V, 660V/1140V.
Exd IIB T4 Gb/ExtDA21 IP65 T130°C power supply is three-phase AC 380V/460V.

安装及外形尺寸 Outline and installation dimension



型号 Type:
BEd30-BEd80

型号 Type: BEd121-BEd301

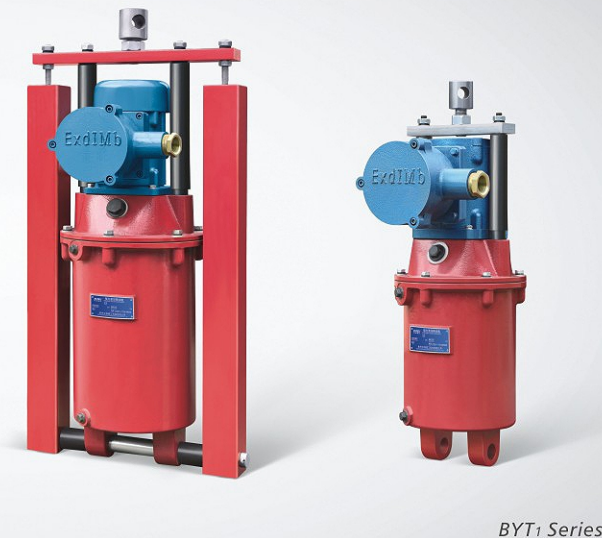
BEd系列隔爆型推动器外形尺寸 Dimensions of BEd series explosion protected thrusters

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	V	W
BEd30/5	410	50	34	15	16	25	16	18	160	80	80	40	335	16	85	55	75	98	20	15	—
BEd50/6	490	60	36	18	20	30	20	23	190	95	120	60	335	20	85	55	75	100	22	15	—
BEd80/6																					
BEd50/12	570	120	36	18	20	30	20	23	190	95	120	60	335	20	—	—	—	—	—	—	—
BEd80/12																					
BEd121/6	690	60	38	25	25	40	25	35	240	112	90	40	352	25	130	80	120	147	35	20	130
BEd201/6																					
BEd301/6																					
BEd121/12	750	120	38	25	25	40	25	35	240	112	90	40	352	25	—	—	—	—	—	—	190
BEd201/12																					
BEd301/12																					

• 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.

BYT₁ Series explosion protected thrusters

BYT₁系列 隔爆型电力液压推动器

BYT₁ Series

应用 Application

- BYT₁系列隔爆型电力液压推动器是一种集电机、离心泵、油缸为一体，结构非常紧凑的驱动控制装置，广泛应用于各种鼓式制动器和盘式制动器的驱动装置。

APPLICATION

- BYT₁ series explosion-proof electric hydraulic thruster is a very compact driving control device integrating motor, centrifugal pump and oil cylinder. It is widely used in the driving devices of various drum brakes and disc brakes.

符合标准 Standards Compliant

- 其隔爆型性能符合GB3836.1-2010《爆炸性环境第一部分：设备通用要求》、GB3836.2-2010《爆炸性环境第二部分：由隔爆外壳“d”保护的设备的规定，防爆标志为：ExdI。

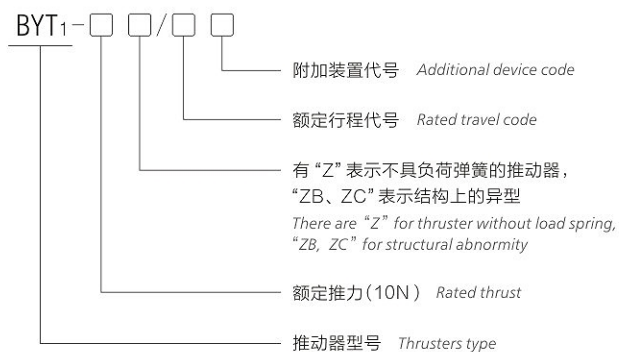
STANDARDS COMPLIANT

- Its flameproof performance complies with GB3836.1-2010 explosive atmospheres Part 1: General requirements for equipment and GB3836.2-2010 explosive atmospheres Part 2: equipment protected by flameproof enclosure "d". The explosion-proof mark is ExdI.

使用条件 Operating Condition

- 环境温度：-20℃~+40℃
- 海拔高度不超过1000m。
- 安装地点最湿月的月平均最大空气相对湿度不大于90%。同时该月的平均温度不低于25℃，允许由于温度变化发生在产品表面的凝露。
- 推动器周围环境的污染等级允许为3级。
- 使用地点的海拔高度应符合GB755-2008标准。
- 电源为三相交流127V、220V、380V、660V、1140V、50Hz(60Hz)。
- 有特殊要求时，在订货时协商确定。

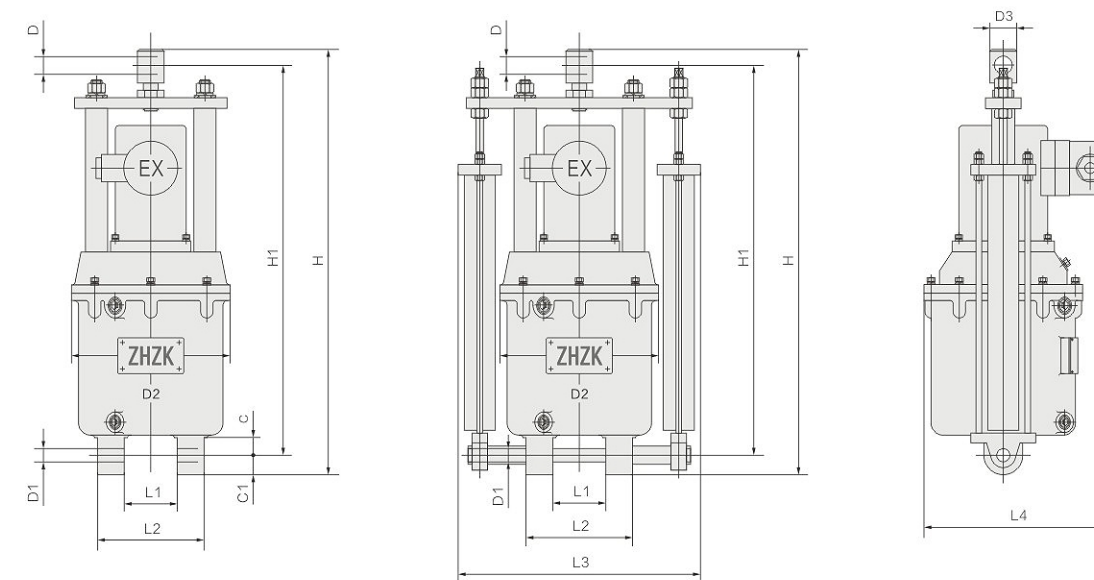
型号意义 Model Significance



OPERATING CONDITION

- Ambient temperature: -20℃~+40℃
- The altitude shall not exceed 1000m.
- The relative humidity of the air at the installation site shall not be greater than 90%. The average temperature shall not be lower than 25℃, and the frost on the product surface due to temperature change is allowed.
- The pollution level of the surrounding environment is allowed to be level 3.
- The altitude of the place of use shall comply with GB755-2008 standard.
- Voltages: three phase AC 127V, 220V, 380V, 660V, 1140V, 50Hz (60Hz).
- Special requirements can be discussed before production.

安装及外形尺寸 Outline and installation dimension

不具有负荷弹簧的推动器
Thruster without brake spring具有负荷弹簧的推动器
Thruster with brake spring

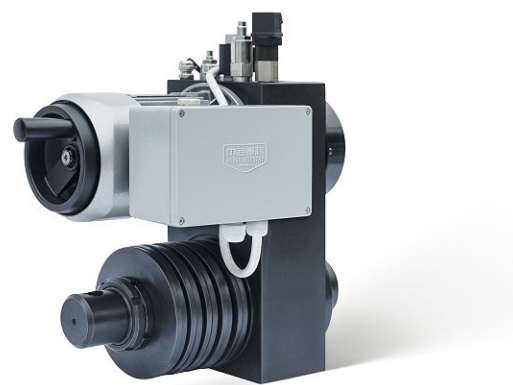
BYT₁系列隔爆型推动器技术参数及外形尺寸 Technical data and dimensions

推动器型号 Thruster type	额定 推力 (kg)	额定 行程 (mm)	电动机 容量 (kw)	额定 电压 (V)	额定 电流 (A)	动作时间 (s)		频率 (c/h)	安装及外形尺寸 Dimensions (mm)											重量 Weight (kg)
						上升	下降		D	D1	D2	D3	H	H1	L1	L2	L4	C	C1	
BYT ₁ -18ZB/2	18	25	0.06	380	0.28	0.6	0.4	720	12	12	137	25	343	321	25	50	229	15	12	9
BYT ₁ -25ZB/4	25	40	0.06	380	0.32	0.7	0.4	720	12	16	154	25	386	360	32	64	237	18	16	12
BYT ₁ -25ZC/4													408	380						
BYT ₁ -45Z/4	45	40	0.14	380	0.39	0.7	0.4	720	16	20	178	30	496	460	47	94	244	23	20	18
BYT ₁ -45Z/5		50																		
BYT ₁ -45Z/6		60																		
BYT ₁ -90Z/6	90	60	0.25	380	0.62	0.8	0.5	720	20	25	210	40	600	555	60	120	270	30	25	28
BYT ₁ -90Z/8		80																		
BYT ₁ -125Z/10	125	100	0.4	380	0.98	0.75	0.6	720	25	25	254	50	745	695	40	90	295	30	25	52
BYT ₁ -180Z/8	180	80	0.4	380	0.98	1	0.6	720	25	30	254	50	820	765	85	170	295	40	30	55
BYT ₁ -180Z/10		100																		
BYT ₁ -180Z/12		120																		
BYT ₁ -320Z/12	320	120	1.5	380	3.4	0.9	0.9	720	35	35	375	55	877	815	100	190	433	44	35	125
BYT ₁ -320Z/20		200				2.4	2						957	895						135

• 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.

DYG Series electro-hydraulic brake cylinder

DYG系列电液制动缸



DYG Series

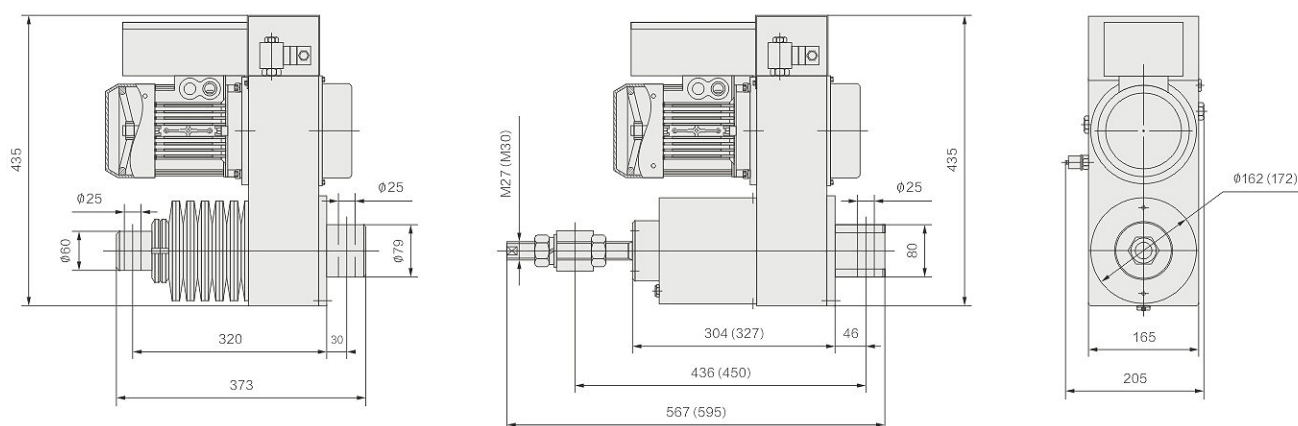
概述 Overview

- DYG系列电液制动缸主要用于电液安全制动器、电液轮边制动器、电液夹轨器的驱动与制动力输出。
- DYG系列电液制动缸将电气控制系统、液压系统、制动油缸集成化设计，减少了管路布置，提高了安装和维护效率。
- 具有体积小、重量轻、集成程度高等诸多优点。

OVERVIEW

- DYG series electro-hydraulic brake cylinder is mainly used for driving and braking force output of electro-hydraulic safety brake, electro-hydraulic wheel brake and electro-hydraulic rail clamp.
- DYG series electro-hydraulic brake cylinder integrates electrical control system, hydraulic system and brake cylinder, reduces pipeline layout and improves installation and maintenance efficiency.
- It has the advantages of small volume, light weight and high integration.

安装及外形尺寸 Outline and installation dimension



型号: DYG-ST

括号内为DYG-LZ63 (100) 尺寸

DYG-ST系列电液制动缸技术参数及外形尺寸 Technical data and dimensions

型号 Type	制动位置 碟簧力 (KN)	全行程 Full stroke (mm)	工作行程 Work stroke (mm)	回缩时间 Retraction time (S)	伸出时间 Extension time (S)	工作电源 Working power supply	电机功率 Motor power (W)	安装及外形尺寸 Dimensions (mm)								重量 Weight (kg)	
								L	L1	d	D	E	F	G	H		K
DYG-ST1	22	18	10	2-3	0.2s	3PH AC380V 50Hz	550	373	320	25	60	30	79	165	435	205	72
DYG-ST2	42.5							72									
DYG-ST3	80							73									

• 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.

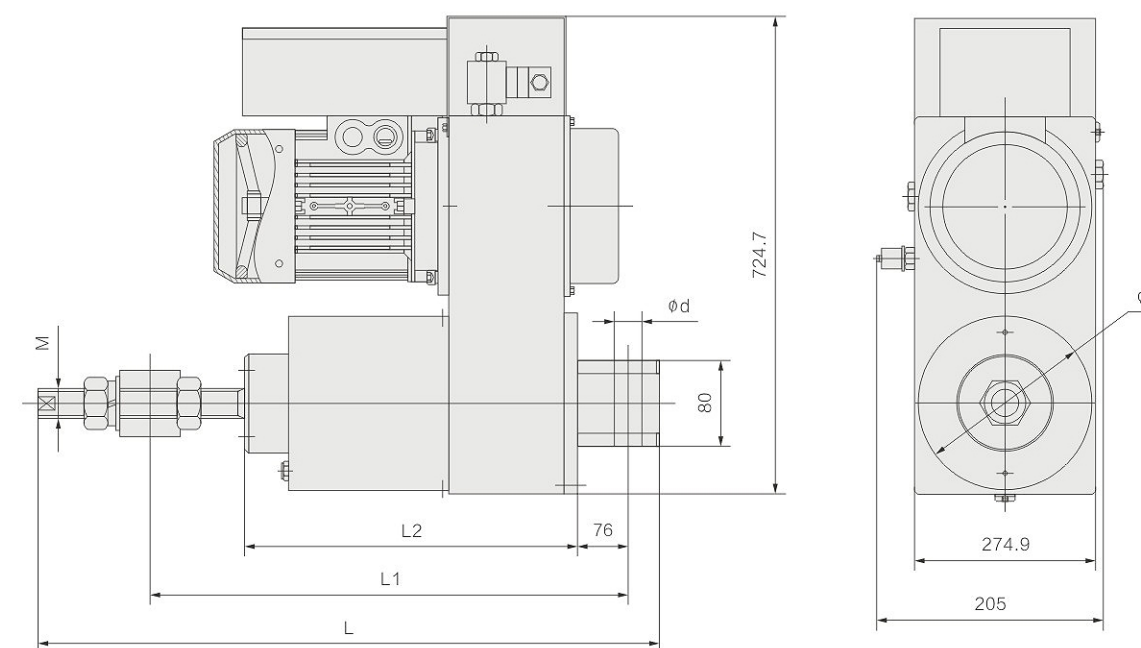
使用条件 Operating Condition

- 环境温度: $-20^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- 工作电源: 3PH AC380V、50Hz
- 使用地点的海拔高度应符合GB755-2008标准。
- 户外雨雪侵蚀或有腐蚀性气体和介质应采用防腐型产品。
- 有特殊要求时, 在订货时协商确定。

OPERATING CONDITION

- Ambient temperature: $-20^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- Working power supply: 3PH AC380V, 50Hz
- The altitude of the place of use shall comply with GB755-2008 standard.
- Outdoor rain and snow erosion or corrosive gases and media, anti-corrosion products shall be used.
- Special requirements can be discussed before production.

安装及外形尺寸 Outline and installation dimension



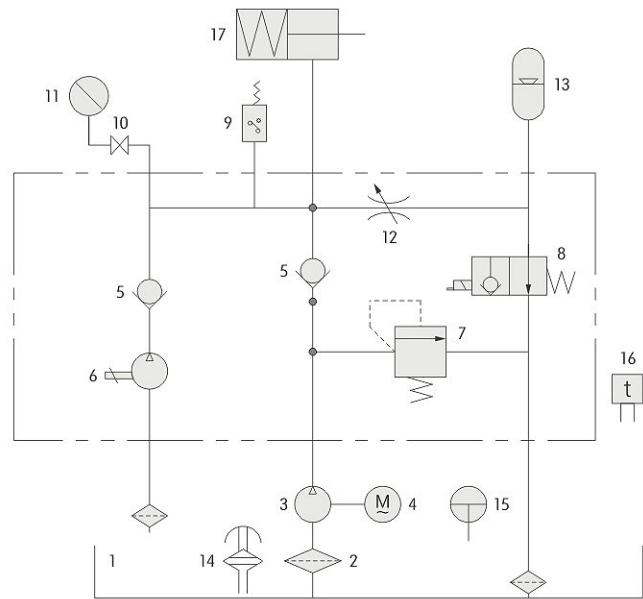
型号: DYG-LZ、DYG-SBD

DYG-LZ、DYG-SBD系列电液制动缸技术参数及外形尺寸 Technical data and dimensions

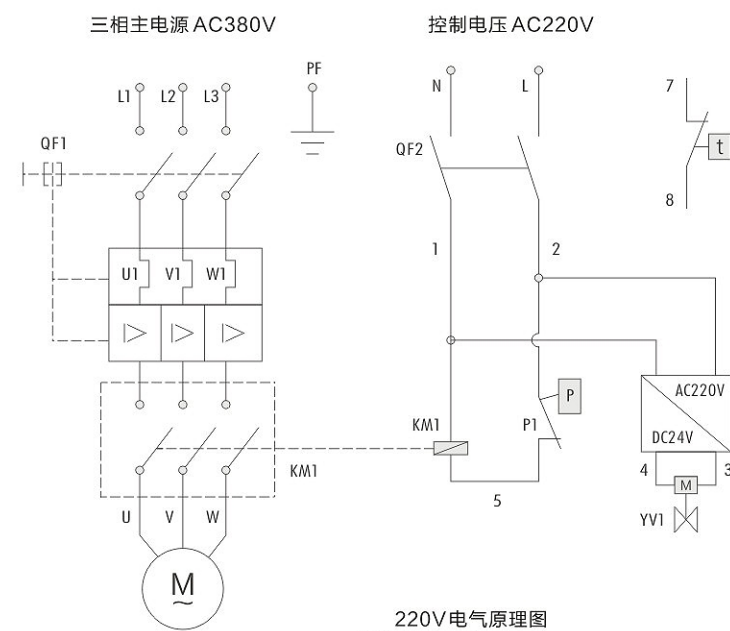
型号 Type	制动位置 碟簧力 (KN)	全行程 Full stroke (mm)	工作行程 Work stroke (mm)	回缩时间 Retraction time (S)	伸出时间 Extension time (S)	工作电源 Working power supply	电机功率 Motor power (W)	安装及外形尺寸 Dimensions (mm)						重量 Weight (kg)
								L	L1	L2	d	D	M	
DYG-LZ25	17	18	10	2-3	0.2-5s	3PH AC380V 50Hz	550	567	436	304	25	162	M27	76
DYG-LZ40	24													
DYG-LZ63	38													
DYG-LZ100	60													
DYG-SBD100	35	18	10	2-3	0.2s	3PH AC380V 50Hz	550	567	436	304	25	162	M42	80
DYG-SBD125	45							85						
DYG-SBD160	55							85						
DYG-SBD200	70							90						
DYG-SBD250	85							90						

• 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.

液压站液控图 Hydraulic control diagram of hydraulic station



液压站电控图 Electric control diagram of hydraulic station



220V电气原理图
220V electrical schematic diagram

线头号	PE	U	V	W	3	4	2	5	7	8	N	L	L1	L2	L3
端子号	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

序号 NO.	名称 Name
1	油箱 Fuel tank
2	吸油口滤油器 Suction port oil filter
3	油泵 Oil pump
4	电机 Motor
5	单向阀 Check valve
6	手动泵 Manual pump
7	溢流阀 Overflow valve
8	电磁换向阀 Solenoid directional valve
9	压力继电器 Pressure relays
10	压力表开关 Pressure gauge switch
11	压力表 Pressure gauge
12	可调节流阀 Adjustable retractor valve
13	蓄能器 Accumulator
14	空气滤清器 Air cleaner
15	液位计 Liquid level meter
16	温控开关 Temperature control switch
17	制动器 Brake

代号 Code	名称 Name
M	电机 Motor
QF1	电机保护器 Motor protector
QF2	断路器 Circuit breaker
P1	压力继电器 Pressure relays
KM1	接触器 Contactor
U1	开关电源 Switch power supply
YV1	电磁阀 Electromagnetic valve