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China Jiuquan Satellite Launch
Center's Supplier
中国酒泉卫星发射中心供应商

江苏兰菱机电科技有限公司
Jiangsu Lanmec Electromechanical Technology Co., Ltd



公司简介

兰菱科技 研发磁粉离合器、磁粉制动器、张力控制系统、测功系统源于1974年，系国内最早研究、设计并投入规模生产该类产品的单位之一。

公司现有职工100多名，其中技术人员30多名，并常年与复旦、同济、清华、北大等高校合作，开发各种相关产品。在产品设计上我们始终瞄准国外同行最先进的产品，引进、消化、吸收，开发出外形美观、性能可靠、经济耐用的同类产品，可以与进口产品相媲美。

公司于2006年通过ISO9001:2000质量体系认证，2014年被评为“国家高新技术企业”。磁粉离合器、磁粉制动器严格执行国家机械行业标准：JB/T5988-1992、JB/T5989-1992，并于2008年获得欧盟CE认证。

公司下设铸钢车间，从材料源头把握产品质量。所有精加工全部采用国外数控车床和加工中心加工，保证每一个零件都是精品。公司拥有0.5N.m-60000N.m各规格转矩转速功率测试台，做到每台出厂产品必检，确保了每台产品出厂的可靠性。

经过多年的不懈努力，工厂现占地30000平米、厂房15000多平米，固定资产近亿元，年产销近50000台套。产品质量、生产规模及产量稳居全国前列。

过硬的产品质量和健全的售后服务体系，为公司赢得国内外客户5000多家。多年来，公司还与航天、航空等军工单位合作开发了多种产品，是中国酒泉卫星发射中心的配套单位。

兰菱科技位于美丽的黄海之滨，沿海开发的新兴城市—江苏海安。我们热忱欢迎您光临本公司，为我们兰菱科技向更高目标发展多提宝贵意见！



Company Profile

Jiangsu Lanmec Electromechanical Technology Co., Ltd, which was founded in 1974; the main product families are magnetic powder clutch/brakes, tension controllers, torque testing system. In China it is one of the earliest corporations to R&D and industrialize these kinds of products for mass production.

Today hundreds of employees with around 30 engineers commit themselves to the company. Cooperating with famous universities, such as Fudan University, Tongji University, Tsinghua University and PEKING University, aiming at worldwide advanced technology, the corporation develops more reliable, durable and beautiful devices for customers.

For magnetic powder clutch/brakes families, the corporation strictly complies with China Administration of Machinery Industry Standard: JB/T5988-1992 and JB/T5989-1992. It acquired ISO9001:2000 certification in 2006 and EU CE certification in 2008. 2014 was rated as national high-tech enterprise.

To ensure high quality products, the corporation set up one cast steel workshop to control material composition at the beginning of manufacturing process; largely use the overseas digital-control lathes & CNC machining centers for process; at the end of process, all the products will have functional test by torque testing system (from 0.5 to 60000 N.m) to guarantee high reliability.

After year to year unremitting efforts, the corporation grows to land area of 30000 m² & workshops 15000 m², fixed assets value is nearly billion, and output nearly 50000 units/sets one year. Product quality, scale of production and output, are in the forefront of the country.

Excellent product quality and perfect after sales service system bring more than 5000 worldwide clients to us. After collaborate with and delivery many excellent products to China Aerospace & Aviation Military Corporation, the company is authorized as a supplier for China Jiuquan Satellite Launch Center.

Lanmec, reliable partner!

Lanmec locates in the beautiful coast of Yellow Sea in East China-Haian. Welcome to Lanmec! Sincerely looking forward to your valued suggestion and cooperation!



Enterprise Honors

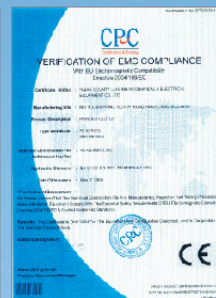
企业荣誉



兰菱科技 辩证地看到发展中所取得的成绩和各种荣誉，荣誉是名，业绩和能力是实。

荣誉既是功劳和贡献的象征，也是客户对我们业绩的认可和表彰，更是每一个兰菱人对质量、对服务做出的庄严承诺。

Lanmec Technology has dialectical view of development in the achievements and honors, honor is the name, performance and abilities are real. Honor also is a symbol of merit and contribution, even is recognized by the customers for our performance and recognition, that is a Solemn promise From every Lanmec people.



Workshop 生产现场

精工细作 Skilled and careful operation



台湾“台中”数控车床
Taiwan "Taichung" Numerical control workshop



日本“兄弟”、台湾“台中”加工中心
Japan "Brother"、Taiwan "Taichung" Machining center



兰菱测试，性能可靠
Lanmec test, reliable performance



兰菱铸钢，材质保证
Lanmec steel, material guarantee



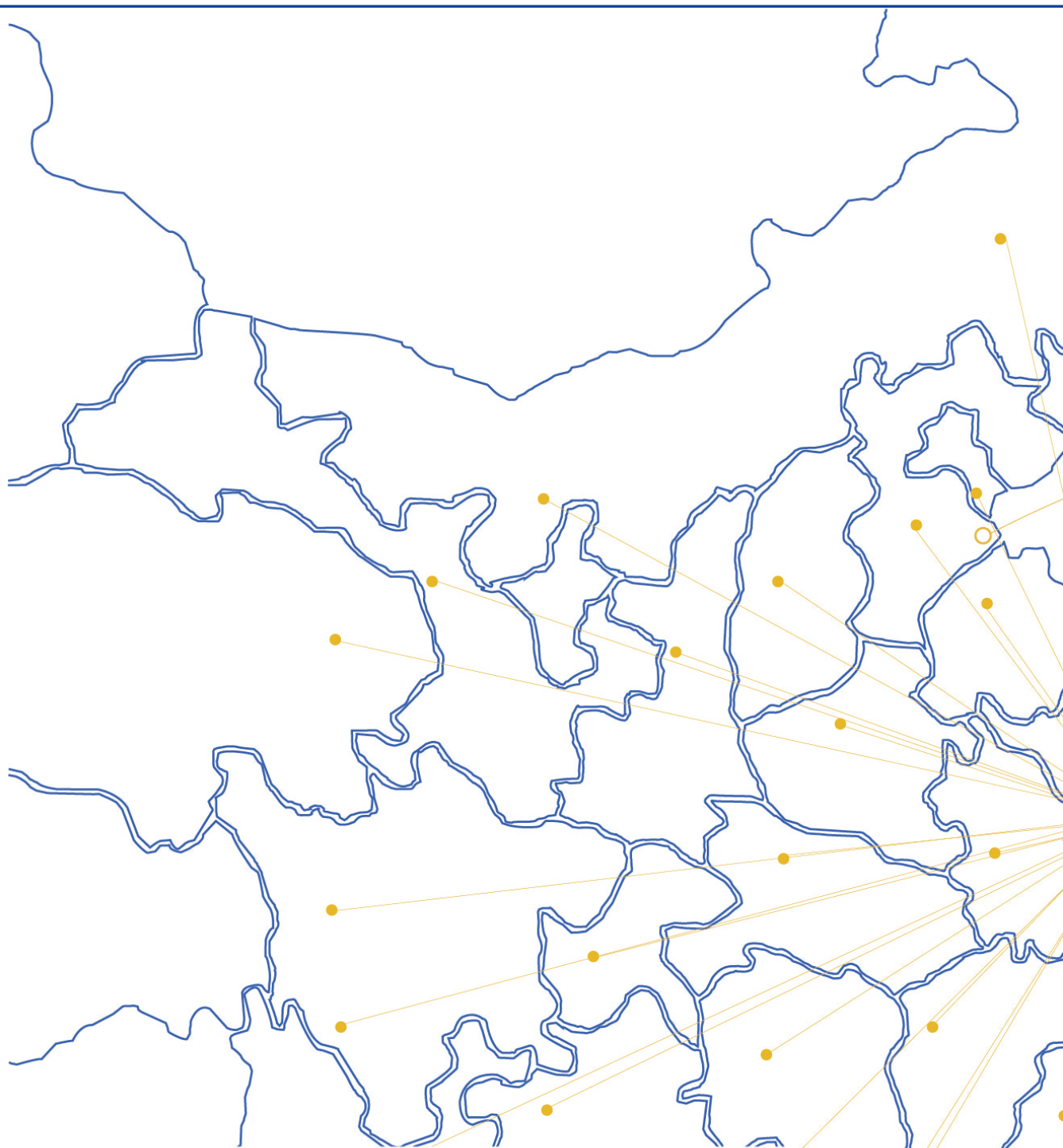
松下自动焊接
Panasonic automatic welding



兰菱物流，发货及时
Lanmec logistics, timely delivery

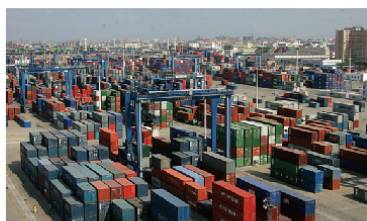
Sales network

营销网络



公司产品以优异的品质和良好的服务享誉国际市场，远销台湾、美国、意大利、德国、土耳其、印度、中东等20余个国家和地区。

Products with superior quality and good service reputating the international market.Exported to Taiwan, USA, Italy, Germany, Turkey,India,the Middle East and more than 20 countries and regions.





部分知名客户 Part of the famous customers



天津（售后服务） Tianjin(After-sale service)

地址：天津西青道/外环线交口
Add: The junction of xiqing road and outer ring,Tianjin
电话（Tel）：022-27737897
传真（Fax）：022-27736972

兰菱科技（总部） The headquarters of lanmec Technology

地址：江苏省海安县朝阳北路11号
Add: 11 ChaoYang Road(N),Haian ,Jiangsu,China
电话（Tel）：0513-88801222 88801555
传真（Fax）：0513-88802555
售后（After-sales）：0513-88802999

上海（办事处） Shanghai (Office)

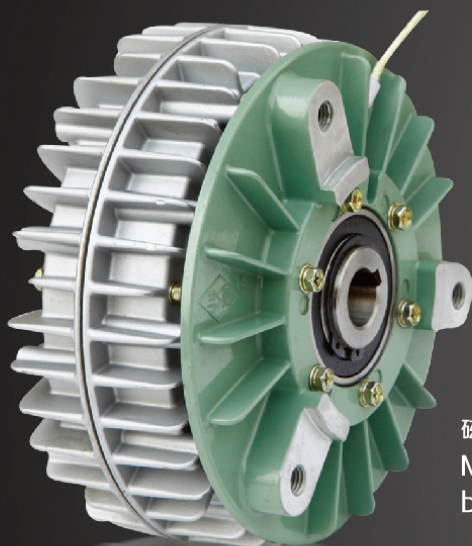
地址：上海市安远路728弄
Add: NO.728 Anyuan Road,Shanghai City
电话（Tel）：021-52992939
传真（Fax）：021-52992539

深圳（办事处） Shenzhen (Office)

地址：深圳市宝安大道4009号
Add: NO.4009 Baoan Avenue , Shenzhen city
电话（Tel）：0755-23029266
传真（Fax）：0755-23029566



Product Catalog 产品目录



磁粉制动器
Magnetic powder
brake

P22-29



磁粉离合器
Magnetic powder
clutch

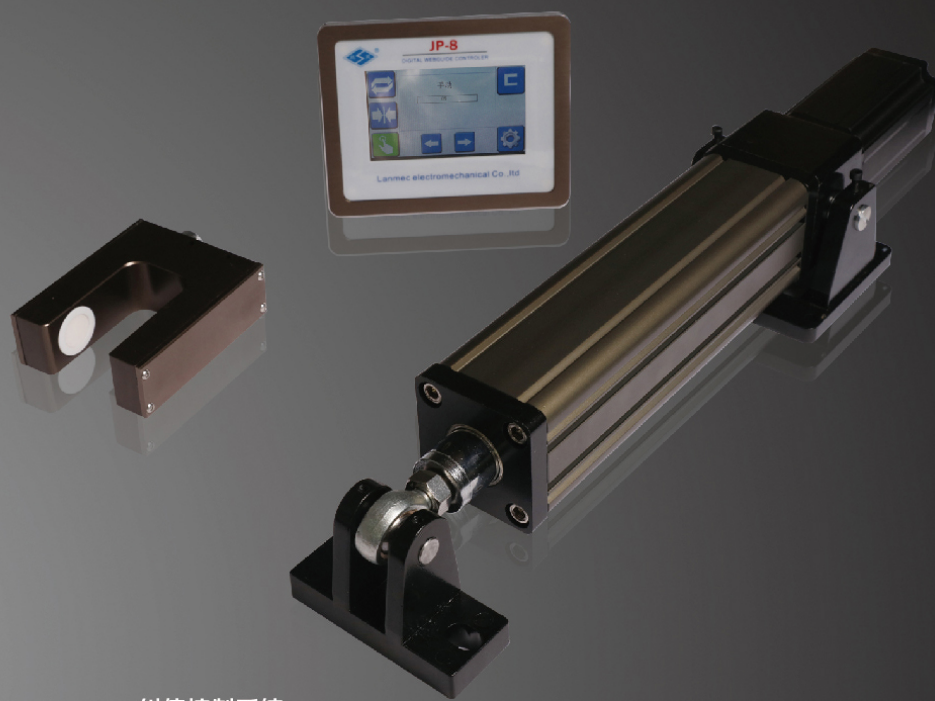
P15-21



张力控制系统
Tension control system

P30-41





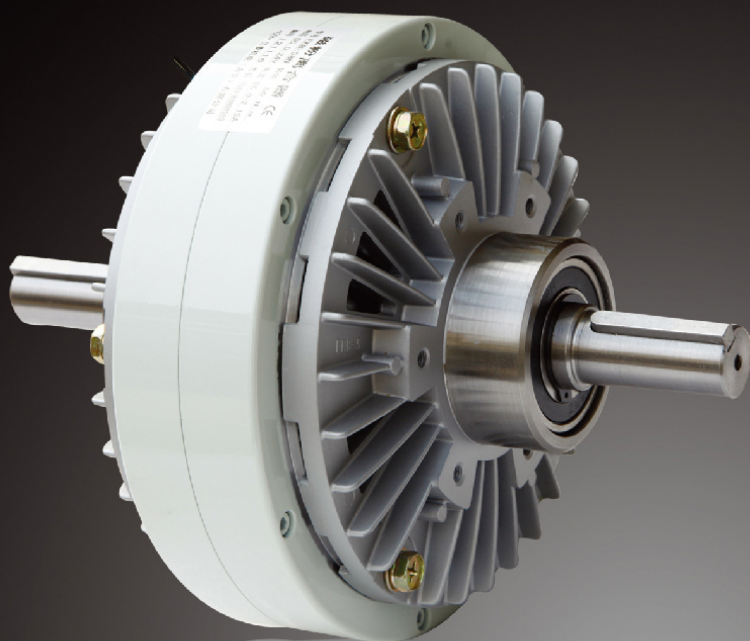
纠偏控制系统
Deviation control
system

P42-49



安全卡盘 / 气胀轴
Safety chucks / Air shaft

P50-68



Powder Clutch

磁粉离合器

- P15 FKG-AN 型(Series)
- P16 FKB-AN/BN 型(Series)
- P17 FL 型(Series)
- P18 FL-J 型(Series)
- P19 FL-K/F 型(Series)
- P20 FL-K 型(Series)
- P21 FL/Y 型(Series)
- P21 FL-K/Y 型(Series)

Powder Brake

磁粉制动器

- P22 FKG-YN 型(Series)
- P23 FKB-YN/XN 型(Series)
- P24 FZ 型(Series)
- P25 FZ-J 型(Series)
- P26 FZ-K 型(Series)
- P27 FZ-K/F 型(Series)
- P28 FX-YS 型(Series)
- P28 FX-YN/YH 型(Series)
- P29 FZ-AK 型(Series)



Powder Clutch / Brake

磁粉离合器/制动器简介



结构及工作原理

Structure and working principle

磁粉离合器是由主动转子（输入轴）、从动转子（输出轴）、含激磁线圈的磁轭组成，三部分相对同心装配，形成了一个可以相对转动的整体，在主动转子和从动转子之间的环形空隙（工作腔）内填有高导磁性的合金磁粉。

激磁线圈无电流通过时，工作腔中的磁粉呈松散状态。在主动转子所产生的离心力的作用下，磁粉被均匀地甩在主动转子的内壁上，主、从动转子之间无力的相互作用，磁粉离合器处于分离状态，没有转矩的传递。

激磁线圈有电流通过时，磁轭中产生工作磁通，工作腔中的磁粉沿磁通方向呈链状连接起来（形成磁粉链），磁粉离合器就是靠此时磁粉与磁粉、磁粉与工作面之间的摩擦力和磁粉链之间的抗剪力来传递转矩，磁粉离合器处于结合状态。（见图1）

切断电流时，磁通随激磁电流的消失而消失，磁粉在重力的作用下又重新处于松散状态，并在离心力的作用下，被甩在主动转子的内壁上，磁粉离合器又处于分离的状态。

磁粉制动器与磁粉离合器的原理相同，只要磁粉离合器的从动转子加以固定，就形成了磁粉制动器。（见图2）

The magnetic powder clutch is composed of active rotor(input shaft),driven rotor(output shaft) and Yoke with excitation coil. The three parts are assembled relative concentric and form a system which can rotate relatively. The annular gap between active rotor and driven rotor is full of alloy powder which has high magnetic conductivity.

The magnetic powder will be in the state of loose when the current do not pass the excitation coil.The magnetic powder will be thrown on the inner wall of active rotor .In this case,there will not exist the interaction force between the active and driven rotor.So the magnetic powder clutch is in the state of separation ,no torque transmission exits.

The magnetic powder in the working chamber will link in a link state under the action of the magnetic flux generated from the Yoke when the current pass the excitation coil. The magnetic powder clutch can transfer torque relying on the shear force generated from magnetic chain and the friction generated from the magnetic powder and working face.In this case,the magnetic powder clutch is in the state of combination.

When the current is cut off,the magnetic flux will disappear with the disappearance of the magnetizing current,the magnetic powder will be in the state of loose under the action of gravity again,and will be thrown on the inner wall of active rotor under the action of the centrifugal force.In this case, the magnetic powder clutch will be in the state of separation again

The magnetic powder clutch and brake have the same principle,the magnetic powder brake will form as long as the driven rotor of the magnetic powder clutch is fixed.

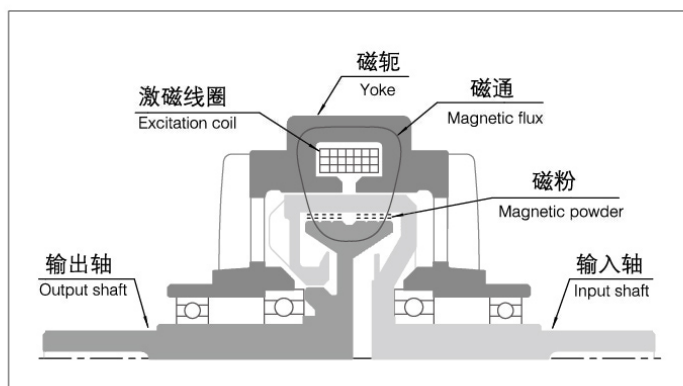


图1 磁粉离合器工作原理
chart 1 working principle of the magnetic powder clutch

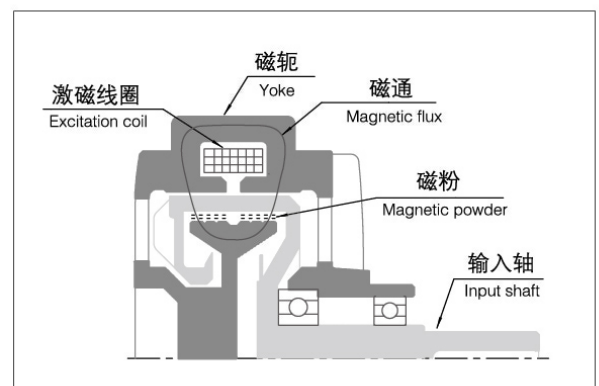


图2 磁粉制动器工作原理
chart 2 working principle of the magnetic powder brake

Powder Clutch / Brake C€

磁粉离合器/制动器简介

特性 Features

激磁电流与转矩呈线性关系 The magnetizing current has a linear relationship with torque

如图3所示，传递的转矩与激磁电流基本成线性关系。只要改变激磁电流的大小，便可在较大范围内控制转矩的大小。一般情况下，在5%–100%的额定转矩范围内，激磁电流与传递转矩基本成正比例线性关系。

As is shown in chart3,the transmission torque has a linear relationship with the magnetizing current.The size of the torque can get controlled within larger range.Under normal circumstance,the magnetizing current has a linear relationship with transitive torque within range of 5%–100% rated torque.

稳定的滑差转矩 Stable slip torque

当激磁电流保持不变时，其传递的转矩不受主动件与从动件之间的转速差（滑差转速）影响，如图4所示。也就是说，静摩擦转矩与动摩擦转矩无差别，因此可以稳定地实现转矩恒定。此特性应用于张力控制，用户只要调整激磁电流便能准确地控制转矩，从而有效地控制卷料的张力。

The slip rotational speed between driven rotor and active rotor do not affect the transitive torque when the magnetizing current retain unchanged,as shown in chart 4.That is to say,the static friction torque and the dynamic friction torque have no difference.Therefore,the torque can retain constant stably.The features are applied to tension control,users can control the tension of the roll material effectively as long as adjust the magnetizing current accurately.

防止由于滑差所致的发热现象 Prevention heat phenomenon from slip

通常连续滑动时摩擦部分免不了会发热，甚至烧毁。但是本设备具备完备的散热装置，长时间运转也不会过于发热，而且使用寿命长。

The friction part will generate heat inevitably or even destroyed when it keep continuous sliding.But this device has a complete cooling set,it will not generate a lot of heat after long time running and it has a long service life.

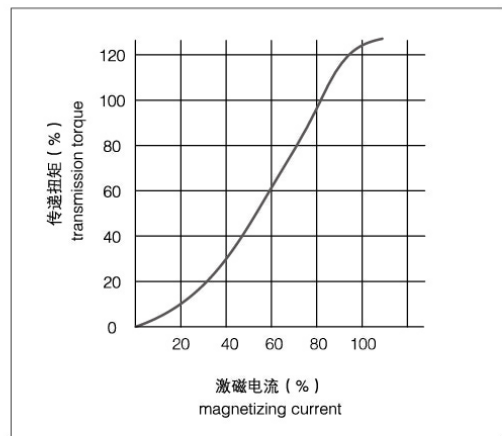


图3 激磁电流与传递转矩之关系
chart 3 The relationship of the magnetizing current and the transmission torque

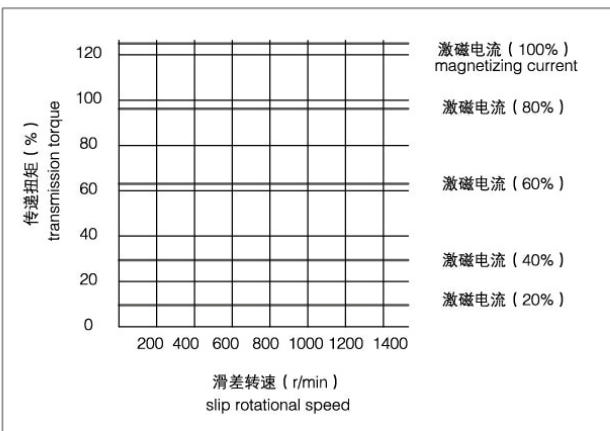
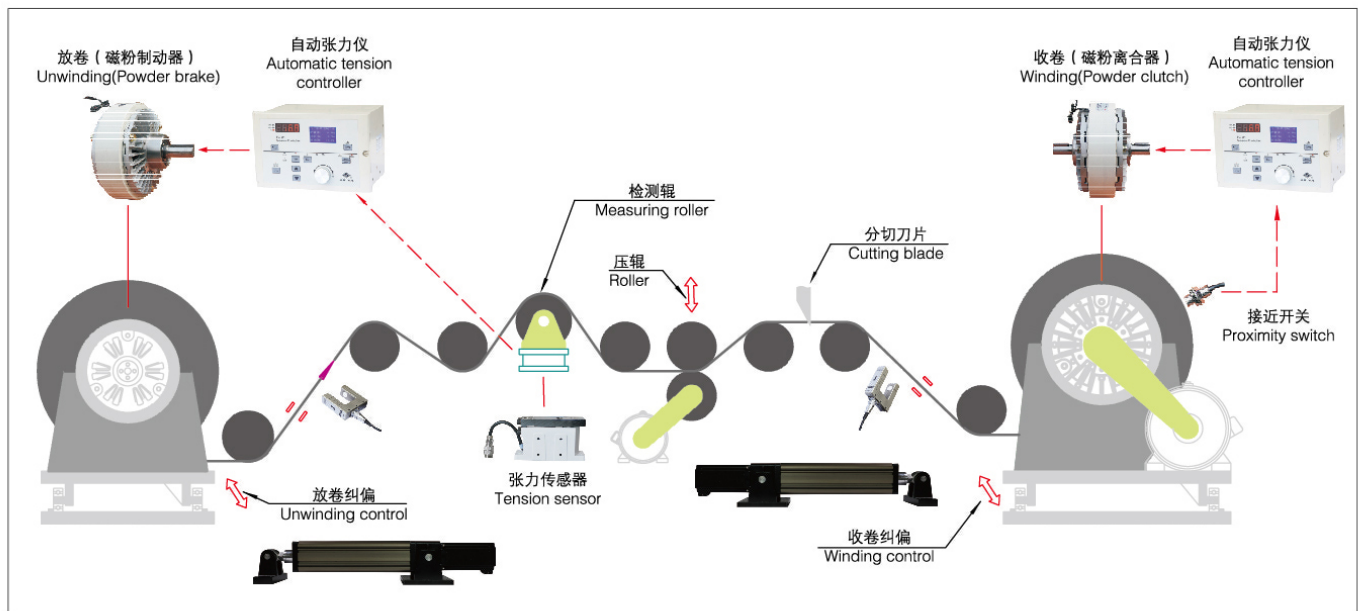


图4 滑差转速与传递转矩之关系
chart 4 The relationship of the slip rotational speed and the transmission torque

应用范围 Application

由于磁粉离合器/制动器具有以上特性，现已广泛应用于造纸、印刷、塑料、橡胶、纺织、印染、电线电缆、冶金以及其他相关卷取加工行业中收卷和放卷张力的控制。下面是一套较为完整的张力控制系统示意图。

Due to the features of the magnetic powder clutch and brake, they have been widely used in paper making, printing, plastic items, rubber industry, textile industry, printing and dyeing, wire and cable, metallurgy industry and tension control of winding and unwinding in roll material processing industry. A complete set of schematic of tension control system is as follows.



另外：磁粉离合器还可以用于缓冲启动、过载保护、调速等；磁粉制动器还可以用于传动机械的测试加载、制动等。

Moreover, the magnetic powder clutch can be also used in buffering start, overload protection, speed adjustment; the magnetic powder brake can also be used in test loading and braking of the transmission machinery.

设计参考 Design reference

首先，我们解释一下两个名词：

First, let us learn the meaning of the following words:

- 1、滑差转速：磁粉离合器为输入轴与输出轴之间的转速差，磁粉制动器为输入轴的转速；
- 2、滑差功率：磁粉离合器/制动器在传递转矩时，因为有滑差转速而产生的功率。

1. slip rotational speed: the speed difference between input shaft and output shaft is magnetic powder clutch, the rotational speed of output shaft for magnetic powder brake.

2. slip power: the power generated from the slip rotational speed when the magnetic powder clutch or brake transfer torque.

磁粉离合器/制动器的选型一般以其所需的最大转矩、转速为依据来定。但同时也要保证其实际工作的滑差功率小于额定值，因为滑差功率会转化成热量造成各部位零件的温度上升。具体计算公式如下：

The selection of the magnetic powder clutch or brake rely on the maximum required torque and rotational speed. Because the temperature of all parts will rise when the slip power is converted into heat, it is guaranteed that the actual slip power is less than the rated value.

Powder Clutch / Brake C€

磁粉离合器/制动器简介

$$P = \frac{2\pi}{60} \times M \times n = F \times V \quad (\text{unit:w})$$

式中 in this formula :

P-滑差功率 slip power (unit:w)

M-工作转矩 working torque (unit:N.m)

n-滑差转速 slip rotational speed (unit:r/min)

F-工作张力 working tension (unit:N)

V-线速度 line speed (unit:m/s)

举例：FZ100/Y双水冷却磁粉制动器，滑差功率为7000W，额定转矩为100N.m，许用转速为 1500 r/min。

Example: FZ100/Y double water cooling magnetic powder brake, the slip power is 7000W, the rated torque is 100 N.m, the allowed rotational speed is 1500 r/min.

当其在额定转矩工作时，允许的最高转速为：

When it works at the rated torque, the allowed highest rotational speed is:

$$n = \frac{60 \times P}{2\pi \times M} = \frac{9.55 \times P}{M} = \frac{9.55 \times 7000}{100} = 668.8 \quad (\text{r/min})$$

当其在最高滑差转速工作时，允许的最大转矩为：

When it works at the highest slip rotational speed, the allowed highest torque is:

$$M = \frac{60 \times P}{2\pi \times n} = \frac{9.55 \times P}{n} = \frac{9.55 \times 7000}{1500} = 44.6 \quad (\text{N.m})$$

注意事项 Notes

不得超载、冷却到位

Don't overload, meanwhile cool to appropriate temperature

磁粉离合器/制动器在工作时，其转矩、转速、滑差功率均不得超过额定值。冷却方式（自然冷却、强制气冷却、水冷却）需根据实际工作时产生的最大滑差功率而定。冷却空气需过滤油和水。有条件，可加装温度检测、报警装置，防止温度过高，影响磁粉的使用寿命。（最高温度80℃）

The value of the torque/rotational speed/slip power should be less than the rated value. The cooling mode (natural cooling/forced air cooling/water cooling) should depend on the maximum slip power when it works and the cooling air should filter the water and oil. The temperature detector and the alarm device should be installed to prevent high temperature which can affect the service life of the magnetic powder. (the highest temperature is 80℃)

关于寿命 Concerning the service life

磁粉离合器/制动器的使用寿命在于磁粉的使用寿命。一般而言，磁粉在不超载的状态下，其使用寿命为4500-7500小时；但在有些状态下其使用寿命可延长数倍，如：降低磁粉离合器/制动器的工作转矩、相对滑差转速和滑差功率到额定值的50%-70%。也就是说，在设计时，余量尽可能放大一些。

The life of the magnetic powder clutch and brake rely on the life of the magnetic powder. Generally speaking, its service life is 4500-7500 hours in the state of non overloaded; But its service life can extend several times in some cases, such as: the working torque of the magnetic powder clutch/brake, relative slip rotational speed and slip power can be reduced to 50%-70% of the rated value. That is to say, the margin can be enlarged as soon as possible when designing.

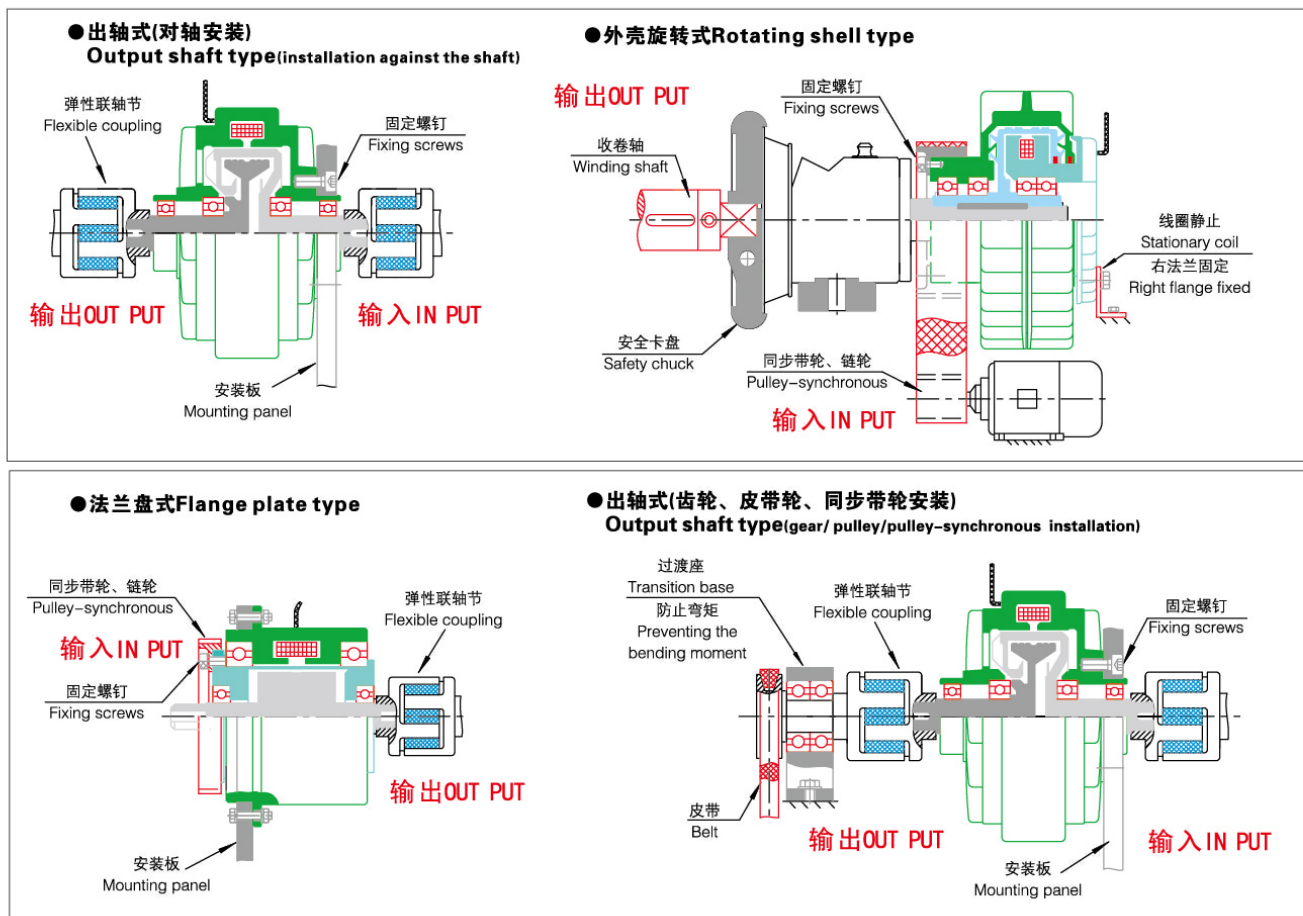
关于转矩 Concerning the torque

磁粉离合器/制动器出厂使用后，其磁粉在早期使用过程中会发生磨合，转矩会略有下降，可通过调整电流来加以补偿。

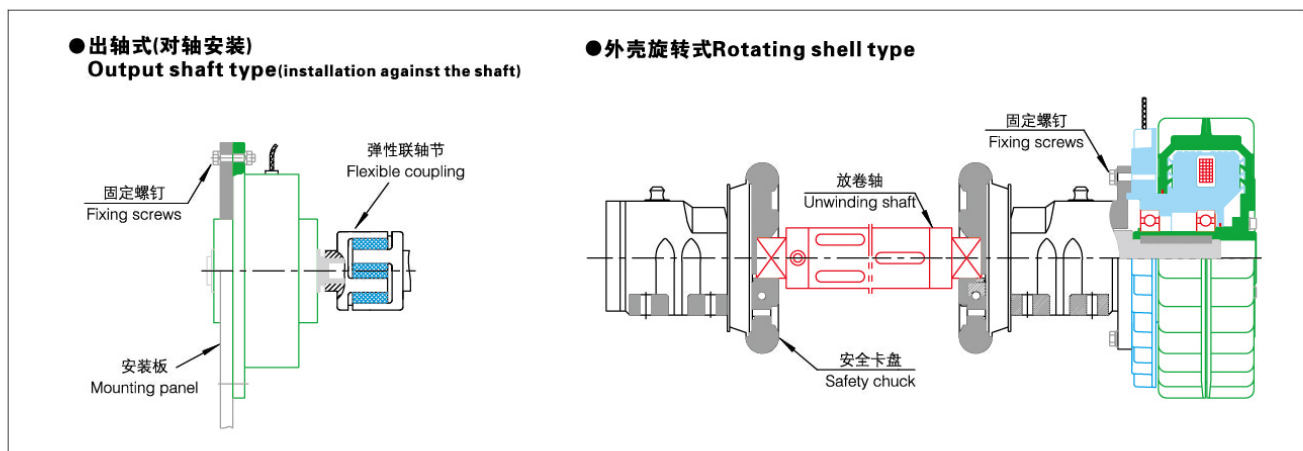
After the magnetic powder clutch and brake working, the magnetic powder will be in grinding at the beginning which lead to the torque decreasing slightly, but the gap can be compensated through adjustment the current.

安装示例 Installation example

磁粉离合器 Powder clutch



磁粉制动器 Powder brake

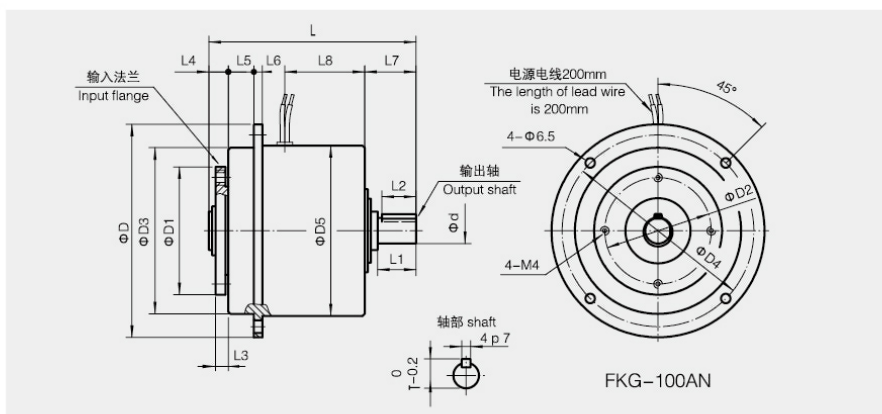
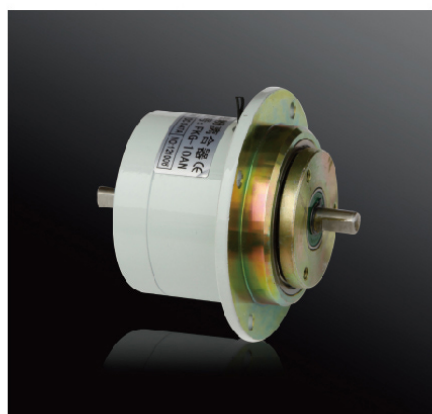
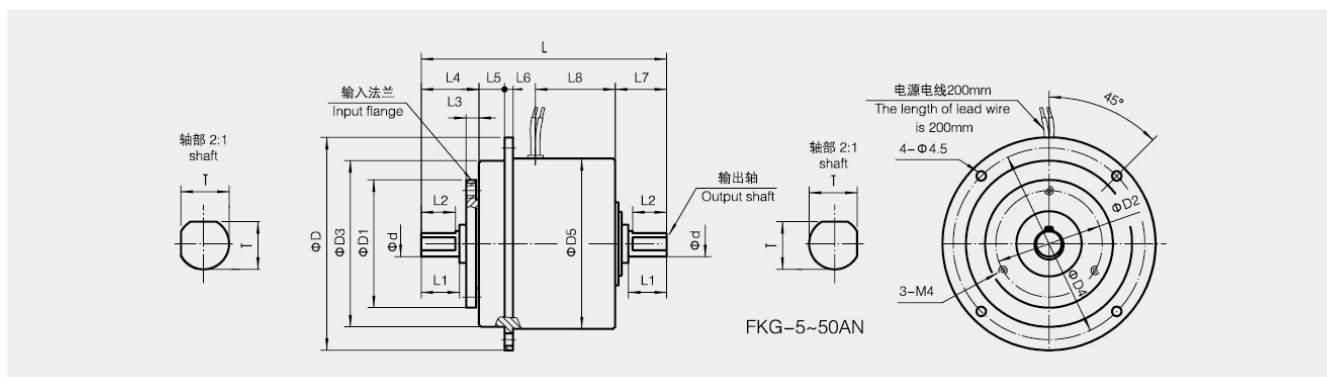


Powder clutch C€

磁粉离合器

1、FKG-AN型（法兰盘输入、轴输出、止口支撑）微型磁粉离合器

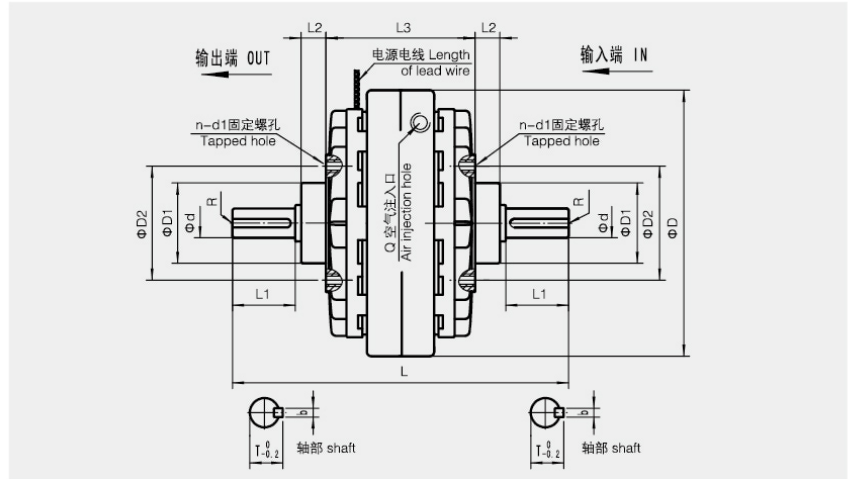
FKG-AN micro magnetic powder clutch(flange input / shaft output / center ring install)



型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC24V (75℃) Excitation coil			许用转速 (r/min) Allowable rotational speed	飞轮距J (kg cm ²) Flywheel moment		滑差 功率 (W) Slip power	重量 (Kg) Weight
		电流 (A) Current	功率 (W) Power	响应时间 (S) Response time		输入轴 Input shaft	输出轴 Output shaft		
FKG-5AN	0.5	0.35	8.4	0.02	1800	0.21	0.018	18	0.68
FKG-10AN	1	0.47	11.3	0.03	1800	0.35	0.046	20	0.88
FKG-20AN	2	0.55	13	0.06	1800	0.68	0.10	30	1.28
FKG-50AN	5	0.8	19	0.06	1800	1.85	0.4	40	2.3
FKG-100AN	10	1.0	24	0.09	1800	5.3	1.1	50	4.1

型号 Model	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size				法兰盘联结尺寸 Flange coupling size			止口支撑尺寸 The size of center ring					其余尺寸 Other size		
	D	L	d (g6)	T	L1	L2	D1 (g7)	D2	螺线深度 L3 Thread depth	D3 (h7)	D4	L4	L5	L6	D5	L7	L8
FKG-5AN	70	77	5	4.5	10.5	9	40	30	5.5	48	60	16.5	8.5	4	50	13.5	28.5
FKG-10AN	76	83	7	6.5	12	10	42	34	5.5	54	66	18.5	8.5	4	56	16	29.5
FKG-20AN	85	95	9	8.5	15	13	48	40	6.5	63	75	22.5	9.5	4	65	19.5	34
FKG-50AN	100	111	12	11.5	18	16	60	50	6	78	90	25	12	4	80	22	37.5
FKG-100AN	128	113	15	16.5	24	20	80	70	7	98	114	10	15	5	98	29	46

2、FKB-AN、BN型（轴输入、轴输出、止口支撑）磁粉离合器 FKB-AN / BN magnetic powder clutch (shaft input / shaft output / center ring install)



额定电压 (Rated Voltage) DC24V

型号 Model	额定 转矩 (N.m) Rated torque	电流 (A) 75℃ Current	许用转速 (r/min) Allowable rotational speed	飞轮距J (kg m ²) Flywheel moment		滑差功率 (W) Slip power		风量 (m ³ /min) Air quantity	重量 (Kg) Weight
				输入轴 Input shaft	输出轴 Output shaft	自冷 Self cooling	气冷 Air cooling		
FKB-0.06AN	0.6	0.46	1800	6.10×10^{-5}	6.60×10^{-6}	20	38	0.1	1.8
FKB-0.3AN	3	0.53	1800	3.00×10^{-4}	8.00×10^{-5}	50	80	0.1	3.3
FKB-0.6BN	6	0.81	1800	6.00×10^{-4}	1.83×10^{-4}	70	130	0.1	4
FKB-1.2BN	12	0.94	1800	1.34×10^{-3}	4.90×10^{-4}	150	250	0.2	5.5
FKB-2.5BN	25	1.24	1800	3.80×10^{-3}	1.49×10^{-3}	230	380	0.4	10
FKB-5BN	50	2.15	1800	9.50×10^{-3}	4.80×10^{-3}	360	700	0.6	16
FKB-10BN	100	2.40	1800	3.50×10^{-2}	2.50×10^{-2}	600	1100	1.1	37
FKB-20BN	200	2.70	1800	9.15×10^{-2}	6.89×10^{-2}	860	1900	1.6	59
FKB-40BN	400	3.50	1800	2.40×10^{-1}	2.20×10^{-1}	1300	2800	2.0	108

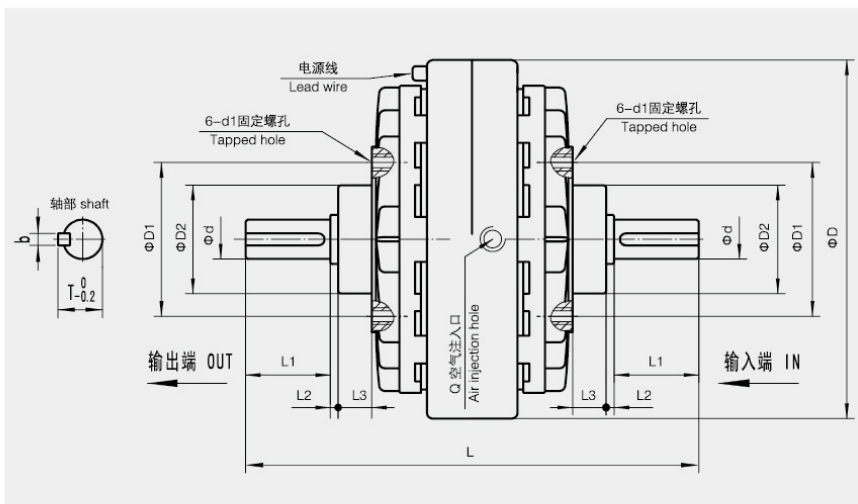
型号 Model	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size					止口支撑尺寸 The size of center ring					气孔 Q pore
	D	L	d (h7)	b (p7)	T	L1	RX 深度 Depth	D1 (g7)	D2	L2	L3	n-d1x 深度 Depth	
FKB-0.06AN	88	132	8	3	9.1	22	---	33	55	15	50	6-M5 x 10	1/8
FKB-0.3AN	120	154	10	4	11.5	22	M3 x 6	42	64	14	70	6-M5 x 10	1/8
FKB-0.6BN	134	164	12	4	13.5	26	M4 x 8	42	64	14	72	6-M5 x 10	1/8
FKB-1.2BN	152	192	15	5	17	29	M4 x 8	42	64	15	94	6-M6 x 10	1/8
FKB-2.5BN	182	230	20	5	22	43	M5 x 10	55	78	17	102	6-M6 x 10	1/8
FKB-5BN	219	294	25	7	28	55	M6 x 12	74	100	30	112	6-M6 x 10	1/4
FKB-10BN	278	360	30	7	33	65	M10 x 20	100	140	28	160	6-M10 x 15	3/8
FKB-20BN	327	408	35	10	38.5	69	M10 x 20	110	150	30	190	6-M10 x 15	3/8
FKB-40BN	395	500	45	12	48.5	92	M10 x 20	130	200	35	221	8-M12 x 20	3/8

Powder clutch C€

磁粉离合器

3、FL型（轴输入、轴输出、止口支撑）磁粉离合器

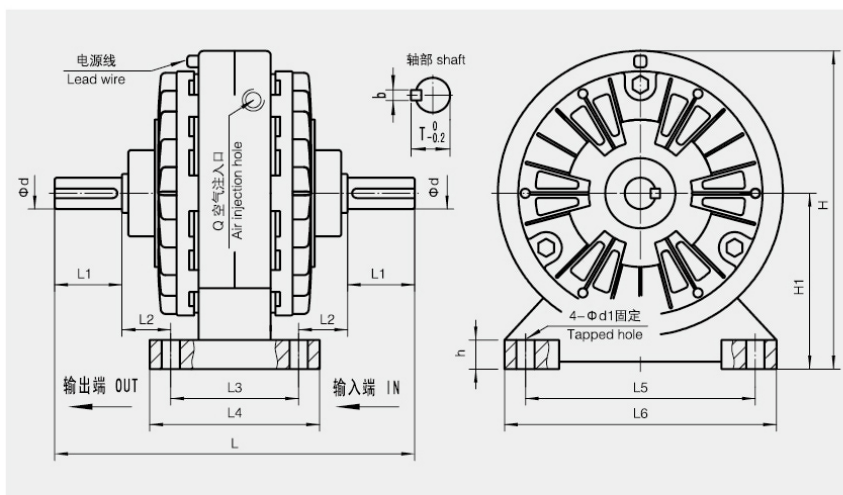
FL magnetic powder clutch (shaft input / shaft output / center ring install)



型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差功率 (W) Slip power		外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size					止口支撑尺寸 The size of center ring				气孔 Q Pore
		电压 (V) Voltage	电流 (A) Current		自冷 Self cooling	气冷 Air cooling												
FL6	6	24	0.9	1500	70	130	140	146	12	4	13.5	25	3	64	42	6	M5 x 10	1/8
FL12	12	24	1.0	1500	150	250	152	156	14	5	16.0	25	3	64	42	8	M6 x 10	1/8
FL25	25	24	2.0	1500	230	380	186	186	20	6	22.5	36	3	78	55	10	M6 x 10	1/8
FL50	50	24	2.3	1500	360	700	220	220	25	8	28.0	42	4	100	74	10	M6 x 12	1/4
FL100	100	24	2.5	1500	600	1100	290	280	30	8	33.0	58	3	140	100	10	M10 x 14	3/8
FL200	200	24	2.5	1000	860	1900	336	296	35	10	38.0	58	3	150	110	10	M10 x 15	3/8
FL400	400	24	3.0	1000	1300	2800	398	416	45	14	48.5	82	6	200	130	25	M12 x 18	3/8
FL630	630	36	3.0	750	1800	3500	436	510	60	18	64.0	105	4.5	200	160	35	8-M12 x 18	3/8
FL1000	1000	36	3.5	750	2400	4000	486	640	70	20	74.5	105	20	210	160	40	M12 x 30	1/2
FL2000	2000	36	5.0	450	4000	6000	596	733	80	22	85.0	130	25	300	200	45	M20 x 35	1/2

4、FL-J型（轴输入、轴输出、机座支撑）磁粉离合器

FL-J magnetic powder clutch (shaft input / shaft output / base support)



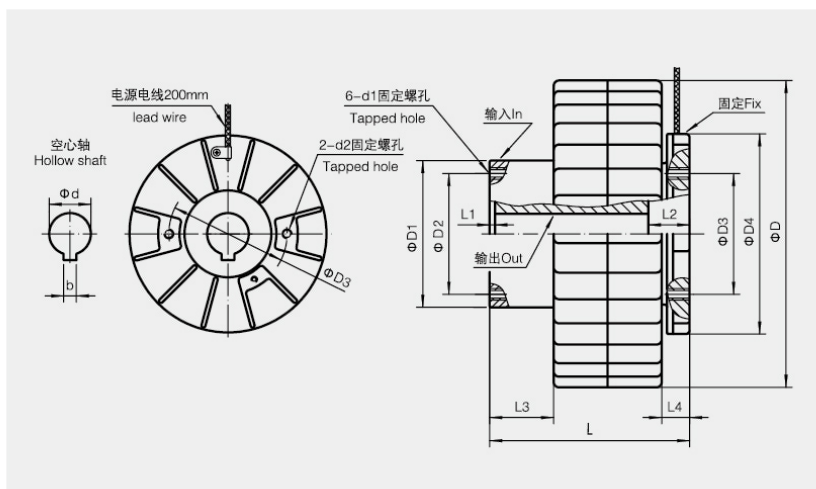
型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差功率 (W) Slip power		外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size						机座支撑尺寸 Base support size							
		电压 (V) Voltage	电流 (A) Current		自冷 Self cooling	气冷 Air cooling																
							H	L	d (h7)	b (p7)	T	L1	L2	L3	L4	L5	L6	H1	d1	h		
FL6.J	6	24	0.9	1500	70	130	150	146	12	4	13.5	25	23	50	68	120	140	80	9	12		
FL12.J	12	24	1.0	1500	150	250	166	156	14	5	16.0	25	23	60	85	120	150	90	10	12		
FL25.J	25	24	2.0	1500	230	380	213	186	20	6	22.5	36	22	70	96	150	180	120	12	15		
FL50.J	50	24	2.3	1500	360	700	240	220	25	8	28.0	42	28	80	105	180	210	130	12	16		
FL100.J	100	24	2.5	1500	600	1100	315	280	30	8	33.0	58	32	100	130	250	290	170	12	18		
FL200.J	200	24	2.5	1000	860	1900	368	296	35	10	38.0	58	30	120	165	280	330	200	15	22		
FL400.J	400	24	3.0	1000	1300	2800	419	416	45	14	48.5	82	61	130	180	330	390	220	15	22		
FL630.J	630	36	3.0	750	1800	3500	460	510	60	18	64.0	105	75	150	210	410	480	240	19	30		
FL1000.J	1000	36	3.5	750	2400	4000	533	640	70	20	74.5	105	135	160	210	470	540	280	19	35		
FL2000.J	2000	36	5.0	450	4000	6000	619	733	80	22	85.0	130	151.5	170	240	580	660	330	24	40		

Powder clutch C€

磁粉离合器

5、FL-K/F型（法兰盘输入、空心轴输出、空心轴支撑、外壳旋转）磁粉离合器

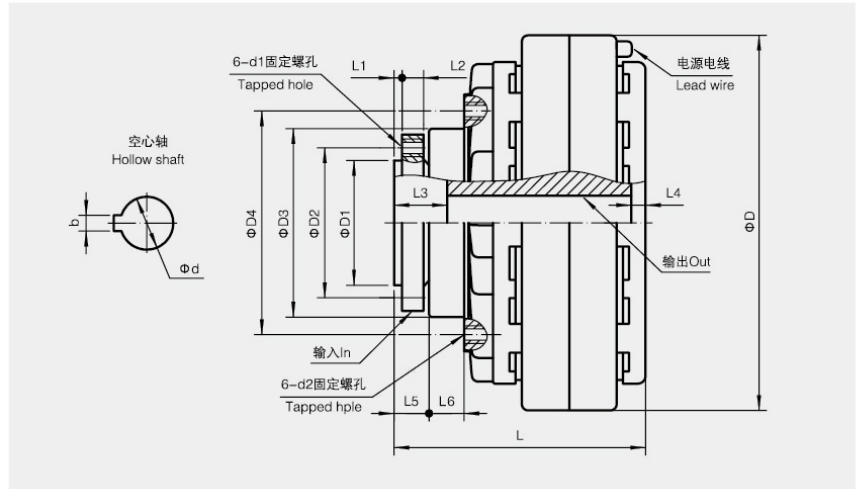
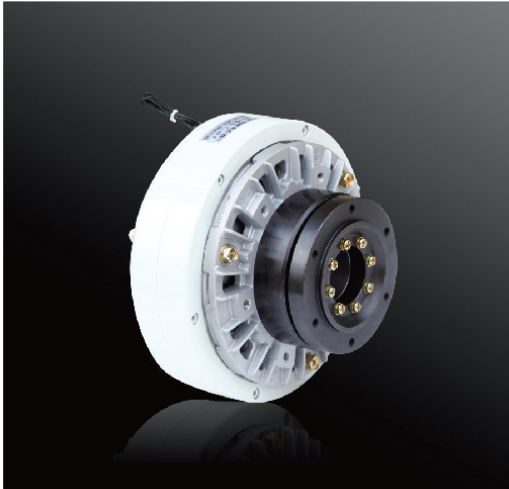
FL -K/F magnetic powder clutch(flange input / hollow shaft output / hollow shaft install / rotational shell)



额定电压 (Rated Voltage) DC24V

型号 Model	额定 转矩 (N.m) Rated torque	激磁 电流 (A) Current	许用转速 (r/min) Allowable rotational speed	滑 差 功率 (W) Slip power	外形尺寸 Outline dimension		空心轴联结尺寸 Hollow Shaft coupling size					法兰盘联结尺寸 Flange coupling size				定子固定尺寸 Fixed stator size			
					D	L	d (H7)	b (F8)	L1	L2	L3	d1x 深度 Depth	D1 (g7)	D2	D3	D4	L4	d2 x 深度 Depth	
FL6.K/F	6	0.74	1800	130	128	86	15	4	1	21	21	M6 x 10	70	60	60	82	7	M4 x 8	
FL12.K/F	12	0.9	1800	320	160	103	18	5	2	25	32	M6 x 10	80	68	68	96	13	M6 x 8	
FL25.K/F	25	1.1	1800	450	180	119	20	6	2	26	36	M6 x 10	90	80	80	114	17	M6 x 8	
FL25.K/F1	25	1.1	1800	450	180	119	20	5	2	26	36	M6 x 10	90	80	80	114	17	M6 x 8	
FL50.K/F	50	1.4	1800	700	220	150	30	8	3	31	48	M8 x 12	110	95	95	150	20	M8 x 12	
FL50.K/F1	50	1.4	1800	700	220	141	30	7	3	31	48	M8 x 12	110	95	95	150	20	M8 x 12	
FL100.K/F	100	2.0	1800	900	275	166	35	10	4	32	48	M10 x 18	125	110	110	176	18	M10 x 18	
FL200.K/F	200	2.5	1000	1900	335	198	45	14	1	45	59	M10 x 18	160	140	140	200	21	M10 x 18	
FL200.K/F1	200	2.5	1000	1900	335	198	45	12	1	45	59	M10 x 18	155	136	125	200	21	M10 x 18	
FL400.K/F	400	3.0	1000	2600	360	258	50	14	1	50	68	M10 x 18	160	140	140	200	21	M10 x 18	

6、FL-K型（法兰盘输入、空心轴输出、止口支撑）磁粉离合器 FL-K magnetic powder clutch(flange input / hollow shaft output / center ring install)



额定电压 (Rated Voltage) DC24V

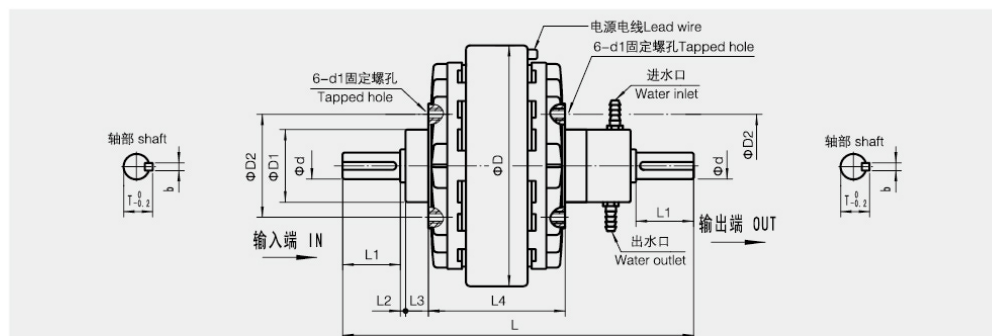
型号 Model	额定 转矩 (N.m) Rated torque	激磁 电流 (A) Current	许用转速 (r/min) Allowable rotational speed	滑差 功率 (W) Slip power	外形尺寸 Outline dimension		法兰盘联结尺寸 Flange coupling size					空心轴联结尺寸 Hollow Shaft coupling size				止口支撑尺寸 The size of center ring				
					D	L	D1 (g7)	D2	L1	L2	d1x 深度 Depth	d (H7)	b (F8)	L3	L4	D3 (g7)	D4	L5	L6	d2x 深度 Depth
FL5.K	5	0.9	1500	70	140	110	60	75	3	8	M5 x 8	16	5	44	3	85	100	13	24	M5 x 10
FL12.K	12	1.0	1500	150	152	126	65	80	3	9	M6 x 9	20	6	49	3	90	105	14	29	M6 x 12
FL25.K	25	2.0	1500	230	186	122	70	85	3	10	M6 x 10	25	8	51	4	100	115	15	26	M6 x 12
FL50.K	50	2.3	1500	360	220	155	90	105	3	12	M6 x 12	30	8	64	4	120	140	17	36	M6 x 14
FL100.K	100	2.5	1500	600	290	177	110	130	4	14	M10 x 14	35	10	77	8	150	180	20	41	M10 x 15
FL200.K	200	2.5	1000	860	336	197	130	150	4	15	M10 x 15	45	14	83	9	170	190	21	42	M10 x 16
FL400.K	400	3.0	1000	1300	398	239	135	160	5	15	M12 x 15	50	14	91	7	180	210	23	43	M12 x 19

Powder clutch C€

磁粉离合器

7、FL/Y型（轴输入、轴输出、止口支撑、水冷却）磁粉离合器

FL / Y magnetic powder clutch (shaft input / shaft output / center ring install / water cooling)

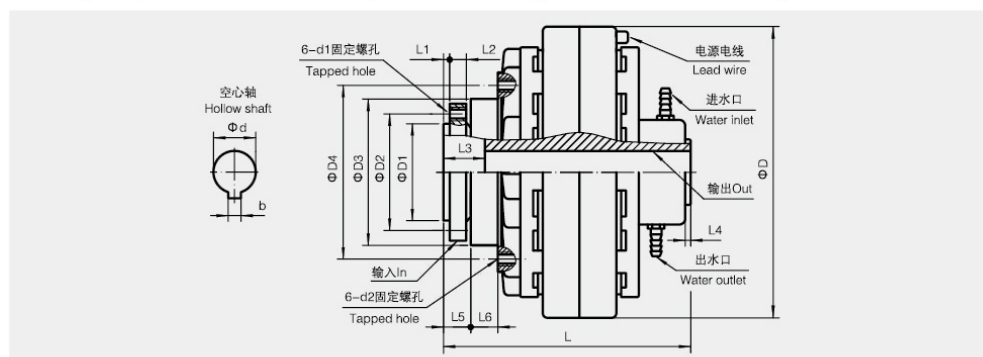


型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		滑差 功率 (KW) Slip power	许用转速 (r/min) Allowable rotational speed	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size						止口支撑尺寸 The size of center ring				
		电压 (V) Voltage	电流 (A) Current			D	L	d (h7)	b (p7)	T	L1	L2	D1 (g7)	D2	L3	L4	d2x 深度 Depth	
FL50/Y	50	24	2.3	1.2	1500	220	273	25	8	28.0	42	4	74	100	10	108	M6 x 12	
FL100/Y	100	24	2.5	2.5	1500	290	336	30	8	33.0	58	3	100	140	10	138	M10 x 14	
FL200/Y	200	24	2.5	3.8	1000	336	359	35	10	38.0	58	3	110	150	10	154	M10 x 15	
FL400/Y	400	24	3.0	5.2	1000	398	482	45	14	48.5	82	6	130	200	25	190	M12 x 18	
FL630/Y	630	36	3.0	7	750	406	580	45	14	48.5	92	12.5	130	200	35	271	8-M12 x 18	
FL1000/Y	1000	36	3.5	9	750	486	702	70	20	74.5	105	20	160	210	40	310	M12 x 30	
FL2000/Y	2000	36	5.0	14	450	596	792	80	22	85	130	25	200	300	45	350	M20 x 35	

注：可以根据客户要求配以机座，机座尺寸同FL-J。The base can be coupled according to the customer's requirement, the size of base is as the same of FL-J.

8、FL-K/Y型（法兰盘输入、空心轴输出、止口支撑、水冷却）磁粉离合器

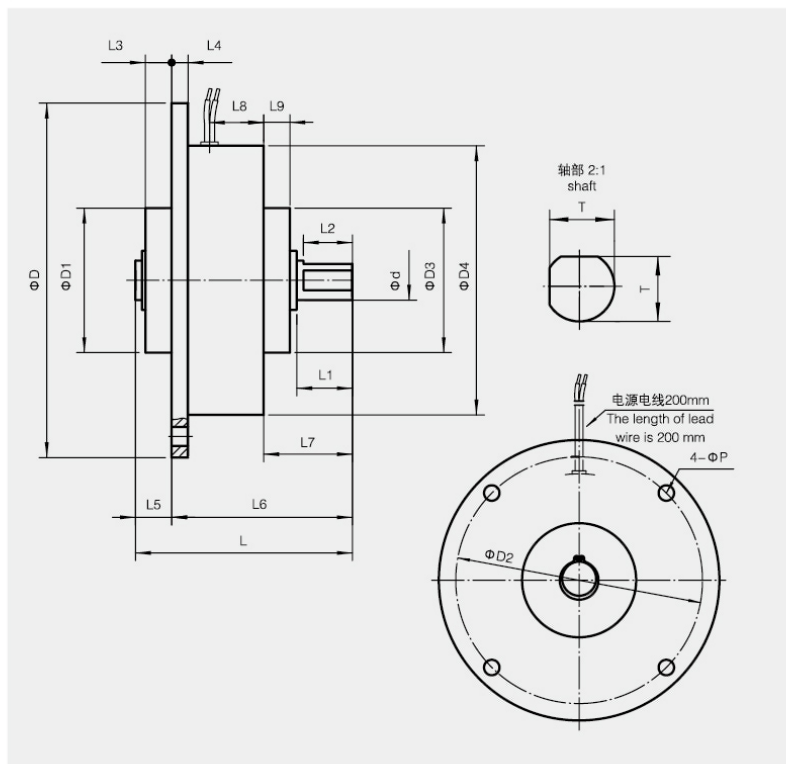
FL-K/ Y magnetic powder clutch (flange input / hollow shaft output / center ring install / water cooling)



额定电压 (Rated Voltage) DC24V

型号 Model	额定 转矩 (N.m) Rated torque	激磁 电流 (A) Current	许用转速 (r/min) Allowable rotational speed	滑差 功率 (KW) Slip power	外形尺寸 Outline dimension		法兰盘联结尺寸 Flange coupling size					空心轴联结尺寸 Hollow Shaft coupling size				止口支撑尺寸 The size of center ring				
					D	L	D1 (g7)	D2	L1	L2	d1x 深度 Depth	d (H7)	b (F8)	L3	L4	D3 (g7)	D4	L5	L6	d2x 深度 Depth
FL50.K/Y	50	2.3	1500	1.2	220	210	90	105	3	12	M6 x 12	30	8	64	2	120	140	17	36	M6 x 14
FL100.K/Y	100	2.5	1500	2.5	290	239	110	130	4	14	M10 x 14	35	10	74	2	150	180	20	41	M10 x 15
FL200.K/Y	200	2.5	1000	3.8	336	260	130	150	4	15	M10 x 15	45	14	83	2	170	190	21	42	M10 x 15
FL400.K/Y	400	3.0	1000	5.2	398	315	135	160	5	15	M12 x 15	50	14	87	2	180	210	23	43	M12 x 19

9、FKG-YN型（轴联结、止口支撑）微型磁粉制动器 FKG-YN micro magnetic powder brake (shaft coupling / center ring install)



型号 Model	额定转矩 (N.m) Rated torque	激磁线圈 DC24V (75℃) Excitation coil			许用转速 (r/min) Allowable rotational speed	飞轮距J (kg cm ²) Flywheel moment	滑差功率 (W) Slip power	重量 (Kg) Weight
		电流 (A) Current	功率 (W) Power	响应时间 (S) Response time				
FKG-5YN	0.5	0.35	8.4	0.02	1800	9.4×10^{-3}	18	0.4
FKG-10YN	1	0.42	10	0.03	1800	2.75×10^{-2}	20	0.54
FKG-20YN	2	0.50	12	0.04	1800	5.25×10^{-2}	30	0.96
FKG-50YN	5	0.60	14	0.05	1800	1.25×10^{-1}	40	1.3

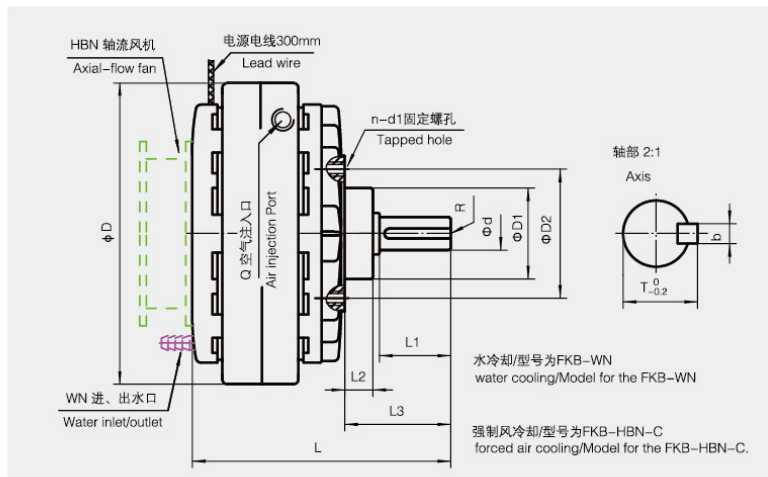
型号 Model	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size				止口支撑尺寸 The size of center ring						其余尺寸 Other size					
	D	L	d (h7)	T	L1	L2	D1 (g7)	D2	L3	L4	L5	P	D3	D4	L6	L7	L8	L9
FKG-5YN	70	45	5	4.5	10.5	9	24	60	3	4	5	4.5	24	50	40	14	18	3
FKG-10YN	76	50	7	6.5	12	10	30	66	4	4	7	4.5	36	56	43	17	18	4
FKG-20YN	90	59	9	8.5	15	13	40	80	6	5	9	4.5	40	70	50	21	20	5
FKG-50YN	108	66	15	14	18	16	44	95	8	5	11	6	44	82	55	27	19	8

Powder brake



磁粉制动器

10、FKB-YN、XN、WN、HBN型（轴联结、止口支撑）磁粉制动器 FKB-YN、XN、WN、HBN型 (Shaft coupling/location support) Powder brake



额定电压 (Rated Voltage) DC24V

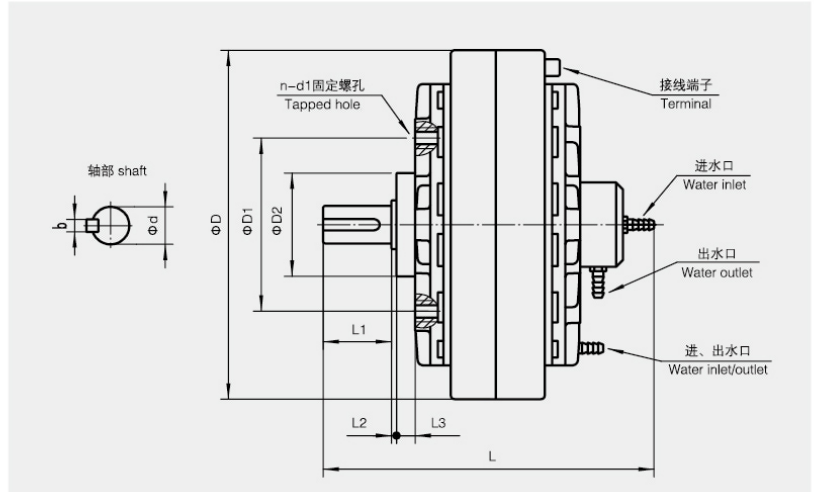
型号 Model	额定 转矩 (N.m) Rated torque	电 流 (A) Current 75°C	许用转速 (r/min) Allowable rotational speed	滑差功率 (W) Slip power				重量 (Kg) Weight
				自冷 Self cooling	气冷 Air cooling	HBN强制风冷 Forced air cooling	WN水风冷 Water cooling	
FKB-0.06YN	0.6	0.46	1800	20	38			1.7
FKB-0.3YN	3	0.53	1800	50	80			3.1
FKB-0.6YN	6	0.81	1800	70	130			3.8
FKB-1.2XN	12	0.94	1800	150	250			5.2
FKB-2.5XN	25	1.24	1800	230	380	500	700	9
FKB-5XN	50	2.15	1800	360	700	900	1200	14.5
FKB-10XN	100	2.40	1800	600	1100	1800	2800	34
FKB-20XN	200	2.70	1800	860	1900	2600	3900	53
FKB-40XN	400	3.50	1800	1300	2800	3500	5200	100

型号 Model	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size					止口支撑尺寸 The size of center ring					气孔 Q Pore
	D	L	d (h7)	b (p7)	T	L1	RX 深度 Depth	D1 (g7)	D2	L2	L3	n-d1x 深度 Depth	
FKB-0.06YN	88	93	8	3	9.1	22	---	33	55	15	41	6-M5 x 8	1/8
FKB-0.3YN	120	106	10	4	11.5	22	M3 x 6	42	64	14	42	6-M5 x 10	1/8
FKB-0.6YN	134	114	12	4	13.5	26	M4 x 8	42	64	14	46	6-M5 x 10	1/8
FKB-1.2XN	152	132	15	5	17	29	M4 x 8	42	64	15	49	6-M6 x 10	1/8
FKB-2.5XN	182	155	20	5	22	43	M5 x 10	55	78	17	64	6-M6 x 10	1/8
FKB-5XN	219	193	25	7	28	55	M6 x 12	74	100	30	91	6-M6 x 10	1/4
FKB-10XN	278	239	30	7	33	65	M10 x 20	100	140	28	100	6-M10 x 15	3/8
FKB-20XN	327	278	35	10	38.5	69	M10 x 20	110	150	30	109	6-M10 x 15	3/8
FKB-40XN	395	338	45	12	48.5	92	M10 x 20	130	200	35	139	8-M12 x 20	3/8

注：可以根据客户要求配以机座，机座尺寸同FL-J。The base can be coupled according to the customer's requirement, the size of base is as the same of FL-J.

11、FZ型（轴联结、止口支撑）磁粉制动器

FZ magnetic powder brake (shaft coupling / center ring install)

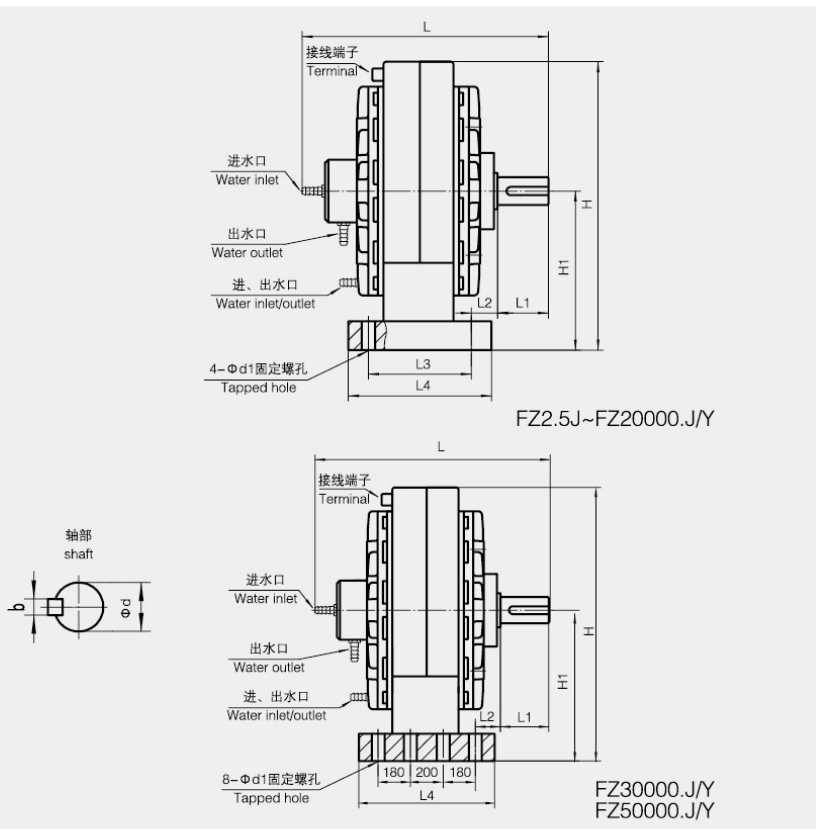
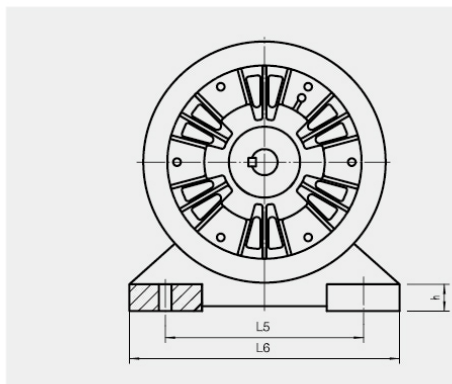


型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差 功率 (KW) Slip power	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size					止口支撑尺寸 The size of center ring			冷却方式 Cooling mode
		电压 (V) Voltage	电流 (A) Current			D	L	d (h7)	b (p7)	L1	L2	L3	D1	D2 (g7)	n-d1x 深度 Depth	
FZ2.5	2.5	24	0.4	1500	0.03	100	88	10	3	20	1	3	64	42	6-M5 x 8	自冷 Self cooling
FZ5	5	24	0.5	1500	0.06	126	94	12	4	25	1	3	64	42	6-M5 x 8	
FZ10	10	24	0.6	1500	0.12/0.8	152	103	14	5	25	1	3	64	42	6-M6 x 9	自冷/单水冷 Self/single water cooling
FZ25	25	24	0.8	1500	0.2/1.2	175	115	20	6	36	1	3	78	55	6-M6 x 9	
FZ50	50	24	1.0	1500	0.3/2	220	140	25	8	42	1	4	100	74	6-M6 x 12	单/双水冷 Single/double water cooling
FZ100/Y	100	24	1.2	1500	3/5	258	249	30	8	58	1	5	140	100	6-M10 x 14	
FZ200/Y	200	24	1.8	1000	4/8	298	260	35	10	58	1	5	150	110	6-M10 x 15	
FZ400/Y	400	24	2.5	1000	5/12	370	313	45	14	82	1	5	200	130	6-M12 x 19	
FZ630/Y	630	36	2.5	750	15	406	374	60	18	105	1	6	200	160	6-M12 x 19	双水冷 Double water cooling
FZ1000/Y	1000	36	2.5	750	20	486	417	70	20	105	1	6	260	185	6-M12 x 23	
FZ2000/Y	2000	36	3.0	500	30	594	486	80	22	130	1	8	300	200	6-M12 x 25	
FZ5000/Y	5000	36	3.5	400	50	798	576	90	25	140	1	8	420	240	6-M16 x 32	
FZ10000/Y	10000	36	4.0	300	65	1052	651	120	32	160	2	10	560	280	8-M16 x 38	
FZ20000/Y	20000	48	5.0	300	90	1110	916	140	36	180	3	18	560	380	8-M24 x 45	

Powder brake C€

磁粉制动器

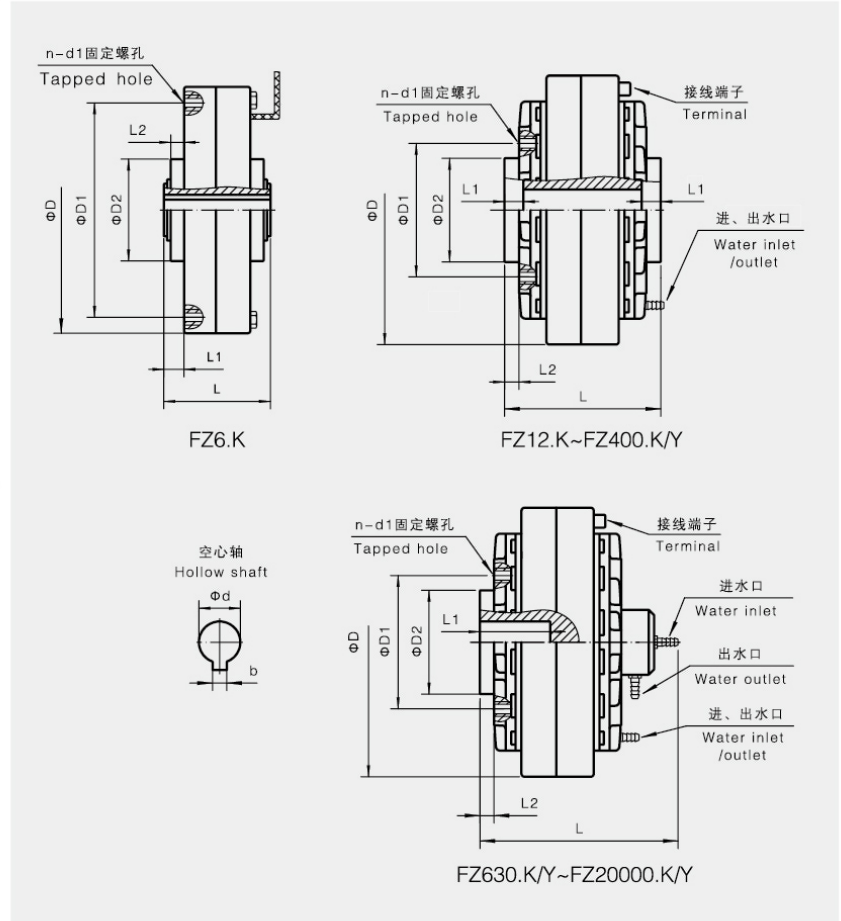
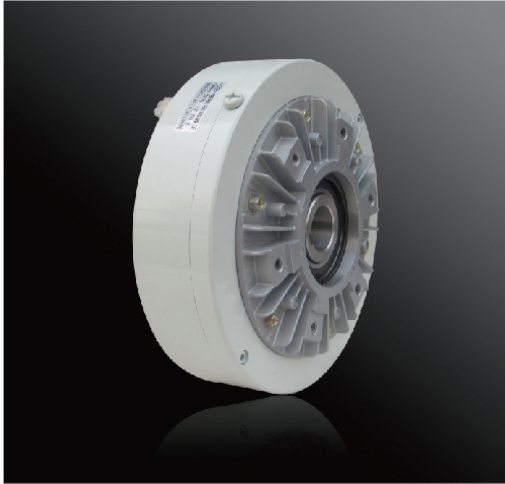
12、FZ-J型（轴联结、机座支撑）磁粉制动器 FZ-J magnetic powder brake(shaft coupling / base support)



型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差 功率 (KW) Slip power	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size				机座支撑尺寸 Base support size								冷却方式 Cooling mode
		电压 (V) Voltage	电流 (A) Current			H	L	d (h7)	b (p7)	L1	L2	L3	L4	L5	L6	H1	d1	h		
FZ2.5J	2.5	24	0.4	1500	0.03	110	88	10	3	20	9	50	68	100	120	60	7	12	自冷 Self cooling	
FZ5.J	5	24	0.5	1500	0.06	138	94	12	4	25	10	50	68	120	140	75	7	12		
FZ10.J	10	24	0.6	1500	0.12/0.8	166	103	14	5	25	7	60	85	120	150	90	10	12	自冷/单水冷 Self/single water cooling	
FZ25.J	25	24	0.8	1500	0.2/1.2	196	115	20	6	36	5	70	96	150	180	110	12	15		
FZ50.J	50	24	1.0	1500	0.3/2	240	140	25	8	42	11	80	105	180	210	130	12	16		
FZ100.J/Y	100	24	1.2	1500	3/5	284	249	30	8	58	11	100	130	250	290	155	12	18	单/双水冷 Single/double water cooling	
FZ200.J/Y	200	24	1.8	1000	4/8	329	260	35	10	58	10	120	165	280	330	180	15	22		
FZ400.J/Y	400	24	2.5	1000	5/12	400	313	45	14	82	14	130	180	330	390	215	15	22		
FZ630.J/Y	630	36	2.5	750	15	441	374	60	18	105	20	150	210	410	480	240	19	30	双水冷 Double water cooling	
FZ1000.J/Y	1000	36	2.5	750	20	523	417	70	20	105	35	160	210	470	540	280	19	35		
FZ1500.J/Y	1500	36	3.0	750	25	556	480	75	20	105	70	160	210	470	540	300	19	40		
FZ2000.J/Y	2000	36	3.0	500	30	619	486	80	22	130	56	170	240	580	660	330	24	40		
FZ5000.J/Y	5000	36	3.5	400	50	824	576	90	25	140	13	320	388	600	700	430	24	50		
FZ10000.J/Y	10000	36	4.0	300	65	1126	651	120	32	160	18	360	450	900	1030	600	28	88		
FZ20000.J/Y	20000	48	5.0	300	90	1205	916	140	36	180	45	480	560	950	1100	650	34	100		
FZ30000.J/Y	30000	90	5.0	300	132	1205	1271	160	40	200	194	见图	690	1050	1180	650	34	120		
FZ50000.J/Y	50000	90	5.0	250	160	1298	1965	180	45	250	549	见图	690	1050	1180	700	34	120		

13、FZ-K型（空心轴联结、止口支撑）磁粉制动器

FZ-K magnetic powder brake(hollow shaft coupling / center ring install)



型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差 功率 (KW) Slip power	外形尺寸 Outline dimension		空心轴联结尺寸 Hollow Shaft coupling size			止口支撑尺寸 The size of center ring				冷却方式 Cooling mode
		电压 (V) Voltage	电流 (A) Current			D	L	d (H7)	b (F8)	L1	L2	D1	D2 (g7)	d1X 深度 Depth	
FZ6.K	6	24	0.5	1500	0.06	126	68	12	4	5.5	3	75	42	6-M5 x 8	自冷 Self cooling
FZ12.K	12	24	0.6	1500	0.12	152	70	16	5	6	3	82	65	6-M6 x 9	
FZ25.K	25	24	0.8	1500	0.2	175	79	25	8	7.5	3	105	90	6-M6 x 9	
FZ50.K	50	24	1.0	1500	0.3/2	220	96	30	8	8	3	130	110	6-M8 x 10	自冷/单水冷Self/single water cooling
FZ100.K/Y	100	24	1.2	1500	3	258	118	35	10	9	3	150	120	6-M10 x 12	单/双水冷 Single/double water cooling
FZ200.K/Y	200	24	1.8	1000	4	298	132	45	14	11	3	180	150	6-M10 x 16	
FZ400.K/Y	400	24	2.5	1000	5	370	156	50	14	13	5	200	160	6-M12 x 19	
FZ630.K/Y	630	36	2.5	750	15	406	268	50	14	85	6	200	160	6-M12 x 19	双水冷 Double water cooling
FZ1000.K/Y	1000	36	2.5	750	20	486	311	60	18	85	6	260	185	6-M12 x 23	
FZ2000.K/Y	2000	36	3.0	500	30	594	355	75	20	105	8	300	200	6-M12 x 25	
FZ5000.K/Y	5000	36	3.5	400	50	798	468	90	25	140	8	420	240	6-M16 x 32	
FZ10000.K/Y	10000	36	4.0	300	65	1052	482	120	32	140	10	560	280	8-M16 x 38	
FZ20000.K/Y	20000	48	5.0	300	90	1110	731	140	36	150	18	560	380	8-M24 x 45	

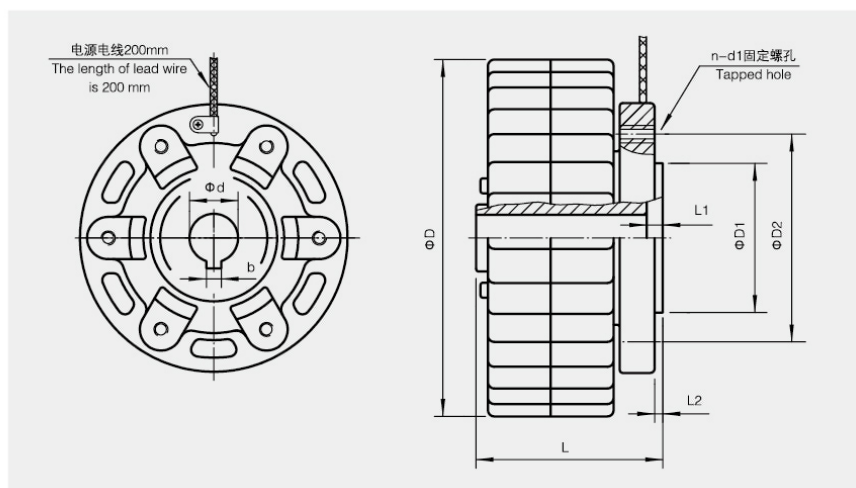
Powder brake



磁粉制动器

14、FZ-K/F型（空心轴联结、止口支撑、外壳旋转）磁粉制动器

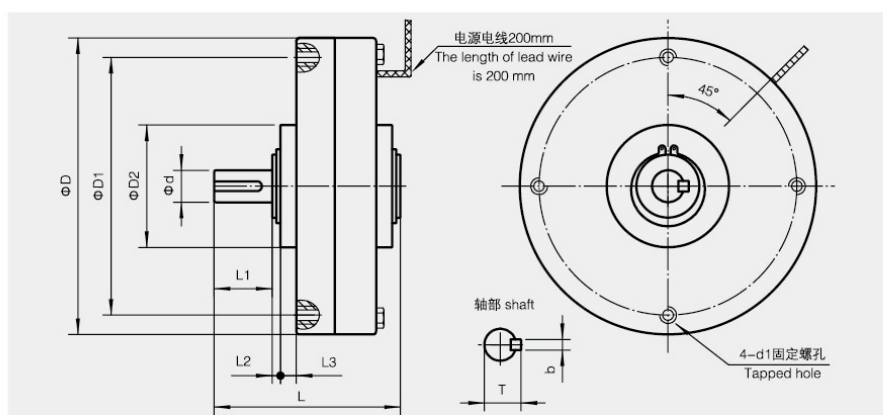
FZ-K/F magnetic powder brake(hollow shaft coupling / center ring install / rotational shell)



型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差功率 (W) Slip power	外形尺寸 Outline dimension		空心轴联结尺寸 Hollow Shaft coupling size			止口支撑尺寸 The size of center ring			
		电压 (V) Voltage	电流 (A) Current			D	L	d (H7)	b (F8)	L1	L2	D1 (g7)	D2	n-d1X 深度 Depth
FZ6.K/F	6	24	0.3	1800	130	128	68	12	4	4	2	70	80	3-M5 x 10
FZ12.K/F	12	24	0.39	1800	320	160	88	18	5	2	5	74	100	3-M6 x 10
FZ25.K/F	25	24	0.73	1800	450	180	98	20	6	5	5	100	140	3-M10 x 19
FZ25.K/F1	25	24	0.73	1800	450	180	98	20	5	5	5	100	140	3-M10 x 19
FZ50.K/F	50	24	0.94	1800	700	220	115	30	8	5	5	110	150	3-M10 x 19
FZ50.K/F1	50	24	0.94	1800	700	220	115	30	7	5	5	110	150	3-M10 x 19
FZ100.K/F	100	24	1.21	1800	900	275	136	35	10	6	5	120	150	6-M10 x 22
FZ100.K/F1	100	24	1.21	1800	900	275	136	35	10	6	5	110	150	6-M10 x 22
FZ200.K/F	200	24	1.9	1000	1900	335	160	45	14	8	6	160	240	6-M10 x 30
FZ200.K/F1	200	24	1.9	1000	1900	335	160	45	12	8	6	160	240	6-M10 x 30
FZ400.K/F	400	24	2.2	1000	2600	360	210	50	12	8	6	160	240	6-M10 x 30

15、FX-YS型（轴联结、止口支撑）薄型磁粉制动器

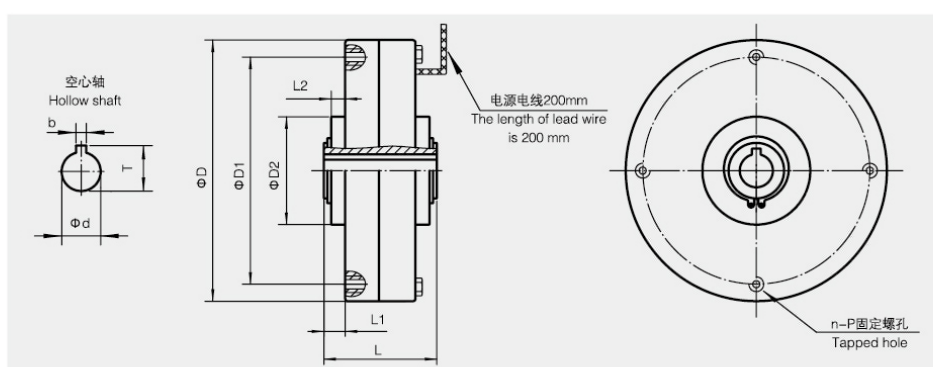
FX-YS thin magnetic powder brake (shaft coupling / center ring install)



型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用 转速 (r/min) Allowable rotational speed	滑差 功率 (W) Slip power	飞轮距J (kg m ²) Flywheel moment	外形尺寸 Outline dimension		轴联结尺寸 Shaft coupling size						止口支撑尺寸 The size of center ring			重量 (Kg) Weight
		电压 (V) Voltage	电流 (A) Current				D	L	d (h7)	b (p7)	T (+0.2 -0.2)	L1	L2	L3	D1	D2 (g7)	d1x 深度 Depth	
FX-2.5YS	25	24	1.1	600	150	3×10^{-4}	139	96	20	6	22.5	36	4	5	129	62	M5 x 10	4.9
FX-5YS	50	24	1.35	600	200	11×10^{-4}	182	115	25	8	28	43	4.5	8	169	80	M6 x 10	9.3
FX-10YS	100	24	1.5	600	300	40×10^{-4}	232	149	30	8	33	55	6	10	216	100	M8 x 12	19.5

16、FX-YN/YH型（空心轴联结、止口支撑）薄型磁粉制动器

FX-YN/YH thin magnetic powder brake (hollow shaft coupling / center ring install)



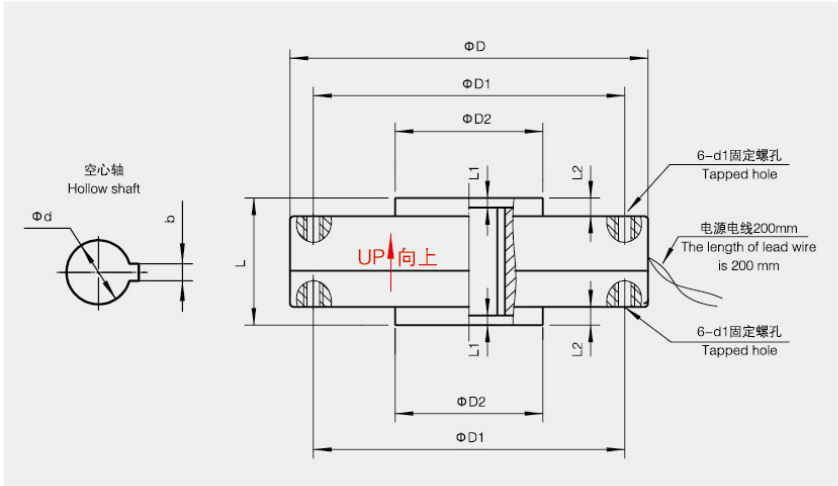
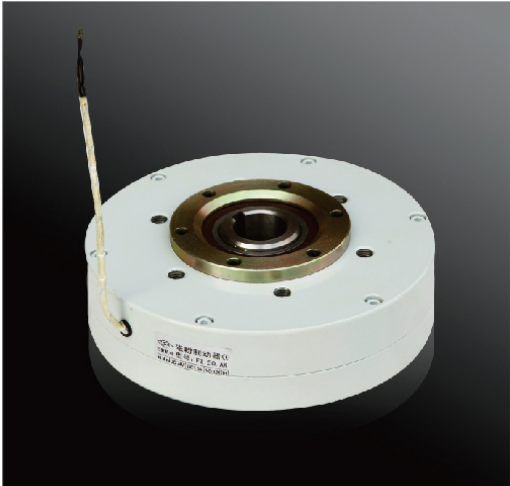
型号 Model	额定 转矩 (N.m) Rated torque	激磁线圈 DC Excitation coil		许用 转速 (r/min) Allowable rotational speed	滑差 功率 (W) Slip power	飞轮距J (kg m ²) Flywheel moment	外形尺寸 Outline dimension		空心轴联结尺寸 Hollow Shaft coupling size				止口支撑尺寸 The size of center ring			
		电压 (V) Voltage	电流 (A) Current				D	L	d (H7)	b (F8)	T (^{+0.2} ₀)	L1	L2	D1	D2 (g7)	n-PX 深度 Depth
FX-0.3YN	3	24	0.4	400	30	3.5 × 10 ⁻⁵	88	43	15	5	17.3	9	6.5	80	47	3-M4 × 6
FX-0.6YN	6	24	0.4	400	50	9 × 10 ⁻⁵	105	49	20	6	22.8	9.5	6.5	97	55	3-M4 × 6
FX-1.2YN	12	24	0.5	400	100	1.6 × 10 ⁻⁴	118	50	25	8	28.3	10	7	110	62	3-M4 × 8
FX-2.5YH	25	24	1.1	600	150	2.8 × 10 ⁻⁴	139	60	25	6	27.8	9	5	129	62	4-M5 × 10
FX-5YH	50	24	1.35	600	200	10 × 10 ⁻⁴	182	72	30	8	33.3	12.5	8	169	80	4-M6 × 10
FX-10YH	100	24	1.5	600	300	3.8 × 10 ⁻⁴	232	94	35	10	38.3	16	10	216	100	4-M8 × 12

Powder brake

磁粉制动器

17、FZ-AK型（空心轴联结、止口支撑、立式）磁粉制动器

FZ-AK magnetic powder brake(hollow shaft coupling / center ring install / vertical)



型号 Model	额定 转矩 (N.m) Rated torque	激励线圈 DC Excitation coil		许用转速 (r/min) Allowable rotational speed	滑差功率 (KW) Slip power		外形尺寸 Outline dimension		空心轴联结尺寸 Hollow Shaft coupling size			止口支撑尺寸 The size of center ring			
		电压 (V) Voltage	电流 (A) Current		自冷 Self cooling	水冷 water cooling	D	L	d (H7)	b (F8)	L1	L2	D1	D2 (g7)	d1X 深度 Depth
FZ2.5 AK	2.5	24	0.3	400	0.03	/	105	49	12	4	1	8	80	60	M5 x 8
FZ6.AK	6	24	0.5	400	0.05	/	126	52	12	4	2	8	80	60	M5 x 8
FZ12.AK	12	24	0.6	400	0.1	/	150	56	16	5	2	8	82	65	M6 x 8
FZ25. AK	25	24	0.8	400	0.15	1.1	180	62	25	8	2	8	105	90	M6 x 8
FZ50.AK	50	24	1.0	350	0.2	2	195	66	30	8	2	8	120	100	M10 x 12
FZ100.AK	100	24	1.5	350	0.3	3	248	85	35	10	2	9	150	120	M10 x 18
FZ200.AK	200	24	2.0	300	0.45	4	302	102	45	14	4	10	180	150	M12 x 20
FZ400.AK	400	36	2.5	300	0.6	5	370	116	50	14	5	12	200	160	M12 x 25
FZ630.AK	630	36	3.0	300	0.8	7	484	144	50	14	5	12	200	160	M12 x 25
FZ1000.AK	1000	90	4.0	300	1	8	550	169	60	18	5	12	260	185	M12 x 25
FZ2000.AK	2000	90	5.0	250	1.2	10	700	210	75	20	5	15	300	200	M12 x 25
FZ5000.AK	5000	90	5.0	200	2	15	920	222	90	25	5	18	420	240	M16 x 30

注意：如果联接孔必须要垂直于水平面安装，请务必选择此型号
Note:If connecting hole must be perpendicular to the ground,be sure to choose this model



Tension control system

张力控制系统

- P31 SC-1D 型 手动张力控制器 (SC-1D Manual tension controller)
- P32 SC-1K 型 手动张力控制器 (SC-1K Manual tension controller)
- P32 SC-1Q 型 手动张力控制器 (SC-1Q Manual tension controller)
- P33 SC-1F 型 手动张力控制器 (SC-1F Manual tension controller)
- P34 GFQ 型 功率放大器 (GFQ Power Amplifier)
- P35 STS 型 张力传感器 (STS Tension sensor)
- P35 TJL 型 张力传感器 (TJL Tension sensor)
- P37 SC-2H 型 自动张力控制仪 (SC-2H Automatic tension controller)
- P39 SC-3H 型 自动张力控制仪 (SC-3H Automatic tension controller)
- P40 SC-3Z 型 锥度张力控制仪 (SC-3Z Taper tension controller)
- P41 SC-4M 型 张力变送器 (SC-4M Tension Transmitter)

Tension control system

张力控制系统

SC-1型张力控制器（稳流电源）

SC-1 tension controller(stabilized power supply)

概述 Overview

SC-1型张力控制器输出的电流可在0到标称值之间连续可调，具有稳定度高，纹波系数小，限流保护等功能。是磁粉制动器或磁粉离合器的专用稳流电源。

The current of the SC-1 tension controller can be adjusted continuously from zero to the nominal value. The tension controller is the special stabilized power supply with high stability, low ripple coefficient and function of current limit protection.

技术参数 Technical parameters

- 1.电源电压: AC220V $\pm$ 10% 50HZ
- 2.工作环境: 环境温度: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$ 相对湿度: 小于85% (不允许在腐蚀性气体及尘埃条件下工作)
- 3.控制方式: 手动调节
- 4.显示方式: 数字显示

1. Power supply voltage: AC220V $\pm$ 10% 50HZ
2. Working environment: Temperature: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$ relative humidity < 85% (it is not allowed to work under corrosive gasses and dust condition)
3. Control method: Manual
4. Display mode: Digital display

外形及安装尺寸 Shape and installation size

1、SC-1D型张力控制器 SC-1D tension controller



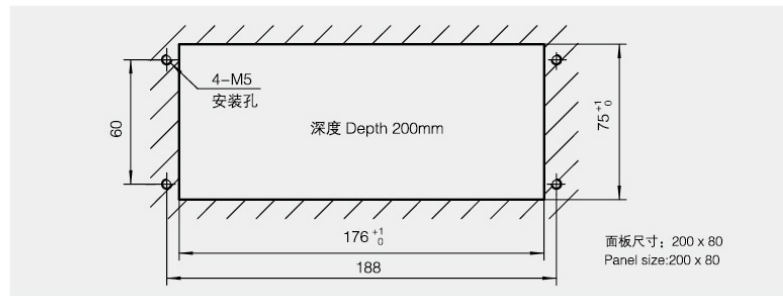
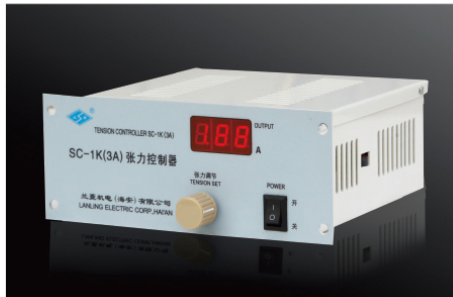
长(Length): 210mm

宽(Width): 115mm

高(Height): 156mm

型号 Model	输出电压 DC Output voltage	输出电流 DC Output current	安装方式 Installation mode	重量 Weight
SC-1D(1A)	0-24V	0-1A	台式安装 Desktop installation	1.9 kg
SC-1D(2A)	0-24V	0-2A		2.2 kg
SC-1D(3A)	0-36V	0-3A		3.8 kg
SC-1D(5A)	0-36V	0-5A		4.5 kg

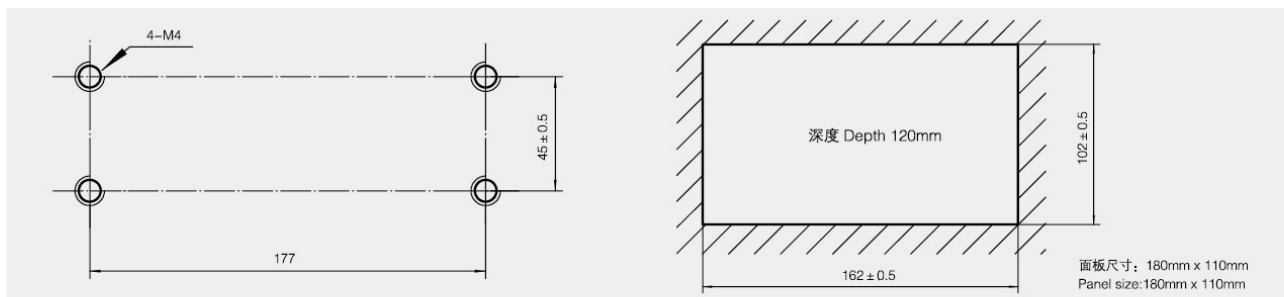
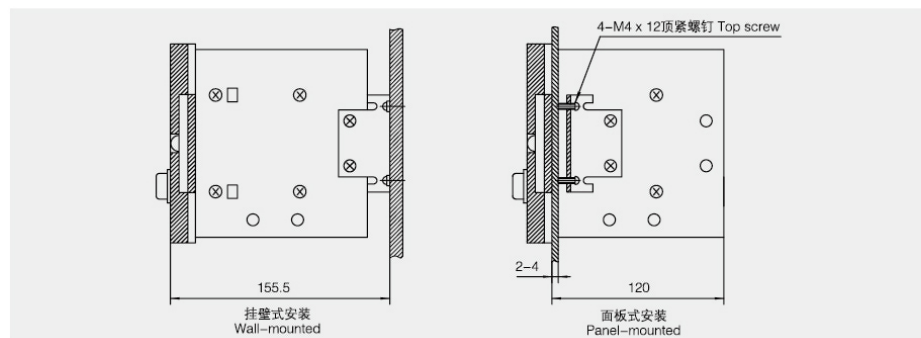
2、SC-1K型张力控制器 SC-1K tension controller



面板开孔尺寸
Panel hole size

型号 Model	输出电压 DC Output voltage	输出电流 DC Output current	安装方式 Installation mode	重量 Weight
SC-1K(1A)	0-24V	0-1A	屏面安装 Panel surface installation	1.9 kg
SC-1K(2A)	0-24V	0-2A		2.2 kg
SC-1K(3A)	0-36V	0-3A		3.8 kg

3、SC-1Q型张力控制器 SC-1Q tension controller



落地、挂壁安装定位孔
Floor/wall mounted positioning hole

面板开孔尺寸
Panel hole size

型号 Model	输出电压 DC Output voltage	输出电流 DC Output current	安装方式 Installation mode	重量 Weight
SC-1Q(2A)	0-24V	0-2A	屏面/台式安装 Panel surface/Desktop installation	0.9 kg
SC-1Q(3A)	0-36V	0-3A		1.6 kg

Tension control system

张力控制系统

SC-1F型手动张力控制器

SC-1F Manual tension controller

技术参数 Technical parameters

电源输入DC 24V~27V 50HZ

Power input DC 24V~27V and 50HZ

电源输出DC 0~24V DC 0~3A

Power output DC 0~24V and DC 0~3A

特点 Features

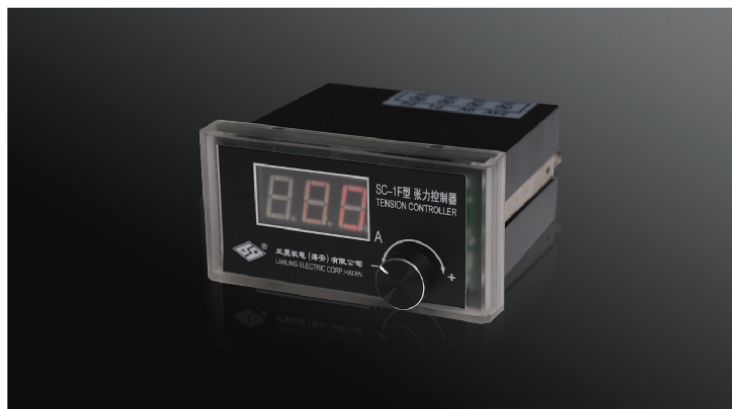
- 体积小，节省电源配置，减少安装空间；
Small size, save power configuration, reduce the installation space;
- 恒流输出，张力更稳定；
The constant current output, stable tension;
- 数字显示，易于记忆；编码器旋钮，精度高。
The digital display, easy to remember; encoder knob, high precision.

外形尺寸：长 x 宽 x 深=98 x 50 x 93mm

Overall dimension: length x width x depth=98 x 50 x 93mm

开孔尺寸：长 x 宽=91 x 44mm

Mounting hole size: length x width=91 x 44mm



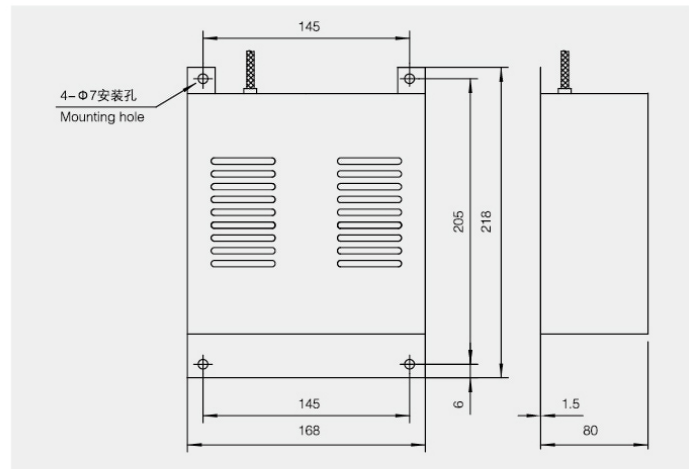
GFQ型功率放大器 GFQ power amplifier

技术参数 Technical parameters

- 1.电源电压：AC220V $\pm$ 10% 50HZ
 - 2.输入信号：DC 0–5V、DC 0–10V、DC 0–20mA（订货时注明）
 - 3.控制输出：电压DC24V或36V；电流DC 0–1A、0–2A、0–3A
 - 4.特性：输出电流与输入信号成正比例关系
 - 5.功能：短路保护，A、B轴切换接口
 - 6.工作环境：环境温度：-10℃~40℃ 相对湿度：小于85%（不允许在腐蚀性气体及尘埃条件下工作）
-
- 1.Power supply voltage: AC220V $\pm$ 10% 50HZ
 - 2.Input signal: DC 0–5V、DC 0–10V、DC 0–20mA（Please specify when make order）
 - 3.Control output: voltage is DC24V or 36V; current is DC 0–1A、0–2A、0–3A
 - 4.Features: output current is proportional to the input signal
 - 5.Function: short-circuit protection, A、B shaft switch interface
 - 6.Working environment: Temperature: -10℃~40℃ relative humidity < 85%（it is not allowed to work under corrosive gasses and dust condition）



GFQ型功率放大器
GFQ power amplifier



GFQ型功率放大器外形及安装尺寸
GFQ power amplifier's shape and installation size

张力传感器 Tension sensor

STS、TJL型张力传感器就是把张力变成微位移，再把微位移转变成微电压的敏感元器件。具有体积小、重量轻、灵敏度高、反应速度快、线性度好等特点。独立使用可用于测重或测力，配合SC-2H型或SC-542A型张力控制仪，能够自动控制张力，是印刷、包装、纺织、金属、带钢等行业在加工过程中理想的张力检测、控制装置。

STS、TJL tension sensor is a sensitive component which can transform tension into micro-displacement then into micro-voltage, It has advantages of small size, light weight, high sensitivity, fast response and good linearity. It can be used in testing weight and force independently. What's more, it can be used in conjunction with SC-2H or SC-542A tension controller to control tension automatically, so it is ideal tension detection and control device in printing, packaging, textile industry, metal and steel industry in processing.

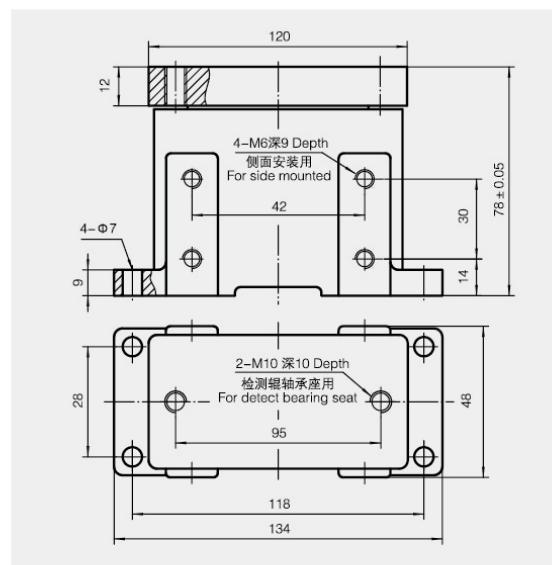
Tension control system

张力控制系统

张力传感器外形安装尺寸 Outline dimension and installation size of tension sensor

1. STS型张力传感器 (供电电压DC 5V, 信号输出30mV/V)

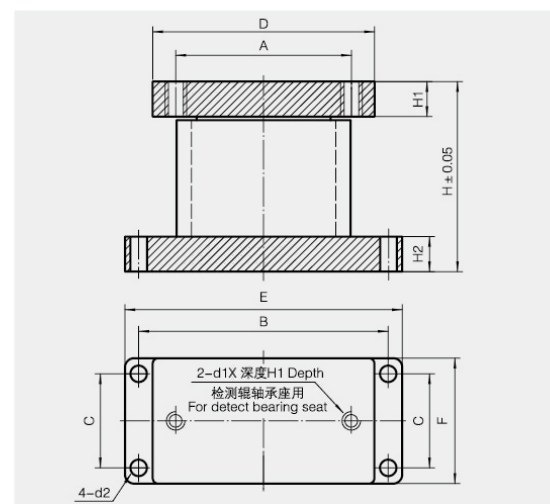
STS tension sensor (Voltage is DC 5V, Signal output 30mV/V)



规格型号 Specification	STS-5kg	STS-10kg	STS-15kg	STS-30kg
	STS-50kg	STS-100kg	STS-200kg	

2. TJL型张力传感器 (供电电压DC 10V, 信号输出2mV/V)

TJL tension sensor (Voltage is DC 10V, Signal output 2mV/V)



规格型号 Specification	A	B	C	D	E	F	H	H1	H2	d1	d2
TJL-5kg, 10kg, 15kg, 30kg, 50kg, 100kg, 200kg	95	118	28	116	135	44	84.5	15	12	M10	Φ6
TJL-500kg	95	135	51	135	152	68	106	18	18	M10	Φ9
TJL-1000kg	120	150	58	180	180	80	128	19	19	M12	Φ12
TJL-2000kg, 3000kg, 5000kg	120	150	58	180	180	80	134	19	19	M12	Φ12
TJL-10000kg	160	220	70	220	260	110	170	25	25	M16	Φ18
TJL-20000kg	185	220	70	260	260	110	230	25	25	M16	Φ18

张力传感器的选型 The selection of the tension sensor

1、安装方式与负荷 Installation mode and load

由于张力传感器有基座、悬挂、侧壁等安装方式，负荷又有压迫与引伸方向的不同，现把它们之间的组合和负荷计算公式说明如下：

As the tension sensor has the installation mode of base/suspension/side wall etc, and the load has the distinction of oppression direction and leading direction. Now the formula of the combination and load between them can be explained as follows:

符号说明

G—张力传感器的负荷

F—物料所受的张力

W—张力检测棍、轴承座的重量之和

K—张力检测棍系数（侧面安装时）

Explanation of symbols:

G—load of tension sensor

F—bearing tension of material

W—total weight of tension detected roller and bearing seat

K—coefficient of tension detected roller (side mounted)

A. 基座安装与压迫方向负荷

Base installation and oppressive direction on load

$$G = F(\cos \alpha_1 + \cos \alpha_2) + W$$

B. 基座安装与引伸方向负荷

Base installation and leading direction on load

$$G = -F(\cos \alpha_1 + \cos \alpha_2) + W$$

C. 悬挂安装与压迫方向负荷

Suspension installation and oppressive direction on load

$$G = F(\cos \alpha_1 + \cos \alpha_2) - W$$

D. 悬挂安装与引伸方向负荷

Suspension installation and leading direction on load

$$G = -F(\cos \alpha_1 + \cos \alpha_2) - W$$

E. 侧壁安装与压迫方向负荷

Side wall installation and oppressive direction on load

$$G = F(\cos \alpha_1 + \cos \alpha_2) + KW$$

F. 侧壁安装与引伸方向负荷

Side wall installation and leading direction on load

$$G = -F(\cos \alpha_1 + \cos \alpha_2) + KW$$

2、选型 Selection

张力传感器的选型应为机器在最大张力时，张力传感器所受的负荷 G_{max} （同时作用于两个传感器时为 $G_{max}/2$ ）向上取整为标准型号。

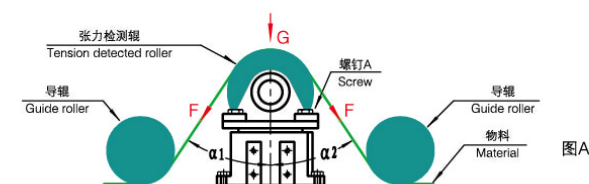
张力检测棍、轴承座的总重量不得超过 $G_{max}/2$ ，过重会影响测量精度。

张力传感器输入电压必须严格按照标牌要求；螺钉A拧入深度不得超过上安装板厚度；注意防潮、防油、防振动冲击。

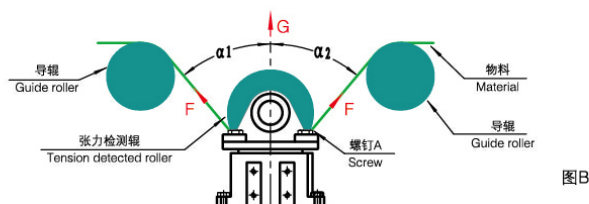
The selection of the tension sensor is equal with maximum load (half of the maximum load when both of the sensors works) which the tension sensor can bear, and rounding up is the standard model.

The total weight of both of the tension detected roller and the bearing seat is less than half of the maximum value, and overweight will affect accuracy.

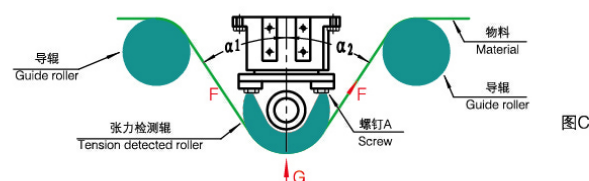
Please input voltage to the tension sensor strictly accordance to the signage requirement; the screw A's depth should not be more than the thickness of upper mounting plate; Being moistureproof, grease proofing and anti-vibration.



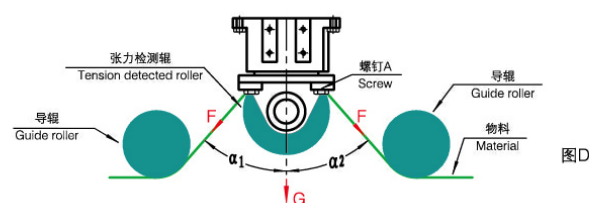
图A



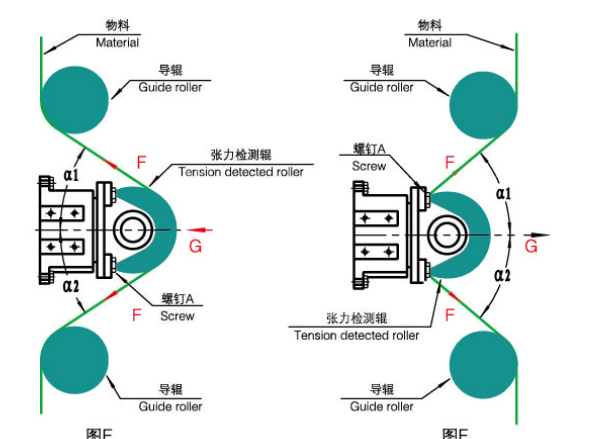
图B



图C



图D



图E

图F

Tension control system

张力控制系统

SC-2H型自动张力控制仪 SC-2H automatic tension controller

概述 Overview

SC-2H型自动张力控制仪采用液晶显示器，可选择中、英文显示，界面友好易用，可输出0-24V/4A直接驱动磁粉离合器、磁粉制动器；也可输出0-5V、0-10V信号，控制变频器、伺服电机或其它执行机构，对卷绕系统进行高精度的张力控制。可广泛应用于造纸、印刷、包装、纺织、印染等行业。

This products possess a liquid crystal display with Chinese and English display,it is operated simply.The tension controller can drive the operation of the magnetic powder clutch and brake when its output 0-24V/4A of current;it can control inverter,servo motor or the other devices when its output 0-5V or 0-10V of current.Therefore,it is widely used in paper making,printing,packaging,textile industry,dyeing and printing industry.

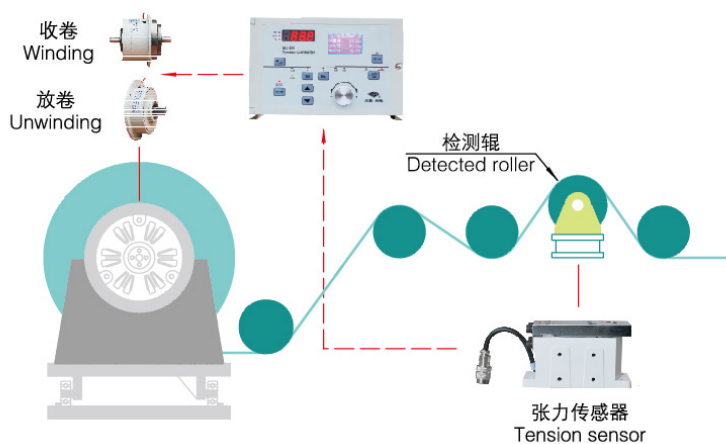


SC-2H型自动张力控制仪可以设置为全自动张力控制仪，通过安装张力传感器，组成闭环控制系统。（见图A）

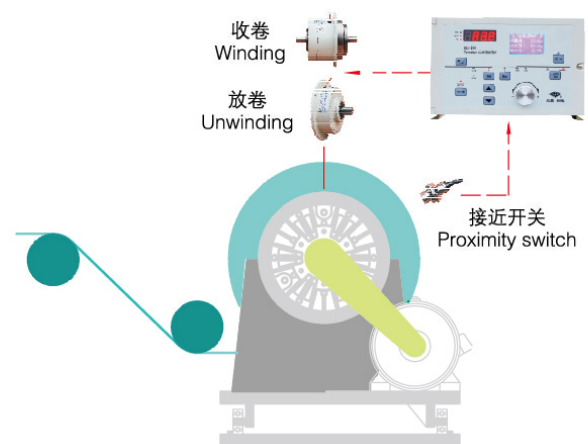
SC-2H型自动张力控制仪可以设置为卷径张力控制仪，只需安装接近开关或编码器对卷料半径进行测量，控制仪根据卷径进行张力控制。（见图B）

The automatic tension controller can be set to full-automatic tension controller through forming a closed loop control system after being installed the tension sensor.

The automatic tension controller can be set to roll tension controller,then it can control the tension according to the roll diameter as long as installing the proximity switch or encoder to test the roll radius.



图A、SC-2H型做为全自动张力用于收放卷
Chart A:it is used in winding and unwinding as full-automatic tension controller



图B、SC-2H型做为卷径张力用于收放卷
Chart B:it is used in winding and unwinding as roll tension controller

功能特点 Function

- 1.采用128X96图形液晶显示器，中、英文显示选择，操作界面友好。

Possessing 128X96 graphic LCD with Chinese and English display, and it can be operated simply.

- 2.可选择全自动张力控制或卷径张力控制功能。

The controlling function of the full-automatic tension sensor and the roll diameter tension can be optional.

- 3.全数字化设计，无可调电位器，张力标定过程简单，张力测量精确、稳定、可靠。

Digitized design/non adjustable potentiometer/simple tension calibration process, accurate/stable/dependable tension measurement.

- 4.可以接收单路/双路传感器输入信号，适应各种张力传感器作为输入信号使用

Receiving single/double sensor input signal, application to all kinds of the sensor as input signal.

- a.可选用微位移专用张力传感器（输入信号范围为200mV，供电电源5V）

a.Selecting special micro-displacement tension controller(input signal range is 200mV, power supply is 5V)

- b.可选用应变片式张力传感器（输入信号范围为20mV，供电电源10V）

b.Selecting special strain gauge tension controller(input signal range is 20mV, power supply is 10V)

- 5.采用接近开关测量卷径，可实现锥度张力控制功能

Testing roll diameter through proximity switches to achieve the functions of taper tension control.

- 6.可选串行通信功能，可选RS485或RS232通讯接口与PLC、PC组成集散系统。

Possessing the functions of optional serial communication, selecting the RS485 or RS232 communication interface to form a distributed control system with PLC、PC.

- 7.采用无超调PID算法，保证系统启/停过程中张力无超调。

Using non overshooting tension in the process of the start and stop of the system by using non overshooting algorithm PID.

- 8.具有双轴切换功能及加减速控制功能。

Possessing the function of biaxial switching and acceleration/deceleration controlling.

- 9.自动/手动控制方式无扰切换。

Bumpless switching in automatic/manual control mode.

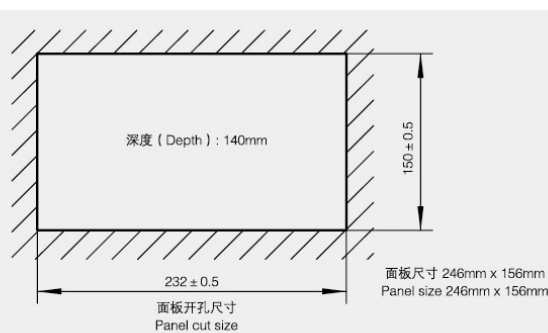
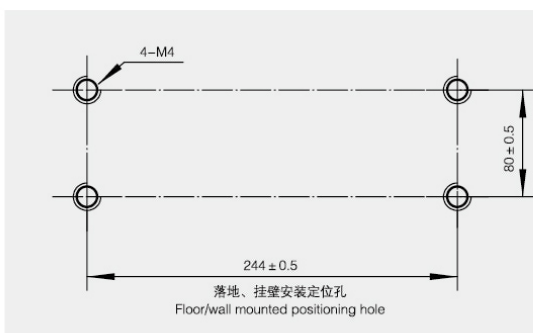
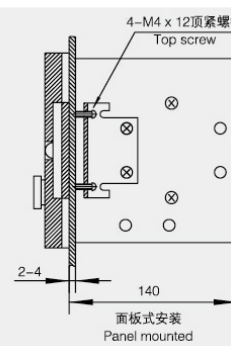
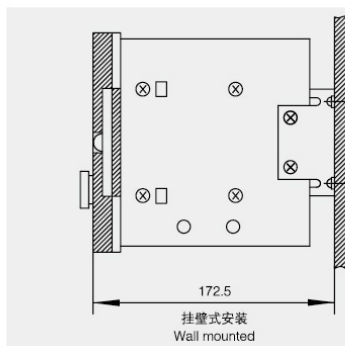
- 10.参数密码保护，防止误修改。

Using password protection parameters to prevent accidental change.

外形尺寸 Overall dimension

SC-2H型自动张力控制仪可以落地式、挂壁式和面板式安装。

SC-2H tension controller can be floor-mounted, wall-mounted and panel-mounted.



Tension control system

张力控制系统

SC-3H型自动张力控制仪 SC-3H automatic tension controller

产品概述 Product Overview

SC-3H型自动张力控制仪，数字化控制，彩屏显示，千分比实时监控。

0-24V或0-36V输出直接驱动磁粉制动器/离合器，0-10V输出可控制变频器、力矩电机驱动器、伺服电机驱动器等执行机构。广泛应用于印刷、包装、造纸、纺织、印染及电线电缆等行业的恒张力控制。

SC-3H type automatic tension controller, digital control, color display, permillage real-time monitoring. 0-24V or 0-36V output directly drives the magnetic powder brake / clutch, 0-10V output can control frequency converter, torque motor drive, servo motor drive and other actuators. Widely used as constant tension controller in printing, packaging, paper, textiles, printing and dyeing and wire and cable industry.

功能特点 Functional characteristics

1、采用32位CPU，高速、高精度、高可靠性。

Using 32 bit CPU, high speed, high precision, high reliability

2、参数彩屏显示，中、英文双语。

The parameters of color display, chinese and English bilingual.

3、智能PID算法，张力控制稳定，收卷锥度控制

Intelligent PID algorithm, tension control stability, rolling taper control.

4、启动方式：速度或端子开关均可控制。

Start mode: speed or terminal switch can be controlled.

5、具有输出记忆，断电保持功能。

Has the output memory, power down to maintain the function.

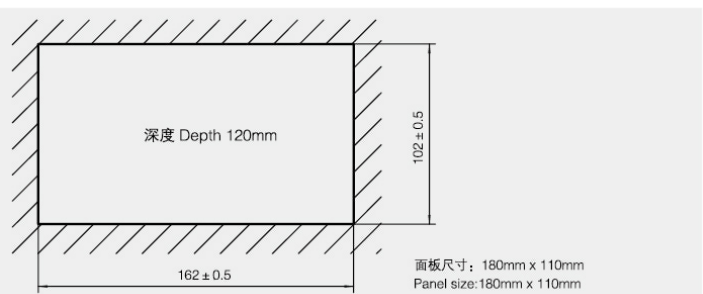
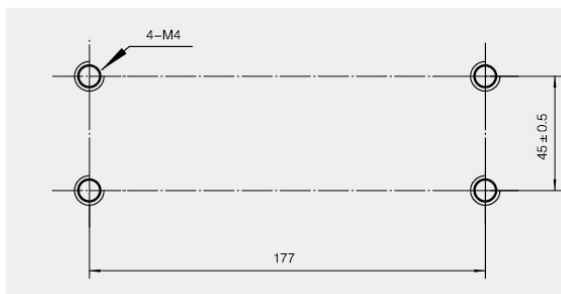
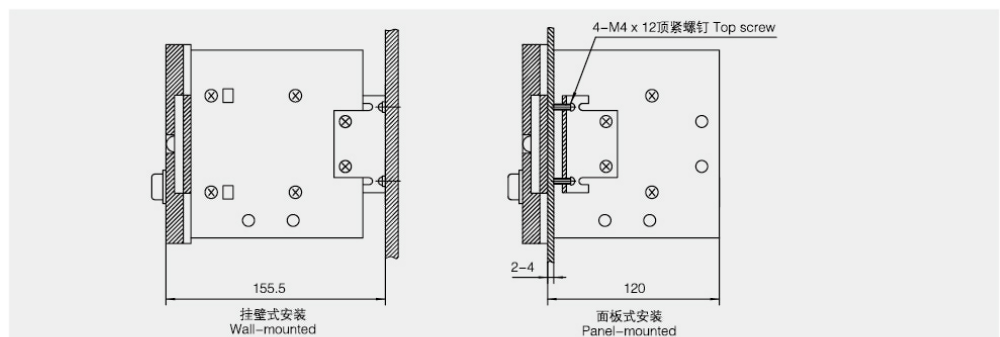
6、仅可配TJL型张力传感器使用。

Can be only used with TJL type tension sensors.

外形尺寸 Overall dimension

SC-3H型自动张力控制仪可以落地式、挂壁式和面板式安装。

SC-3H tension controller can be floor-mounted, wall-mounted and panel-mounted.



SC-3Z型锥度张力控制仪 SC-3Z taper tension controller

产品概述 Product Overview

SC-3Z型锥度张力控制仪,是根据卷径累加检测算法,按比例输出的半闭环系统。

SC-3Z taper tension controller is a half-closed loop system, which is based on the measurement and calculation method of the volume diameter.

0-24V或0-36V输出直接驱动磁粉制动器/离合器,广泛应用于印刷、包装、造纸、纺织、印染及电线电缆等行业的恒张力控制。

0-24V or 0-36V output directly drives the magnetic powder brake / clutch, widely used as constant tension controller in printing, packaging, paper, textiles, printing and dyeing and wire and cable industry.

功能特点 Functional characteristics

采用大规模集成电路设计,32位单片机控制,脉宽调制后由输出电流实时控制,彩色液晶屏实时曲线显示,参数实时修改设定,控制精度高,力矩输出无死区,自动记忆并保存数据。

Use large scale integrated circuit design, 32 single chip control, pulse width modulation by the output current control. Color LCD screen shows real-time curve display, real-time parameter modification and setting. High control accuracy, torque output no dead time, automatic memory and save the data.

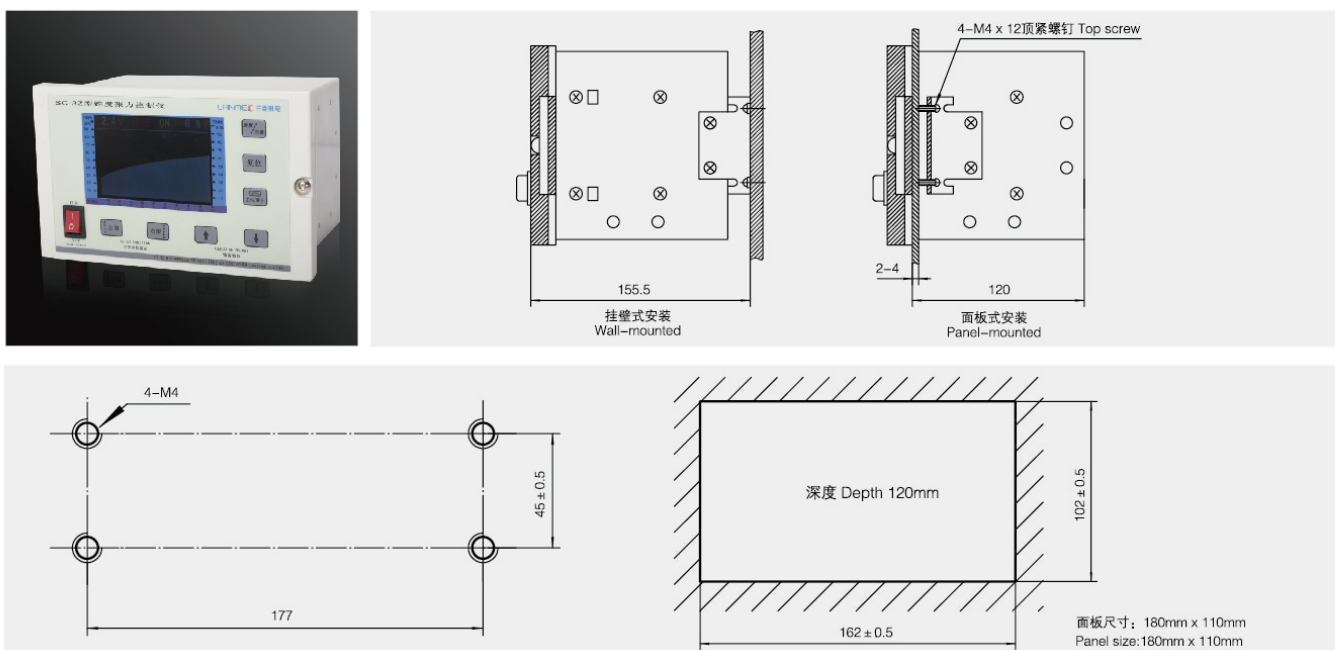
无需张力传感器,半闭环控制,运行过程中,卷材直径 ϕ 、材料张力F、实时曲线显示,非常直观,在无传感器的应用中,同样可稳定控制张力大小,与使用张力传感器闭环相比较该系统易安装,性价比高,精度介于手动与自动之间。

No need tension sensor, semi-closed loop control, when operations, coil diameter, material tension F, real time curve display, very intuitive. In the application of no sensor, can be stable control the tension. Compared with the tension sensor closed loop, the system is easy to install, cost-effective, accuracy between manual and automatic.

外形尺寸 Overall dimension

SC-3Z型自动张力控制仪可以落地式、挂壁式和面板式安装。

SC-3Z tension controller can be floor-mounted, wall-mounted and panel-mounted.



Tension control system

张力控制系统

SC-4M型张力变送器 SC-4M tension transmitter

概述 Overview

SC-4M型张力变送器是一种将张力信号转换成标准电信号的高精度电路，配以 TJL型张力传感器，即可将卷料在运行过程中的张力进行转换，在输出端口得到0-10V的标准信号，供各种张力控制仪器或PLC使用。

The tension transmitter is precision circuit which can transform the tension control into standard electric signal. It will transform the tension during operation of the roll materials with TJL tension sensor. The standard signal(0-10v) from the output port can be used in all kinds of the tension controllers or PLC.

技术参数 Technical parameters

- 1、电源电压：AC220V $\pm$ 10% 50HZ
Power supply voltage: AC220V $\pm$ 10% 50HZ
- 2、信号输出：0-10V
Signal output: 0-10V
- 3、输出精度： $\pm$ 0.5%
Output accuracy: $\pm$ 0.5%
- 4、外形尺寸：宽96mm x 高96mm x 深110mm
Overall dimension: width 96mm x height 96mm x depth 110mm
- 5、屏面开孔尺寸：90mm x 90mm
Screen surface hole size: 90mm x 90mm



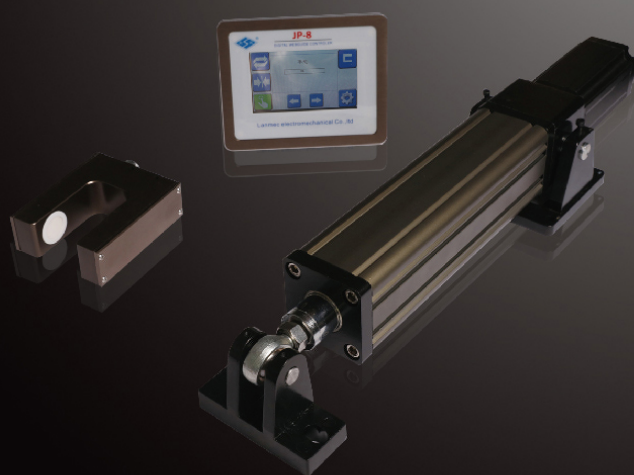
Deviation control system

纠偏控制系统

P43 JP-5型光电纠偏系统
JP-5 photoelectric deviation control system



P48 EPC-DY-01型电液纠偏系统
EPC-DY-01 electro-hydraulic deviation control system



P45 JP-8型伺服纠偏系统
JP-8 servo deviation control system



P48 EPC-QY-01型气液伺服纠偏系统
EPC-QY-01 liquid servo deviation control system

Deviation control system

纠偏控制系统

JP-5型光电纠偏系统 JP-5 photoelectric deviation control system

JP-5型光电纠偏系统是对生产线中卷料在传递时位置偏移进行纠偏的系统，具有自动检测、自动跟踪、自动调整等功能。能对纸张、薄膜、无纺布、铝箔等物料的标志线或边缘进行跟踪纠偏以保证卷绕、分切的整齐。该系统广泛应用于轻工、纺织、印染、印刷、带钢、有色金属等行业。其机械执行机构采用同步电机、滚珠丝杠、滑动轴承等部件，具有结构简单、精度高、免维护等优点，伸缩部分采用滚珠丝杠内置式，杜绝了丝杠承受弯矩及灰尘之影响。

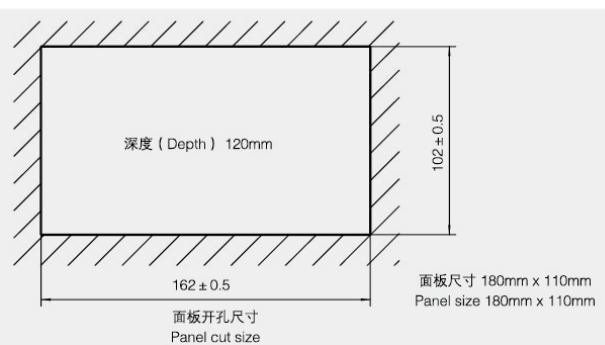
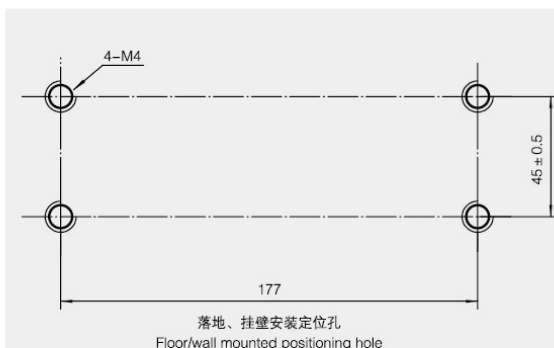
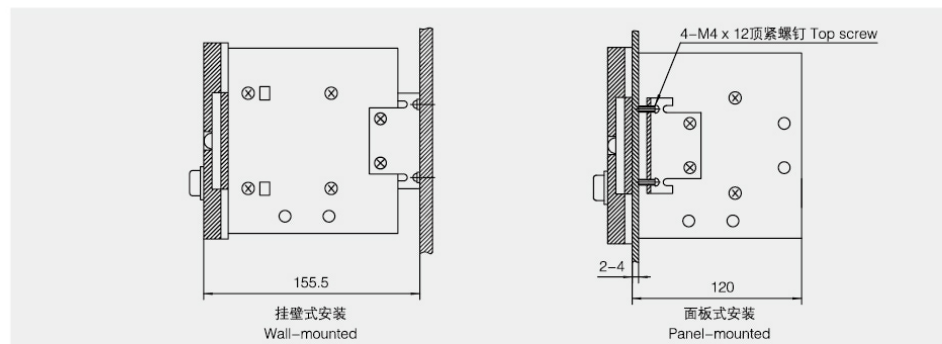
This product is a system for correcting the position shift when the roll material is being delivered in the production line. It has the function of automatic detection, automatic tracking, automatic adjustment. It has a track correction for edge or guide line of the paper, film, non-woven fabrics, aluminum foil etc to ensure the orderliness of the winding and cutting. This system has been widely used in the light industry, textile industry, printing, printing and dyeing, steel industry and non-ferrous metal industry. Its mechanical actuator is composed of synchronous motor, ball screw and sliding bearing etc and has advantages of simple structure and high precision, free maintenance. Its scaling part utilizes built-in ball screw to withstand the impact of bending moment and dust.

JP-5型微电脑纠偏控制器外形与安装尺寸

Overall dimension and installation size of JP-5 microcomputer correction controller

输入电源AC220V $\pm 10\%$ 50HZ，可根据生产现场实际需要来设置使用的光电传感器数量和系统的灵敏度。

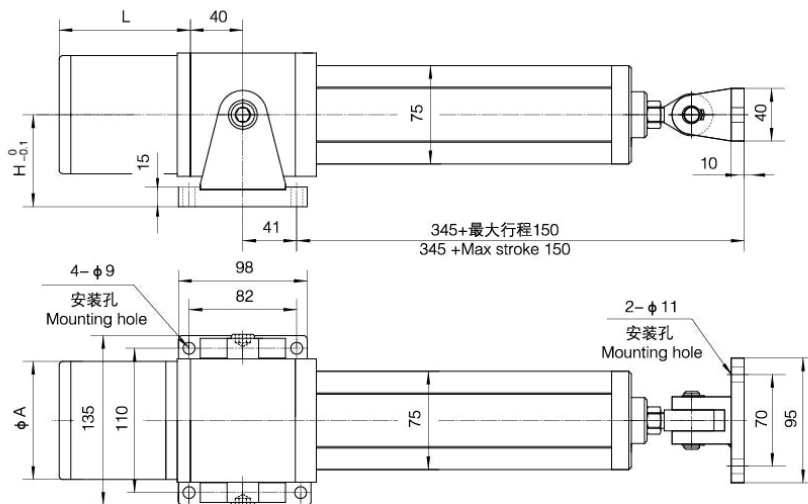
Input power: AC220V $\pm 10\%$ 50HZ, the quantity of the photoelectric sensor and the sensitivity of the system can be set according to the actual needs at production site.



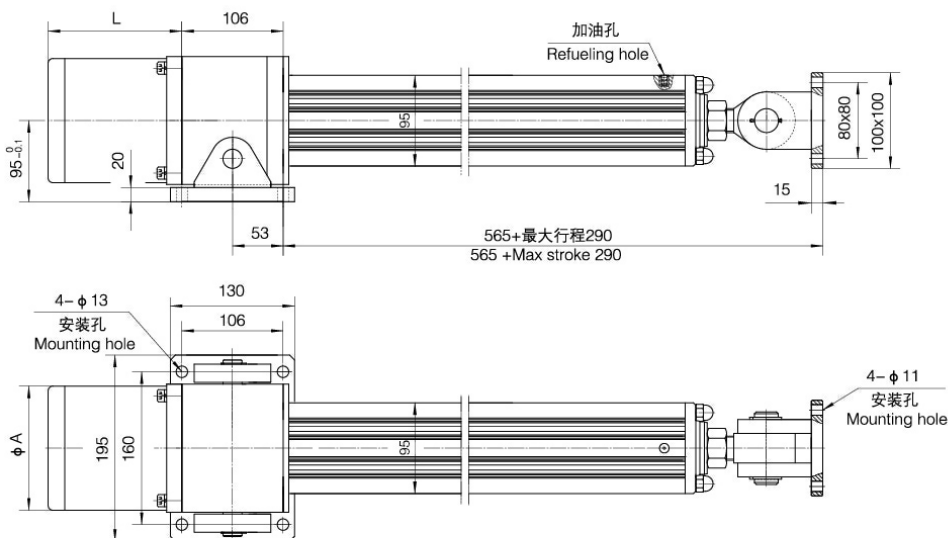
JP-5型 执行机构外形尺寸与性能参数

JP-5 Actuator overall dimension and performance parameters

1、标准A型standard model A, 增强IA型enhanced IA,增强IIA型enhanced IIA



2、特强A型 Particular strong A



型号 Model	ΦA	L	H	电机功率 Motor power	推重 Thrust-weight	纠偏精度 Correction accuracy	响应时间 Response time	位置失控保护 Position control protection
标准A型 Standard model A	90	100	70	90W	1500kg	± 0.5mm	2ms	限位开关 Limit switch
增强IA型 Enhanced IA	110	147	70	110W	3000kg	± 0.5mm	2ms	
增强IIA型 Enhanced IIA	130	140	85	150W	5000kg	± 0.5mm	2ms	
特强A型 Particular strong A	150	170	95	200W	8000kg	± 0.5mm	2ms	

注：滑动部件必须为直线导轨或滚动轴承。中间纠偏需另选型号，订货时请注明。

Note: the sliding part should be the linear guide or rolling bearing. Intermediate correction need to select other models. please specify when make order

Deviation control system

纠偏控制系统

JP-8型伺服纠偏系统 JP-8 Servo deviation control system

JP-8是一款高性能的全触摸屏式纠偏控制器，专门应用于材料在收卷、放卷或传送过程中位置产生偏移时，进行自动纠正。该控制器配合超声波等模拟量信号输出传感器使用时，根据检测信号运算出材料位置偏移大小，及时修正纠偏电机驱动参数，来达到对材料高精度的位置纠正。也可配合光电等数字量信号输出传感器使用，控制纠偏电机的正转、反转来达到纠偏的目的。

JP-8 is a high performance full touch screen type deviation controller, specially used in the material deviation in winding and unwinding , or in the transfer process , conduct automatic correction.

When using the analog signal output sensor such as ultrasonic wave, according to the detection signal operate material position offset, in time to correct the deviation of the motor drive parameters, to achieve a high accuracy of the position of the material correction . Can also be used with the digital signal output sensor, such as photoelectric sensor, control of the positive and reverse rotation to achieve the purpose of rectifying the deviation.

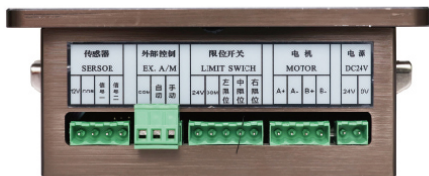
JP-8型伺服纠偏控制器外形尺寸及性能参数

The overall dimensions and performance parameter of JP-8 servo deviation Controller

外形尺寸(Overall dimensions)



面板尺寸 150mm x 120mm
Panel size 150mm x 120mm



开孔尺寸 130mm x 98mm x 100mm(深)
Hole out size 130mm x 98 mmx 100mm(Height)

性能数据(Performance parameter)

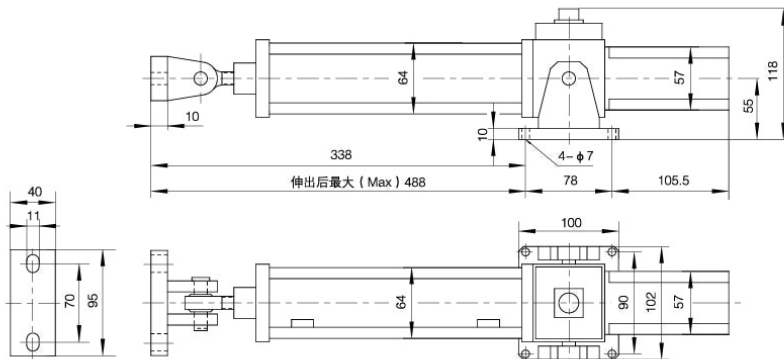
CPU	Cortex-A9四核处理器 Cortex-A9 Quad core processor
工作频率 Working frequency	1.2GHz
响应时间 Response time	1ms
检测精度 Check accuracy	< 0.1mm
显示 Display	高清触摸屏 HD touch screen
电机调速 Motor regulation speed	模糊PID算法 Fuzzy pid
电机驱动 Motor drive	伺服 Servo
适配传感器 Adapter sensor	各种模拟量传感器 Variety of analog sensor
换向 Reversing	电子换向 Electronic commuting
维护成本 Maintenance cost	免维护 No need Maintenance
安全性 Security	无火花安全性高 High safety without spark

JP-8型 伺服执行机构外形尺寸与性能参数

JP-8 Servo actuator overall dimension and performance parameters

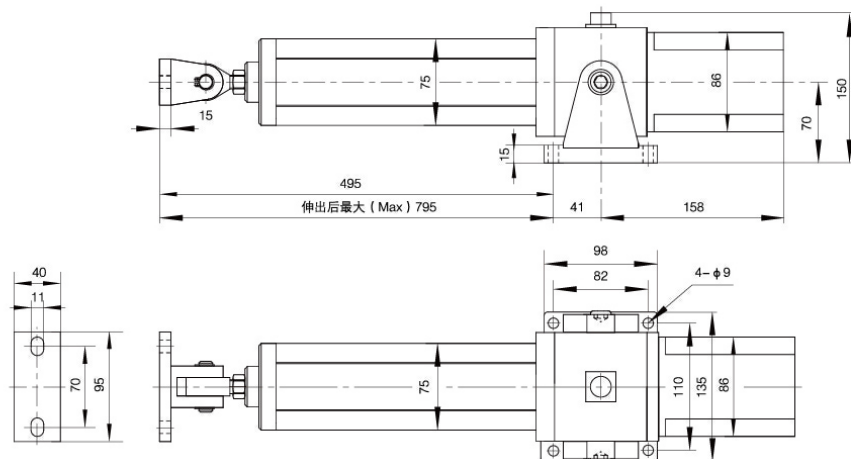
1、SE-1T型伺服执行机构外形尺寸

The overall dimension of SE-1T servo actuator



2、SE-5T型伺服执行机构外形尺寸

The overall dimension of SE-5T servo actuator



性能数据(Performance data)

型 号 Model	SE-1T	SE-5T
电机类型 Motor type	伺服 Servo	伺服 Servo
最大速度 Maximum speed	30mm/s	30mm/s
最大推力 The maximum thrust	1500N	6000N
允许载重 Allowable load	1000kg	5000kg
行程范围 Stroke range	0-150mm	0-150mm、0-300mm可选 (Optional)
位置检测 Position detection	内置编码器 Built-in encoder	内置编码器 Built-in encoder
电机温度 Motor temperature	< 室温+10℃ <room temperature +10 °C	< 室温+10℃ <room temperature +10 °C
空气湿度 Air humidity	0-90%	0-90%

Deviation control system

纠偏控制系统

纠偏传感器的选型 The selection of the deviation sensor

光源色: 绿/红/白 (选)
light source colour: green/red/white(selection)
光斑直径: $\Phi 1.2\text{mm}$
light spot diameter: $\Phi 1.2\text{mm}$
检测方式: 同轴反射
detection mode: coaxial reflection
检测距离: $12 \pm 2\text{mm}$
detection distance: $12 \pm 2\text{mm}$
检测物体: 线 / 色差 透明 / 不透明之边
detected objects: line / colour difference transparent / opaque edge

KS-C2



光源: 红外线
light source :infrared ray
检测方式: 扩散反射
detection mode: diffuse reflection
检测距离: 12–400mm
detection distance: 12–400mm
检测物体: 透明 / 不透明之边
detected objects: transparent / opaque edge

CDD-40N



光源: 红外线
light source :infrared ray
检测方式: 扩散反射
detection mode: diffuse reflection
检测距离: 12–40mm
detection distance: 12–40mm
检测物体: 半透明 / 不透明之边
detected objects: translucent / opaque edge

DS-5R



光源: 红外线
light source :infrared ray
检测方式: 对射
detection mode: relative radiation
开口距离: 30mm
open distance: 30mm
检测物体: 半透明 / 不透明之边
detected objects: translucent / opaque edge

DS-6R



检测方式: 超声波
detection mode: ultrasonic
检测距离: 40mm
detection distance: 40mm
检测物体: 透明 / 不透明之边
detected objects: transparent / opaque edge

DS-7R



光源: 红外线
light source :infrared ray
检测方式: 对射
detection mode: relative radiation
开口距离: 60mm
open distance: 60mm
检测物体: 不透明之边
detected objects: opaque edge

DS-8R



微调距离: 35mm
fine tuning distance: 35mm
材料: 压铸铝合金
material: Die-casting aluminum alloy
安装型钢: 25 x 25 方管
mounting steel: 25 x 25 square tube

**微调支架 (选配)
fine tuning bracket(selection)**



EPC-DY型电液纠偏系统、EPC-QY型气液伺服纠偏系统

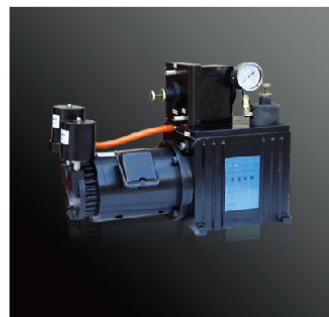
EPC-DY electro-hydraulic deviation control system EPC-QY liquid servo deviation control system

EPC-DY型电液纠偏系统、EPC-QY型气液纠偏系统是对生产线中卷料在传送时位置偏移进行控制的系统。具有自动检测、自动跟踪、自动调整等功能。能对纸张、薄膜、不干胶带、铝箔等物料的标志线或边缘进行跟踪纠偏，以保证卷绕、分切的整齐。该系统可用于轻工、纺织、印染、印刷、带钢、有色金属等行业。EPC-DY型电液纠偏系统是采用对射式红外线光电传感器，EPC-QY型气液纠偏系统是采用气敏式传感器，对边缘进行非接触检测，经控制器运算处理后驱动液压伺服阀，由液压伺服阀线性分配由泵吸入的液压油推动油缸进行左右纠偏，具有较高的精度和灵敏度。

Both of the products are for correcting the position shift when the roll material is being delivered in the production line. It has the function of automatic detection, automatic tracking, automatic adjustment. It has a track correction for edge or guide line of the paper, film, adhesive tape, aluminum foil to ensure the orderliness of the winding and cutting. This system has been widely used in the light industry, textile industry printing, printing and dyeing, steel industry and non-ferrous metal industry. The EPC-DY electro-hydraulic servo correction control system utilize the opposite-irradiation infrared photoelectric sensor to have a non-contact detection of the edge, while the EPC-QY liquid servo correction control system utilize the gas type sensor, after the controller's operation, it drives the valve of hydraulic servo. The hydraulic servo valve linearly-distributes the hydraulic oil from the pump suction to drive cylinder correcting with high accuracy and sensitivity.



EPC-DY型电液纠偏
EPC-DY electro-hydraulic deviation control system



EPC-QY-01型气液纠偏
EPC-QY-01 liquid servo deviation control system

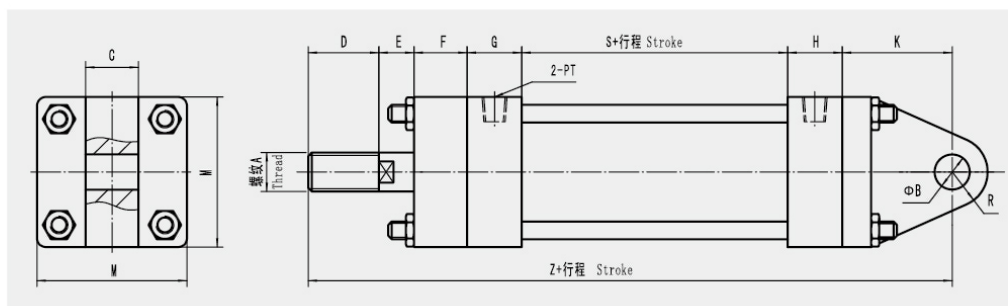
技术参数 technical parameter

技术参数 Technical parameter	EPC -DY-01	EPC -DY-02	EPC -QY-01
电机电源 Motor power	3Φ380V 50HZ	3Φ380V 50HZ	3Φ380V 50HZ
控制电源 Control power	220V 50HZ	220V 50HZ	220V 50HZ
电机转速 Rotational speed of the motor	1400r/min	1400r/min	1400r/min
电机功率 Power of the motor	0.75KW	1.5KW	0.55KW
工作压力 Working pressure	0-25kg/cm ²	0-70kg/cm ²	0-15kg/cm ²
油箱容积 Oil capacity	10L	40L	15L
油泵流量 Pump flow rate	5L/min	20L/min	6L/min
油缸直径 Cylinder diameter	Φ40 Φ50 Φ63	Φ63 Φ80 Φ100	Φ40 Φ50
行程 Route(selective)	100-450mm选用	100-450mm选用	100-450mm选用
检测传感器 Detection sensor	光电传感器 Photoelectric sensor	光电传感器 Photoelectric sensor	气敏探头 Gas sensor
纠偏精度 Correction accuracy	±0.5mm	±0.5mm	±0.5mm
纠偏速度 Correction speed(adjustable)	0-40mm/s可调	0-40mm/s可调	0-40mm/s可调
推重 Thrust-weight	6000kg	15000kg	5000kg
外形尺寸 Overall dimension(LxWxH)	450 x 240 x 500	450 x 360 x 530	450 x 240 x 510
重量 Weight	50kg	75kg	60kg

Deviation control system

纠偏控制系统

MOB-CA型液压缸外形尺寸 MOB-CA hydraulic cylinder overall dimension size



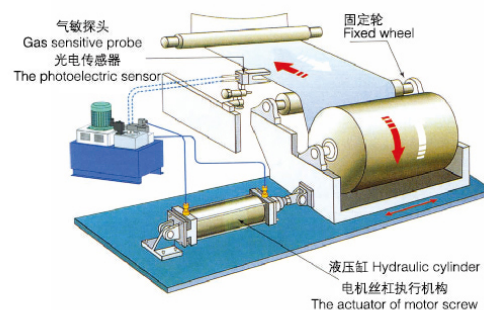
缸径 Cylinder diameter	A	B	C	D	E	F	G	H	K	M	R	S	Z	PT
Φ40	M16 x 1.5	12	22	28	17	20	30	30	36	64	13	50	211	ZG3/8
Φ50	M16 x 1.5	16	22	28	18	20	30	30	36	70	16	50	211	ZG3/8
Φ63	M22 x 1.5	20	30	40	20	30	31	31	46	85	20	50	248	ZG3/8
Φ80	M26 x 1.5	30	30	40	20	32	37	37	68	106	30	55	289	ZG1/2
Φ100	M30 x 1.5	35	35	45	20	32	37	37	73	122	35	80	324	ZG1/2

纠偏安装实例 Example

材料收卷 material winding

纠偏传感器安装在与卷取车台共同移动的位置上。经电机丝杠或液压缸驱动修正，使所卷之材料相对传感器或探头不偏不倚，使所收之卷整齐。

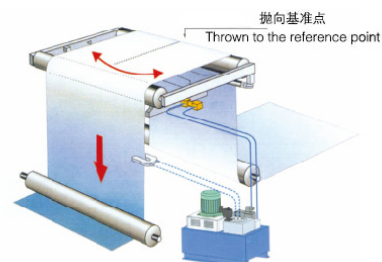
The photoelectric sensor installed on the position co-moving with the take-up turntable. The roll material is relative to the sensor or probe impartially through after the correction of the motor screw or the hydraulic cylinder drive, and ensure the orderliness of the rolling material.



材料放卷 material unwinding

纠偏传感器固定接近于放料车台之位置，经电机丝杠或液压缸驱动修正，使所放之材料相对传感器或探头不偏不倚的行走。

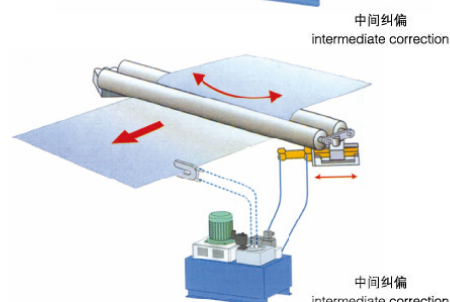
The photoelectric sensor is fixed closely to the location of the discharge table. The roll material is relative to the sensor or probe impartially through after the correction of the motor screw or the hydraulic cylinder drive, and ensure the orderliness of the rolling material.



中间纠偏 intermediate correction

较长距离行走之材料，于中间段加工前后，使用此装置，可避免材料因距离太长，偏离正常行走之方向。

For the roll material expected to walk longer distances, the devices installed before and after processing in the middle section can avoid material deviation from the normal walking direction because of the long distance.





Safety chuck

安全卡盘

- P52 28型安全卡盘 (28 type safety chuck)
- P53 35型安全卡盘 (35 type safety chuck)
- P54 50型安全卡盘 (50 type safety chuck)
- P55 75型安全卡盘 (75 type safety chuck)
- P56 100型安全卡盘 (100 type safety chuck)
- P57 VT型安全卡盘 (VT type safety chuck)

Sliding safety chuck

滑动安全卡盘

- P59 SKW轴座型滑动安全卡盘 (SKW Base type sliding safety chuck)
- P60 SKO轴座型滑动安全卡盘 (SKO Base type sliding safety chuck)
- P61 SKWF法兰型滑动安全卡盘 (SKWF Flange sliding safety chuck)
- P62 SKOF法兰型滑动安全卡盘 (SKOF Flange sliding safety chuck)
- P63 轴向定位尺寸 (Axial orientation dimension)
- P64 轴向定位环尺寸 (Size of axial positioning ring)

Safety chuck 安全卡盘

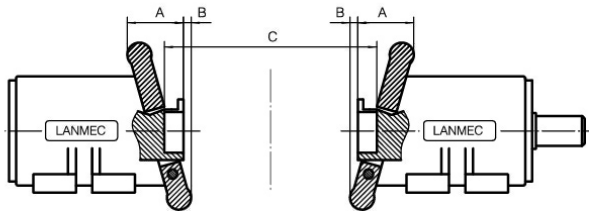
安全卡盘 Safety chuck



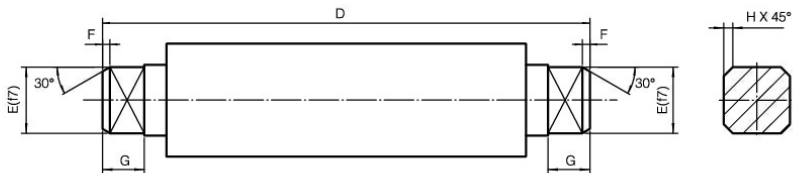
特性 Features

- 1、安全卡盘是为频繁需要连接传动和脱离动作的工作机构，提供快速、精确、简易及安全的联轴器
- 2、卡盘托口采用特殊的热处理工艺，极大的延长了使用寿命
- 3、卡盘所有关键尺寸均为加工中心、数控机床加工，保证其定位的精度
- 1、 The safety chuck is a coupling which can make the operating mechanism requiring connection of drive and breaking away from action works more fast ,more accurate,more simple and more safety.
- 2、 The mouth of chuck utilize the special heat treatment to exted service life greatly
- 3、 All critical dimension of the chuck is processed by the machining center and CNC machining to ensure positioning accuracy.

卷轴两侧规格尺寸 Size of both sides of the scrolls



气胀轴两侧尺寸 Size of both sides of the Air shaft



规格 Specification	A	B	$X=(C-D)$	E(f7)	F	G	H
28	61	8	0.5	22-30	4	21.5 ⁰ _{-0.2}	1
35	73	13	1.5	30-40	5	24 ⁰ _{-0.2}	1.5
50	81	13	1.5	40-50	5	26 ⁰ _{-0.2}	2
75	106	16	1.5	50-80	6	34 ⁰ _{-0.2}	3
100	141	28	2	80-120	15	50 ⁰ _{-0.5}	5

安装注意：“兰菱”牌安全卡盘制造时已经保证了工艺精度在允许的范围之内，但是在与气胀轴一起安装时其不同心度必须小于0.3°，这样才能有助于卡盘的快速装夹与脱离，并能保证气胀轴轴头与卡盘脱口减少磨损、延长寿命。如果误差过大，还将引起料架和机器的振动，请特别关注！

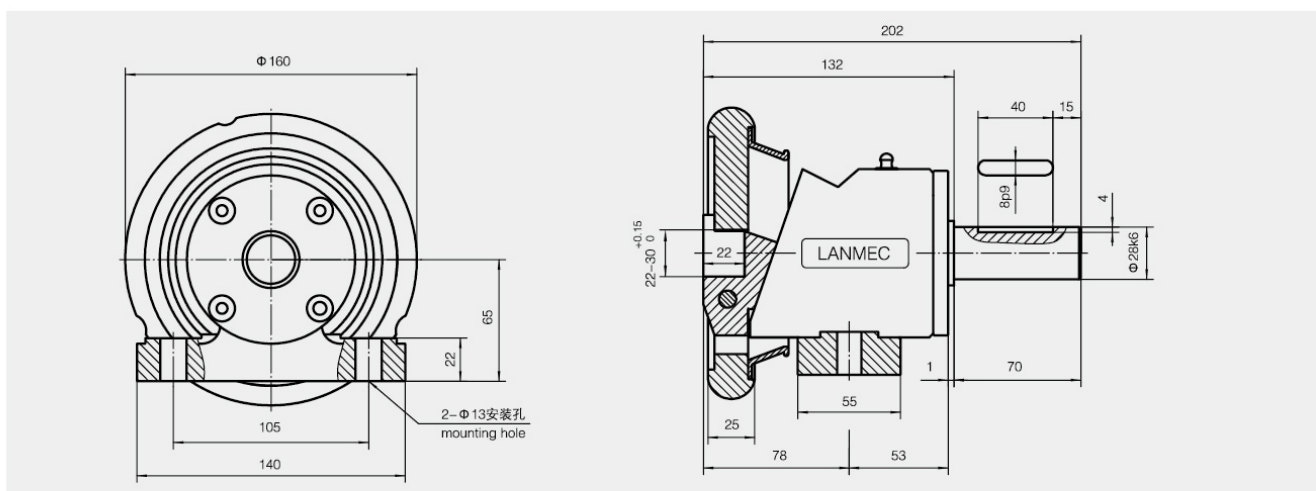
Installation notes:” Lanmec” brand safety chuck has ensured the process accuracy at the extend allowed range when it is at the time of manufacture,but its nonconcentricity should be less than 0.3°，when it is installed with air shaft,then it can ensure less wear between air shaft and the mouth of the chuck to extend service life.If the error is too large to cause the vibration of rack and machine,please pay special attention!

规格: 28 specification:28

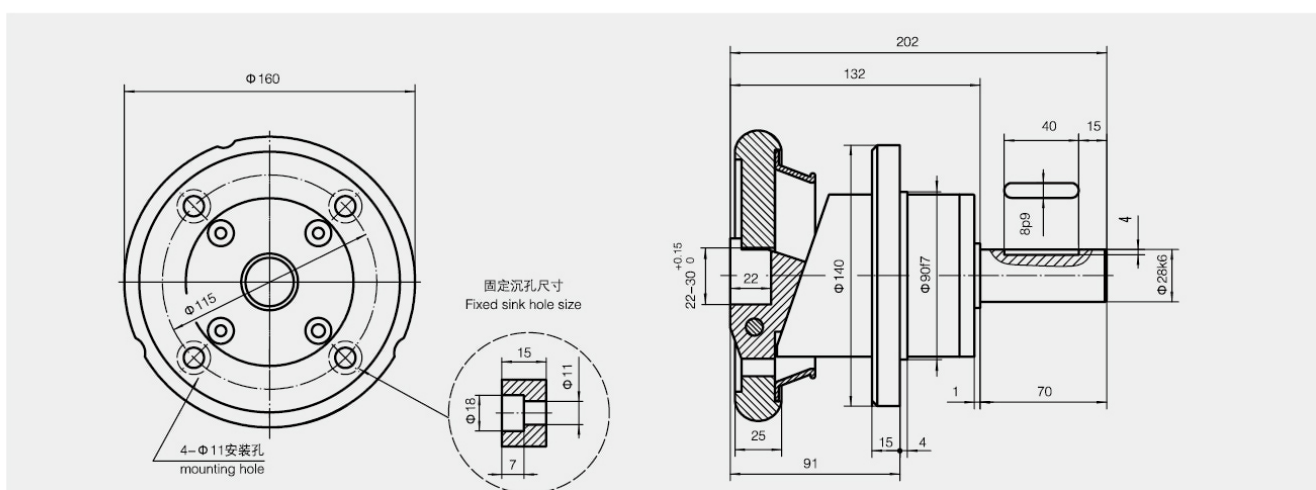
型号	Model	STO/STW28-	FLO/FLW28-
最大载荷kg	Maximum loading	800	800
最大转矩kg.m(N.m)	Maximum torque	18(180)	18(180)
方棒尺寸mm	Size of square rod	22-30	22-30
重量kg	Weight	18	18



STO/STW28 机座式安全卡盘 STO/STW28 base type safety chuck



FLO/FLW28 法兰式安全卡盘 FLO/FLW28 flange type safety chuck



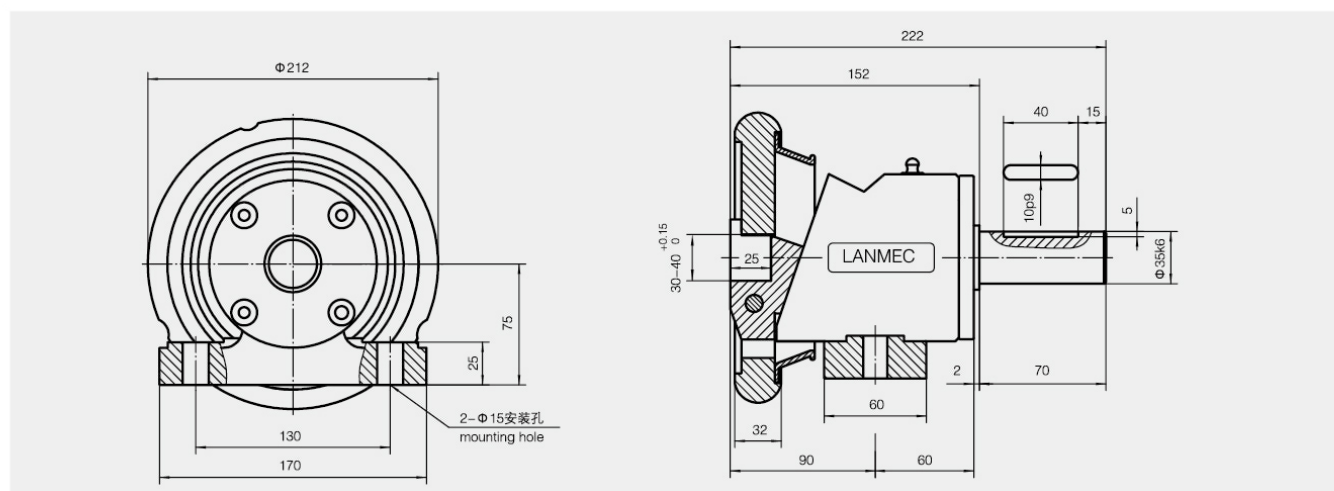
Safety chuck 安全卡盘

规格: 35 specification:35

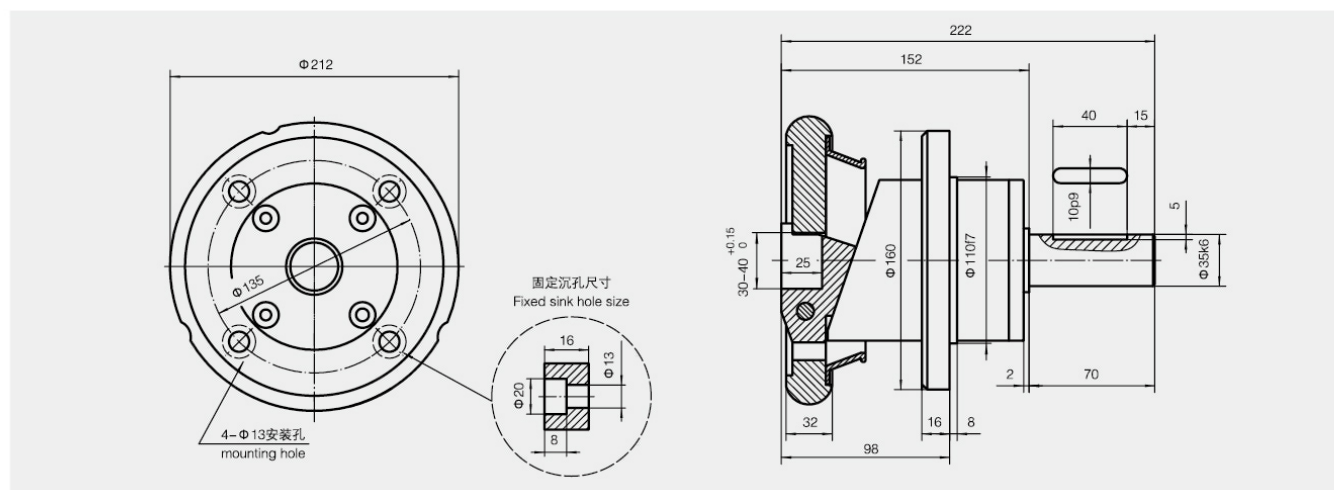
型号	Model	STO/STW35-	FLO/FLW35-
最大载荷kg	Maximum loading	1600	1600
最大转矩kg.m(N.m)	Maximum torque	35(350)	35(350)
方棒尺寸mm	Size of square rod	30-40	30-40
重量kg	Weight	25	25



STO/STW35 机座式安全卡盘 STO/STW35 base type safety chuck



FLO/FLW35 法兰式安全卡盘 FLO/FLW35 flange type safety chuck

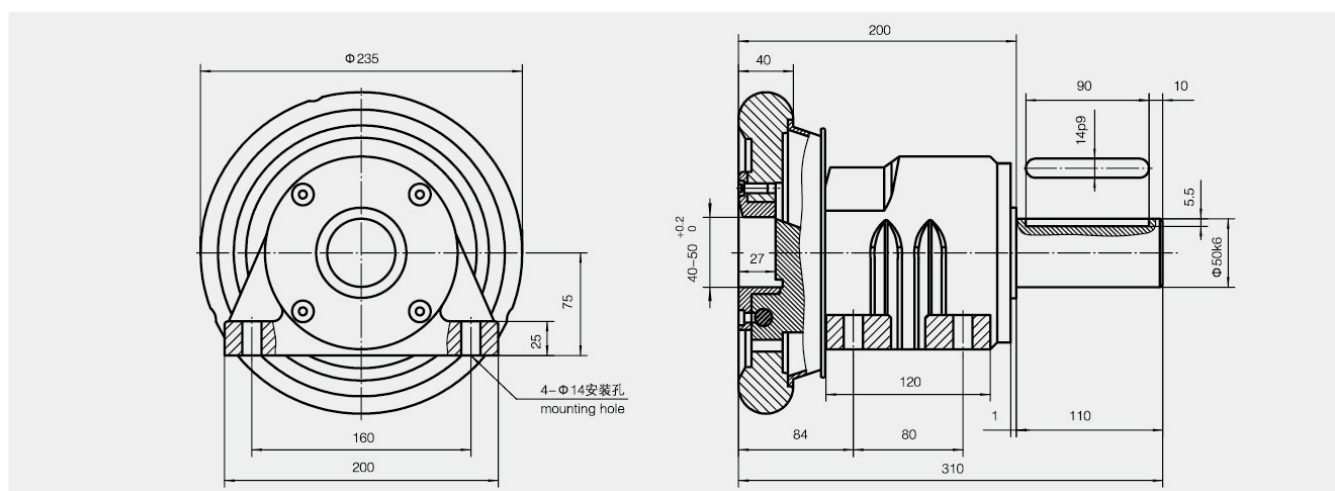


规格: 50 specification:50

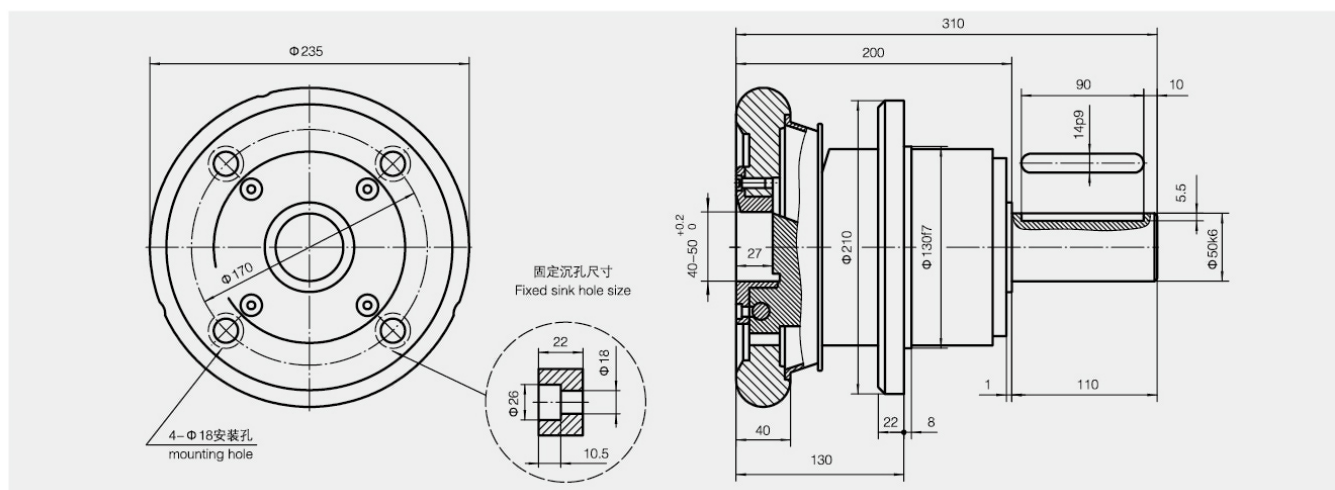
型号	Model	STO/STW50-	FLO/FLW50-
最大载荷kg	Maximum loading	2800	2800
最大转矩kg.m(N.m)	Maximum torque	110(1100)	110(1100)
方棒尺寸mm	Size of square rod	40-50	40-50
重量kg	Weight	50	50



STO/STW50 机座式安全卡盘 STO/STW50 base type safety chuck



FLO/FLW50 法兰式安全卡盘 FLO/FLW50 flange type safety chuck



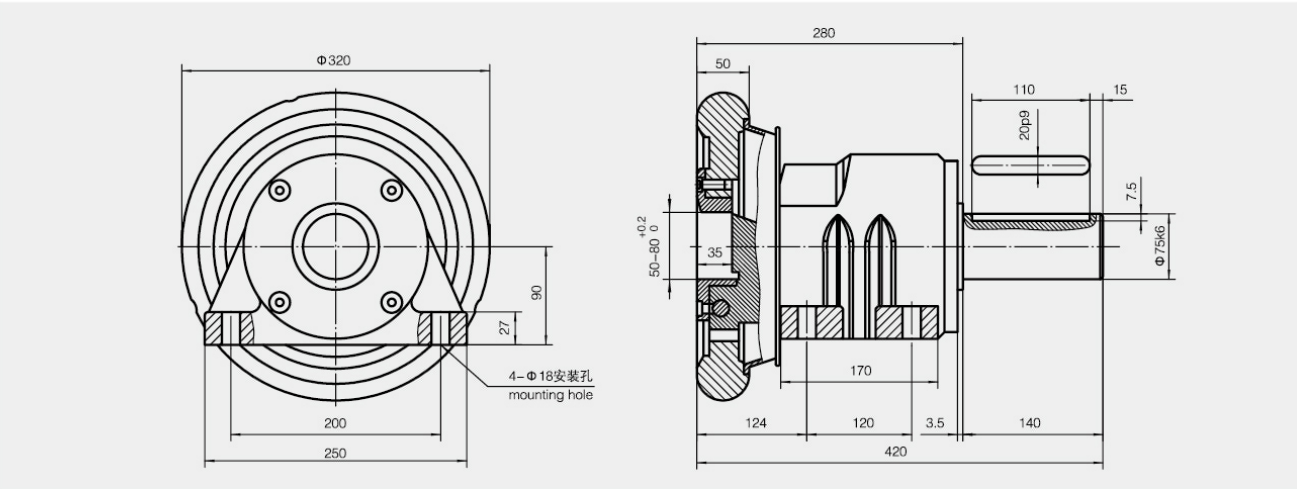
Safety chuck 安全卡盘

规格: 75 specification:75

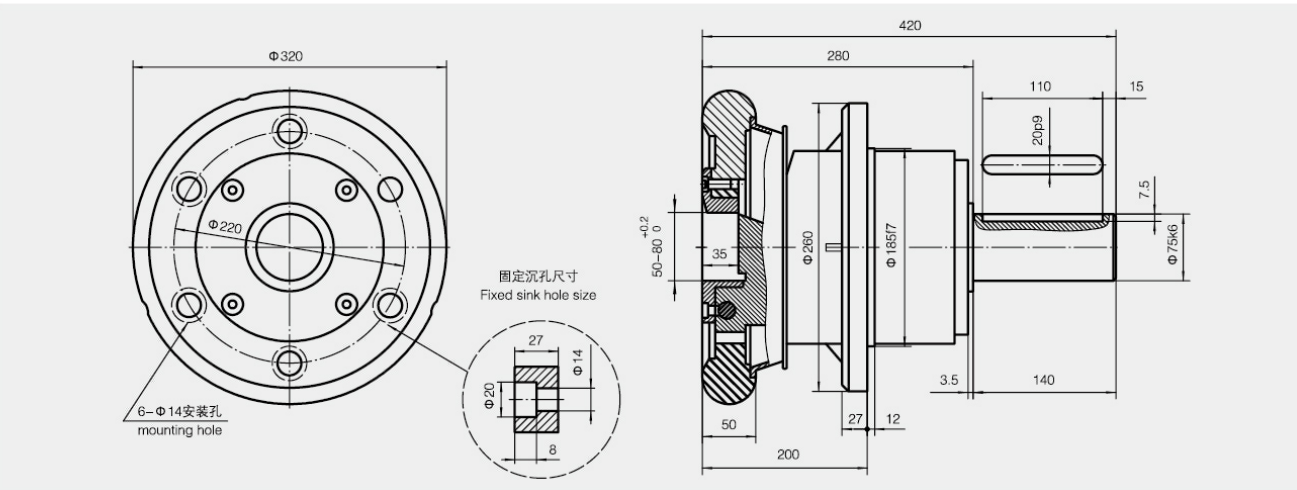
型号	Model	STO/STW75-	FLO/FLW75-
最大载荷kg	Maximum loading	7000	7000
最大转矩kg.m(N.m)	Maximum torque	235(2350)	235(2350)
方棒尺寸mm	Size of square rod	50-80	50-80
重量kg	Weight	85	85



STO/STW75 机座式安全卡盘 STO/STW75 base type safety chuck



FLO/FLW75 法兰式安全卡盘 FLO/FLW75 flange type safety chuck

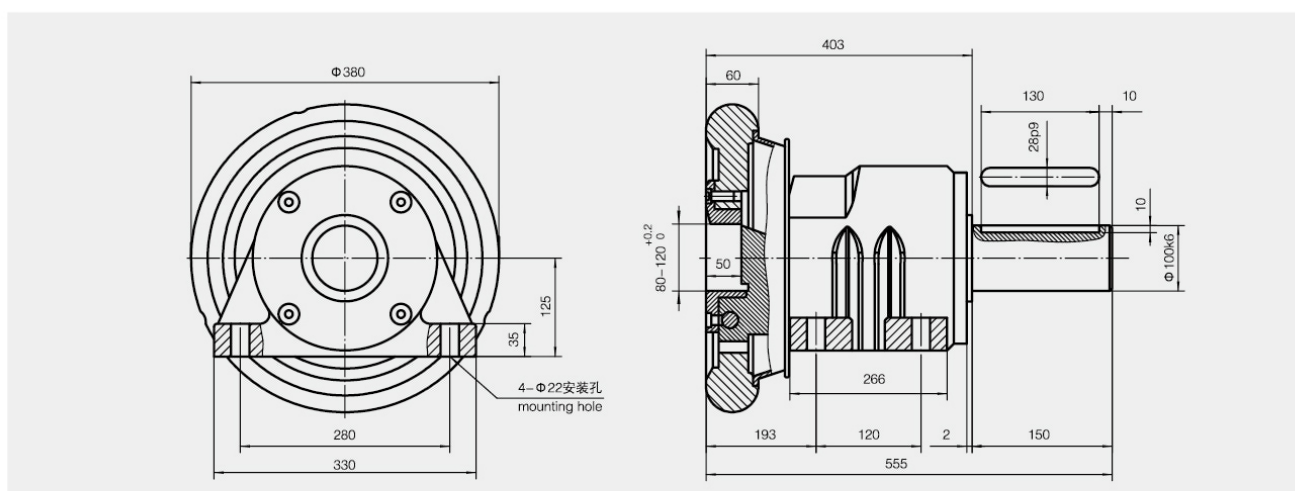


规格: 100 specification:100

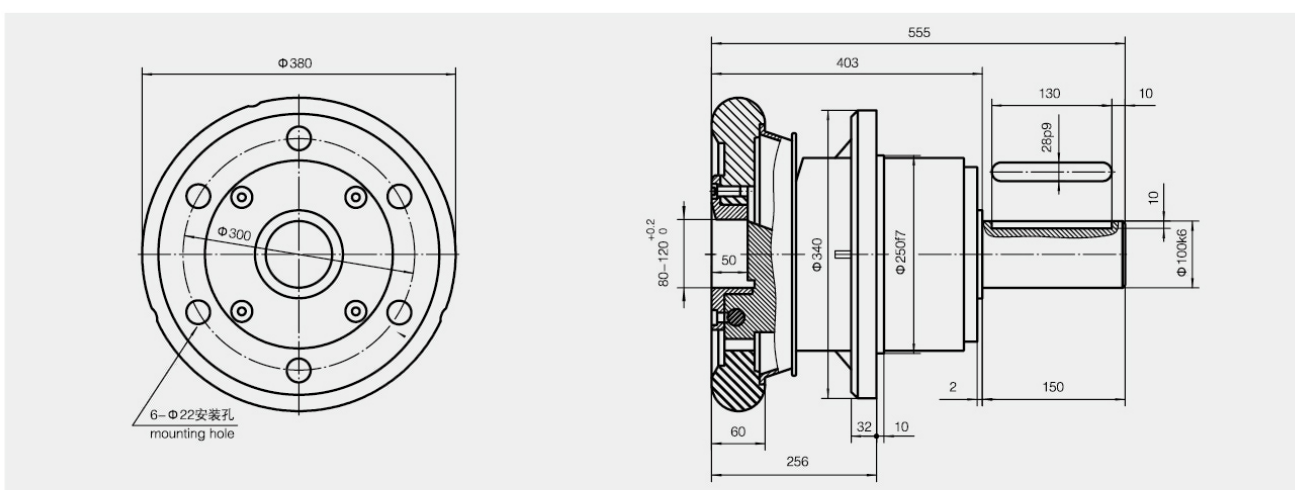
型号	Model	STO/STW100-	FLO/FLW100-
最大载荷kg	Maximum loading	12000	12000
最大转矩kg.m(N.m)	Maximum torque	1000(10000)	1000(10000)
方棒尺寸mm	Size of square rod	80-120	80-120
重量kg	Weight	450	450



STO/STW100 机座式安全卡盘 STO/STW100 base type safety chuck



FLO/FLW100 法兰式安全卡盘 FLO/FLW100 flange type safety chuck



Safety chuck 安全卡盘

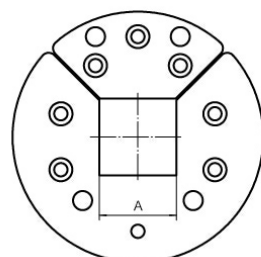
VT型安全卡盘 VT Safety chuck

安全卡盘可制作成更换托口镶件的方式，镶件材料选用特殊钢材淬火制成，更极大地延长了使用寿命。根据开口方式的不同，分为VT1型和VT2型，详见下图表。

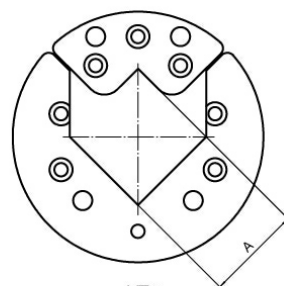
Safety chuck can be made into the way of replacing mouth inserts, the material of the inserts is made of special hardened steel, which can extend the service life greatly. It can be divided into VT1 and VT2 according to the different modes of opening, the chart is as follows.

规格 Type	托口 A Mouth
28	25 30
35	30 32 35 40
50	40 45 50
75	50 60 80
100	80 100

注：VT2 75型最大60mm
Note: VT2 75 type is up to 60mm



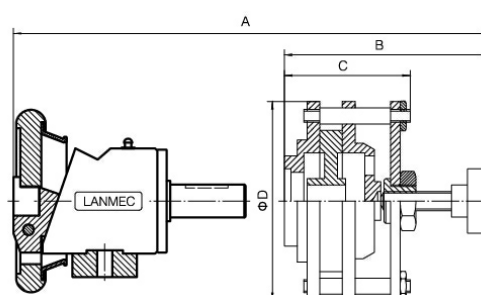
VT1



VT2

安全卡盘与手动制动器组合

The combination of safety chucks and manual brake



规格 Type	转矩 Torque	A	B	C	D
28+ESB200	2-40 (N.m)	235	118	86	Φ200
35+ESB200		241			
50+ESB200		258			
75+ESB200		327			
28+ESB250	3-50 (N.m)	235	136.5	110	Φ250
35+ESB250		241			
50+ESB250		258			
75+ESB250		327			



Sliding safety chuck 滑动安全卡盘

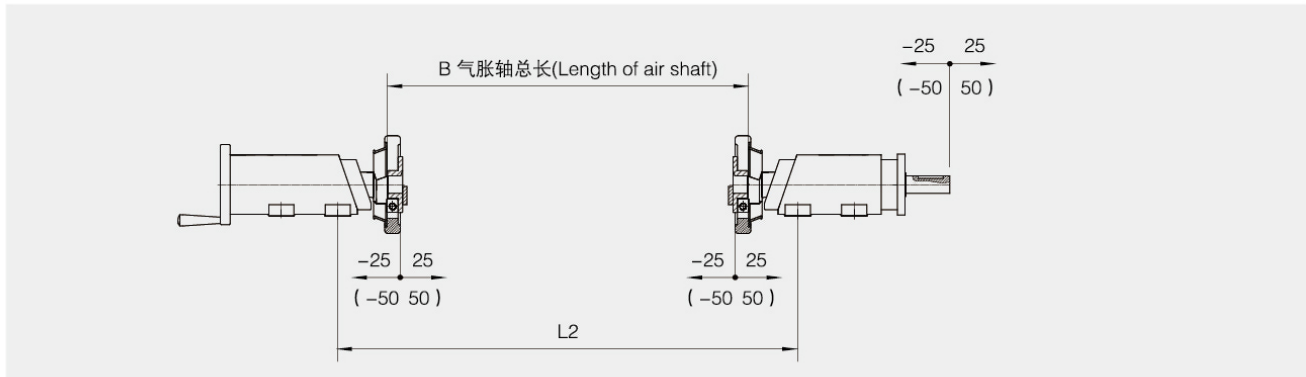
特性 Features

滑动安全卡盘；允许卷轴在机器运转过程进行轴向调整。调整可以通过手轮或者自动机构进行。轴向定位装置确保卷轴安全，准确地传送转矩。

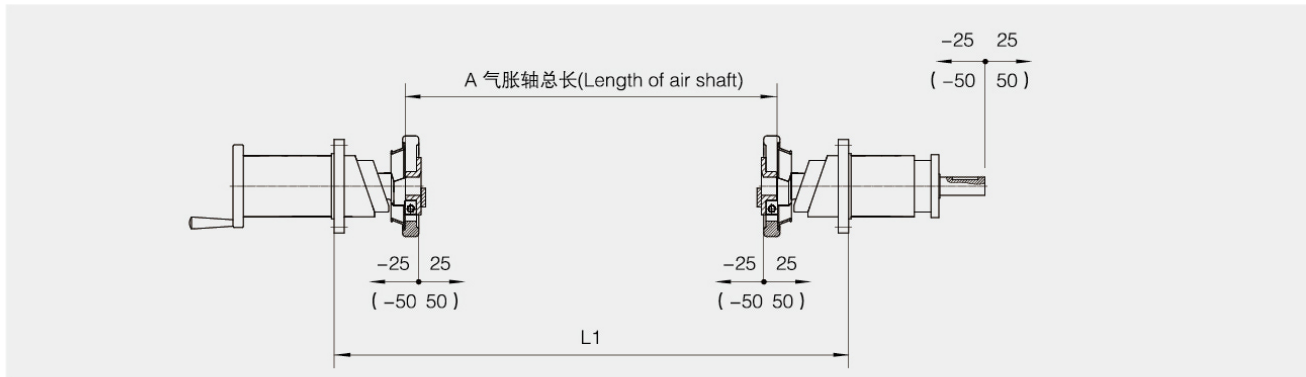
Sliding safety chuck allows reel for axial adjustment when the machine on the running. Adjustment can be carried out by handwheel or automatic mechanism. Axial positioning device to ensure the safety of the reel, accurate transmission torque.



SKW/SKO轴座型滑动安全卡盘 SKW/SKO Base type sliding safety chuck



SKWF/SKOF法兰型滑动安全卡盘 SKWF/SKOF Flange type sliding safety chuck



50mm滑动行程 50mm Slide stroke

型号 Model	28	35	50
L1	A+188	A+197	A+219
L2	B+156	B+156	B+176

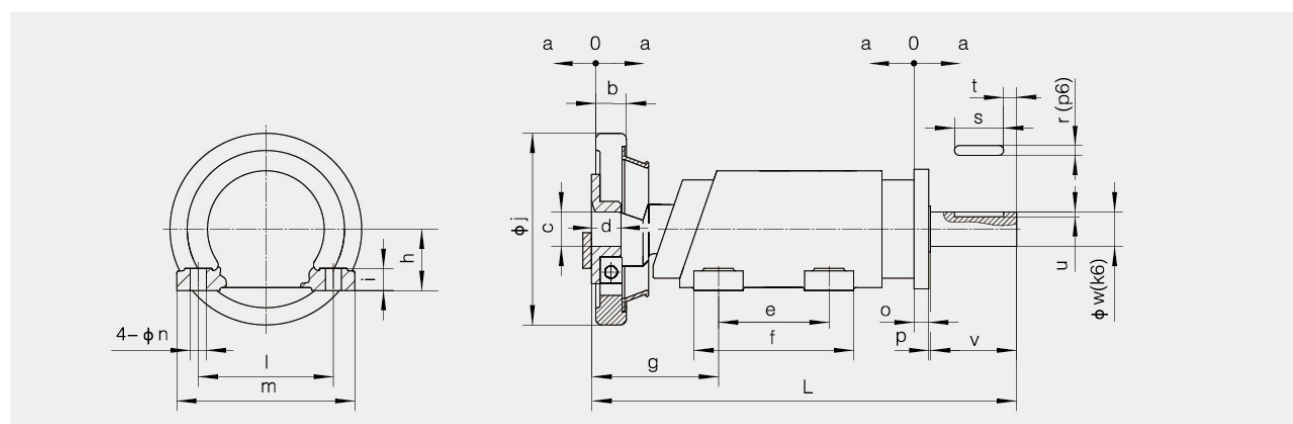
100mm滑动行程 100mm Slide stroke

型号 Model	35	50
L1	A+247	A+269
L2	B+206	B+226

Sliding safety chuck 滑动安全卡盘

SKW轴座型滑动安全卡盘 SKW Base type sliding safety chuck

型号	Model	28	35	50
梁最大荷重量 kg	Maximum load of beam	700	1400	2800
承受最大转矩 kg/m(N/m)	Maximum torque	15(150)	30(300)	110(1100)
卷轴轴端允许尺寸 mm	Size of reel end	22-30	30-40	40-50



型号 Model	28	35	35	50	50
滑动行程 Slide stroke	50	50	100	50	100
a	25	25	50	25	50
b	25	32	32	40	40
c	28	35	35	50	50
d	22	25	25	27	27
e	90	90	90	80	80
f	130	130	130	130	130
g	100	103	128	115	140
h	50	55	55	75	75
i	18	30	30	28	28
j	160	212	212	235	235
l	110	140	140	160	160
L	322.5	338.5	438.5	372.5	472.5
m	145	168	168	200	200
n	13	14	14	14	14
o	12	12	12	12	12
p	1.5	2.5	2.5	2.5	2.5
r	8	10	10	14	14
s	40	60	60	90	90
t	15	5	5	10	10
u	4	5	5	5.5	5.5
v	70	70	70	110	110
w	28	35	35	50	50

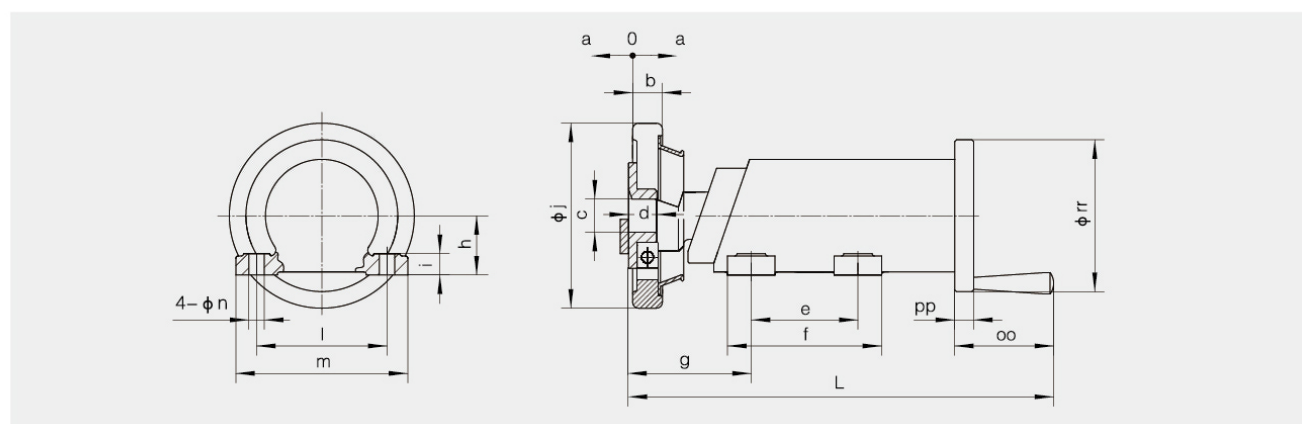
注：轴端尺寸在允许范围内可依据需求定制

Note: Shaft end dimensions can be customized according to requirements within the allowable range.

SKO轴座型滑动安全卡盘

SKO Base type sliding safety chuck

型号	Model	28	35	50
梁最大荷重量 kg	Maximum load of beam	700	1400	2800
承受最大转矩 kg/m(N/m)	Maximum torque	15(150)	30(300)	110(1100)
卷轴轴端允许尺寸 mm	Size of reel end	22-30	30-40	40-50

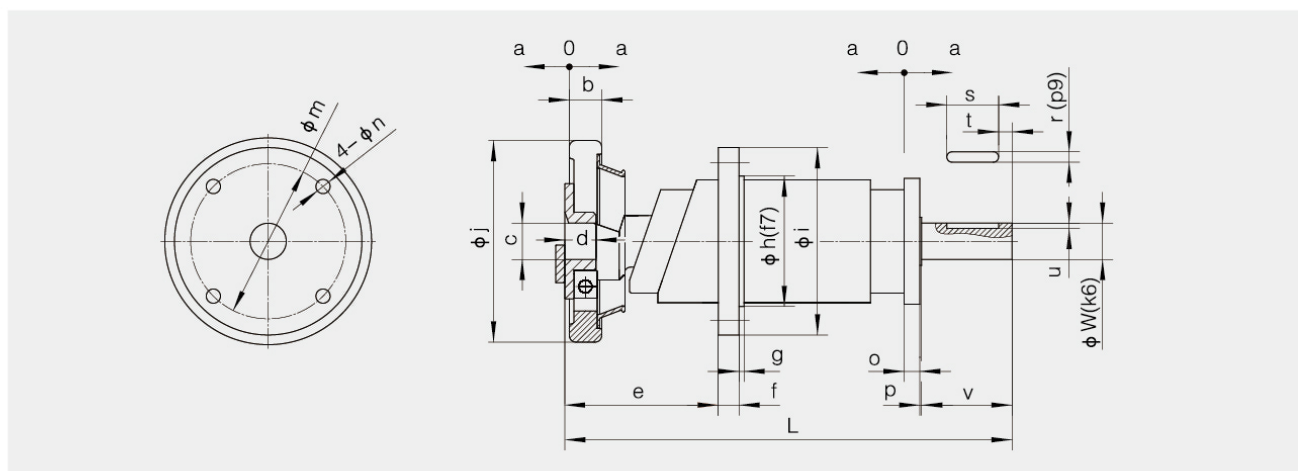


型号 Model	28	35	35	50	50
滑动行程 Slide stroke	50	50	100	50	100
a	25	25	50	25	50
b	25	32	32	40	40
c	28	35	35	50	50
d	22	25	25	27	27
e	90	90	90	80	80
f	130	130	130	130	130
g	100	103	128	115	140
h	50	55	55	75	75
i	18	30	30	28	28
j	160	212	212	235	235
l	110	140	140	160	160
L	357.5	360.5	435.5	381.5	456.5
m	145	168	168	200	200
n	13	14	14	14	14
oo	83.5	87.5	87.5	102.5	102.5
pp	16	20	20	20	20
rr	128	150	150	168	168

Sliding safety chuck 滑动安全卡盘

SKWF法兰型滑动安全卡盘 SKWF Flange type sliding safety chuck

型号	Model	28	35	50
梁最大荷重量 kg	Maximum load of beam	700	1400	2800
承受最大转矩 kg/m(N/m)	Maximum torque	15(150)	30(300)	110(1100)
卷轴轴端允许尺寸 mm	Size of reel end	22-30	30-40	40-50



型号 Model	28	35	35	50	50
滑动行程 Slide stroke	50	50	100	50	100
a	25	25	50	25	50
b	25	32	32	40	40
c	28	35	35	50	50
d	22	25	25	27	27
e	100	107.5	132.5	114.5	139.5
f	16	16	16	22	22
g	4	8	8	8	8
h	100	110	110	140	140
i	145	160	160	210	210
j	160	212	212	235	235
L	322.5	338.5	438.5	372.5	472.5
m	120	135	135	170	170
n	11	13	13	18	18
o	12	12	12	12	12
p	1.5	2.5	2.5	2.5	2.5
r	8	10	10	14	14
s	40	60	60	90	90
t	15	5	5	10	10
u	4	5	5	5.5	5.5
v	70	70	70	110	110
w	28	35	35	50	50

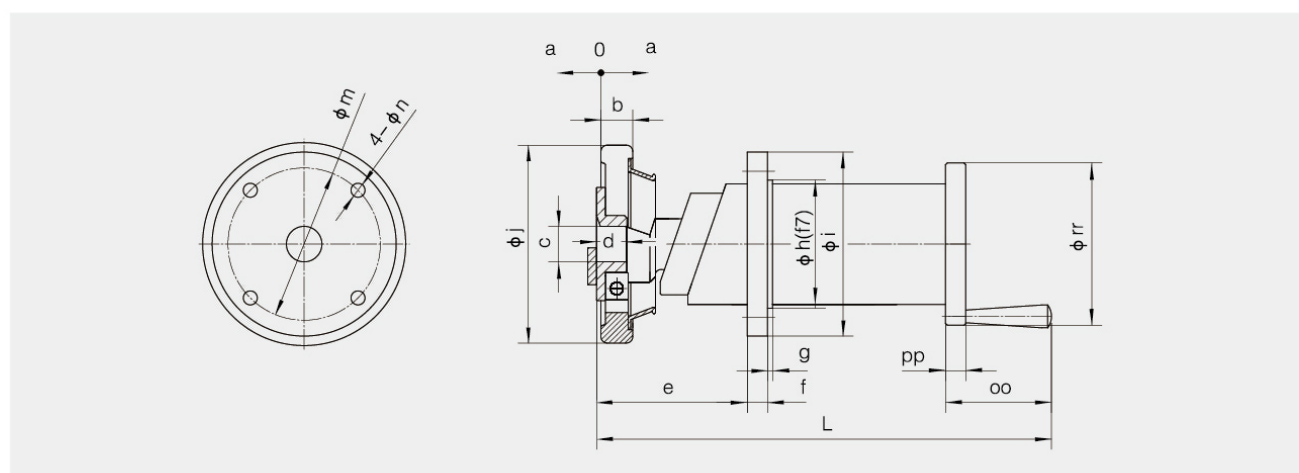
注：轴端尺寸在允许范围内可依据需求定制

Note: Shaft end dimensions can be customized according to requirements within the allowable range.

SKOF法兰型滑动安全卡盘

SKOF Flange type sliding safety chuck

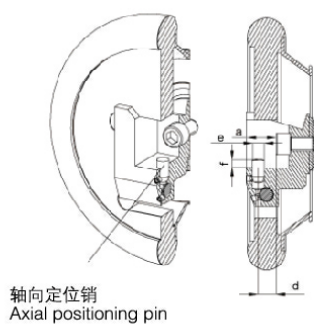
型号	Model	28	35	50
梁最大荷重量 kg	Maximum load of beam	700	1400	2800
承受最大转矩 kg/m(N/m)	Maximum torque	15(150)	30(300)	110(1100)
卷轴轴端允许尺寸 mm	Size of reel end	22-30	30-40	40-50



型号 Model	28	35	35	50	50
滑动行程 Slide stroke	50	50	100	50	100
a	25	25	50	25	50
b	25	32	32	40	40
c	28	35	35	50	50
d	22	25	25	27	27
e	100	107.5	132.5	114.5	139.5
f	16	16	16	22	22
g	4	8	8	8	8
h	100	110	110	140	140
i	145	160	160	210	210
j	160	212	212	235	235
L	357.5	360.5	435.5	381.5	456.5
m	120	135	135	170	170
n	11	13	13	18	18
oo	83.5	87.5	87.5	102.5	102.5
pp	16	20	20	20	20
rr	128	150	150	168	198

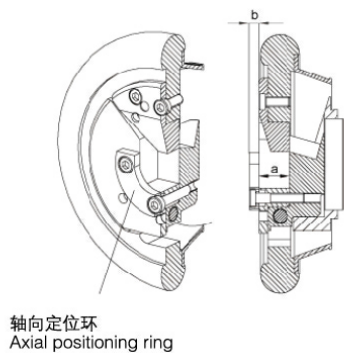
Sliding safety chuck 滑动安全卡盘

轴向定位尺寸 Axial orientation dimension



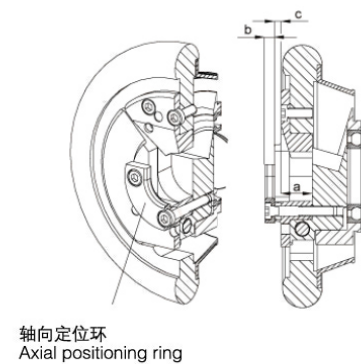
轴向定位销 (标准型 VT1型可选)
Axial positioning pin (Standard type VT1 is optional)

型号 Model	28	35	50
a	22	25	27
d	12	25	14
$\phi e\ m6$	8	10	12
f	6	6	6



轴向定位环 (标准型 VT1-VT6型可选)
Axial positioning ring (Standard type VT1-VT6 is optional)

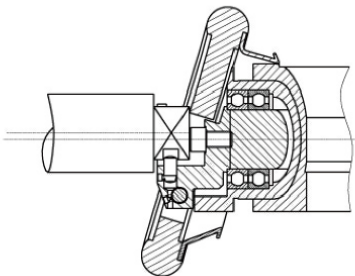
型号 Model	28	35	50
a	22	25	27
b	7	8	8



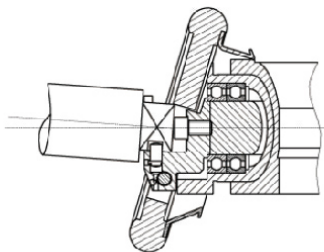
轴向定位环 VT7型
Axial positioning ring Standard type VT7

型号 Model	28	35	50
a	22	25	27
b	7	8	8
c	3	5	4

注意：提升卷轴时请注意水平保持，过大的角度提升有可能产生较大的剪切力，使定位销遭到损坏
Note: Please note that maintain the level of the lifting of the scroll, too large angle of view is likely to have a greater shear force, so that the positioning pin was damaged.

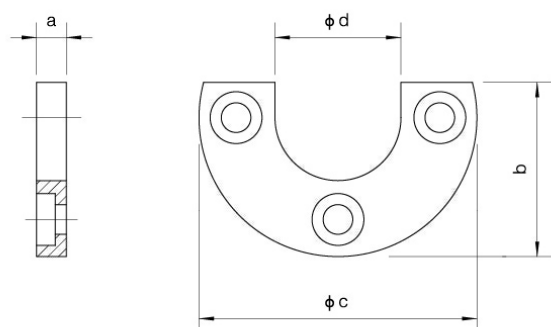


正确 Correct



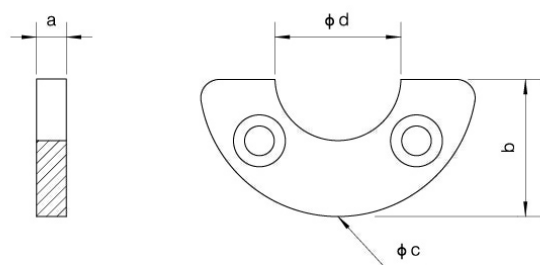
请选择轴向定位环 Pls. choose axial positioning ring

轴向定位环尺寸 Size of axial positioning ring



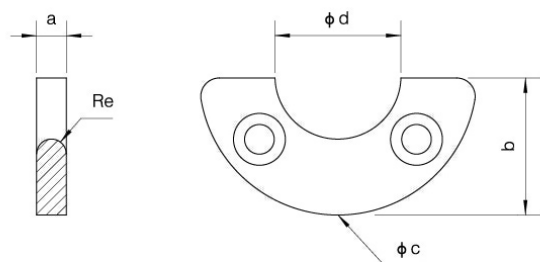
VT1

型号 Model	28	35	50
a	7	8	8
b	38	47	55
φ c	60	75	90
φ d	d=卷轴轴端尺寸(Size of reel end)-1 ^{+0.1}		



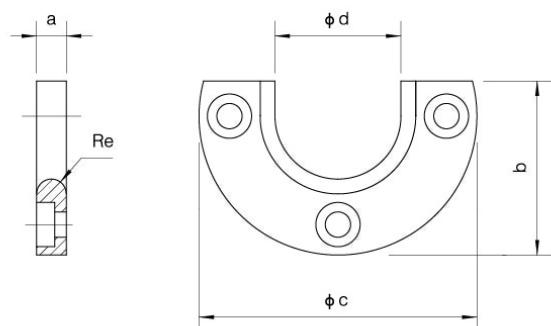
VT2

型号 Model	28	35	50
a	7	8	8
b	29	37	44
φ c	60	75	90
φ d	d=卷轴轴端尺寸(Size of reel end)-1 ^{+0.1}		



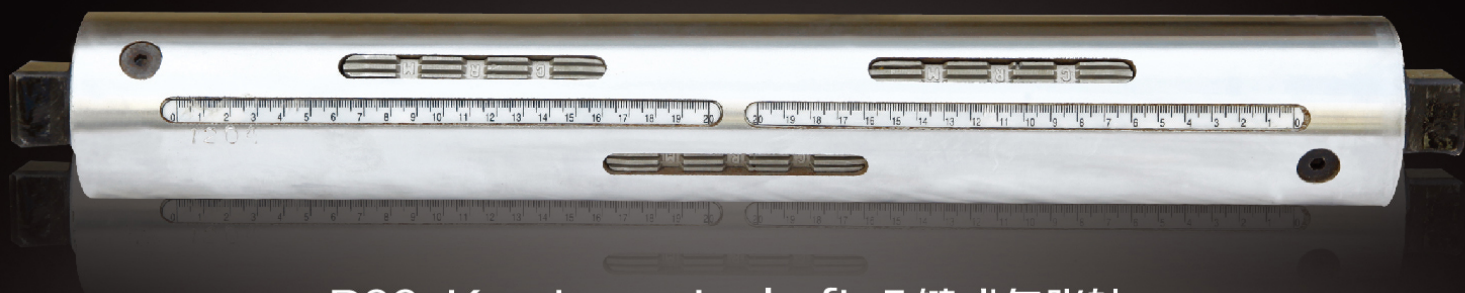
VT6

型号 Model	28	35	50
a	7	8	8
b	29	37	44
φ c	60	75	90
φ d	30 ^{+0.1}	36 ^{+0.1}	46 ^{+0.1}
Re	3.5	4	4



VT7

型号 Model	28	35	50
a	7	8	8
b	29	37	44
φ c	60	75	90
φ d	30 ^{+0.1}	36 ^{+0.1}	46 ^{+0.1}
Re	3.5	4	4



P66 Key type air shaft 凸键式气胀轴



P67 Tile-type air shaft 瓦片式气胀轴



P68 Rubber arc roller 橡胶弯辊



Expansion drum 气胀鼓

Key type air shaft

凸键式气胀轴



凸键式气胀轴 Key type air shaft



用途 Purpose

适用于涂布、分切、印刷、复合、造纸、制袋、塑料等相关机械的收放卷轴，能有效提高工效。

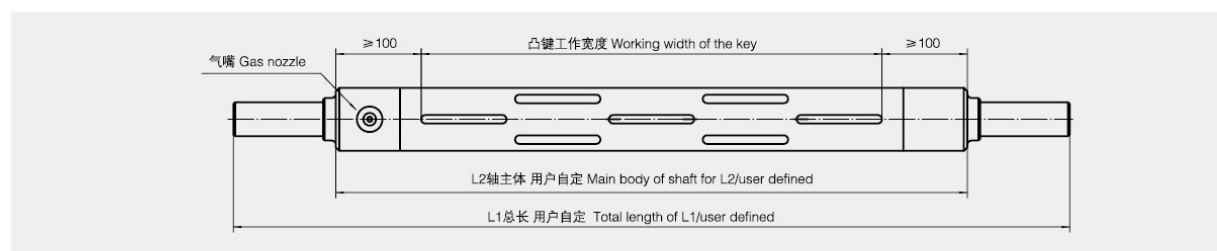
It is applicable to winding and unwinding shaft of the related machine in coating, cutting, printing, compounding, paper making, bag making, plastic items, and it can improve the working efficiency effectively.

结构特点 Structural features

轴主体采用优质钢管，表面镀硬铬；铝制凸键，伸缩灵活；配置优质橡胶内胆与快速充排气嘴，密封效果好，使用寿命长；可拆卸轴头，维修简便。

The main body of the shaft utilize the hard chromium plating steel pipe; it has aluminum sharps with flexible scalability; deploying high quality rubber bladder and rapid aerating and exhausting gas nozzle with good sealing effect and long service life; it has removable shaft with simple maintenance.

外形尺寸 Outline dimension



技术参数 Technical parameter

序号	项目 Item	1" 轴 Shaft	1.5" 轴 Shaft	2" 轴 Shaft	3" 轴 Shaft	4" 轴 Shaft	6" 轴 Shaft	8" 轴 Shaft	10" 轴 Shaft	12" 轴 Shaft
1	适用纸管内径 Paper tube inner diameter	Φ25.4	Φ38.1	Φ50.8	Φ76.2	Φ101.6	Φ152.4	Φ203.2	Φ254	Φ304.8
2	气胀轴充气前直径 Shaft diameter before expanding	Φ24.8	Φ37	Φ49	Φ74	Φ100	Φ150	Φ200	Φ250	Φ300
3	气胀轴充气后直径 Shaft diameter after expanding	Φ28	Φ41	Φ53	Φ82	Φ108	Φ158	Φ210	Φ260	Φ310

订货指南 Delivery guide

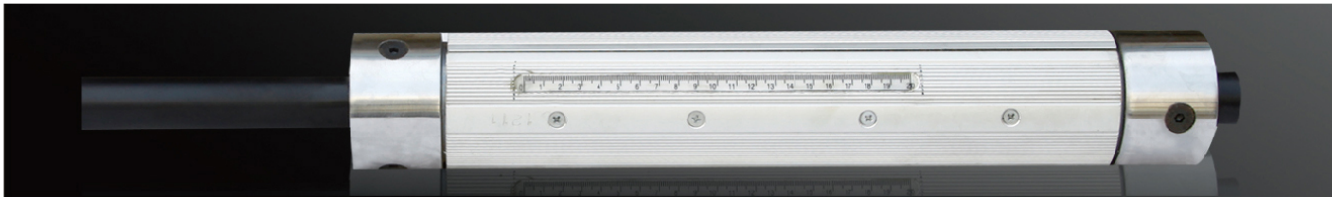
用户在定制气胀轴时需指明气胀轴的类型、外形尺寸、气嘴位置，标注轴头上重要尺寸的公差。如轴向进气，则气嘴安装时轴头外径需大于35mm。所有气胀轴都需出具正式图纸，双方确认后方可生产。

Users should specify type, dimension, the position of gas nozzle, and the tolerance of the important size of the top of shaft. If the shaft inlet gas, when gas nozzle is mounting, the out diameter of the top of the shaft should be more than 35mm; All formal drawing of overall dimension should be provided. After the confirmation of both sides, we will start production.

Tile-type air shaft

瓦片式气胀轴

瓦片式气胀轴 Tile-type air shaft



用途 Purpose

适用于涂布、分切、印刷、复合、造纸、制袋、塑料等相关机械的收放卷轴，特别适用于对纸管有较高圆度要求或采用表面收放卷的场合，能有效提高工效及产品品质。

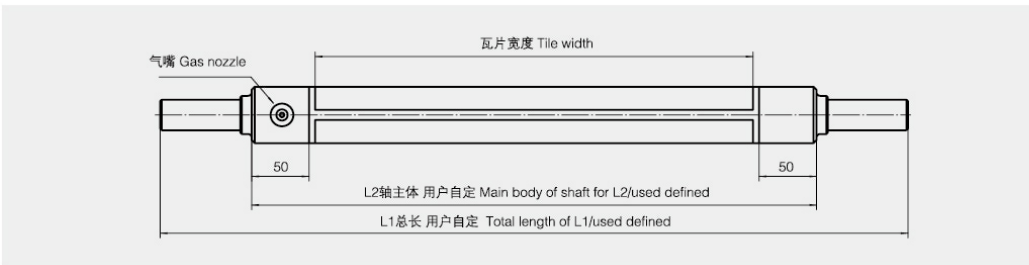
It is applicable to winding and unwinding shaft of the related machines in coating, cutting, printing, compounding, paper making, bag making, plastic items, specially the occasion of the high-efficient roundness required or surface winding and unwinding of the paper tube. Moreover, it also can improve efficiency and quality of the products.

结构特点 Structural features

采用铝合金瓦片，胀缩灵活；配置优质橡胶内胆与快速充排气气嘴，密封效果好，使用寿命长；可拆卸轴头，维修简便。

It utilize the aluminium tiles with flexible scalability; deploying high quality rubber bladder and rapid aerating and exhausting gas nozzle with good sealing effect and long service life; it has removable shaft with simple maintenance.

外形尺寸 Outline dimension



技术参数 Technical parameter

序号	项目 Item	1.5" 轴 Shaft	3" 轴 Shaft	6" 轴 Shaft	12" 轴 Shaft
1	适用纸管内径 Paper tube inner diameter	Φ38.1	Φ76.2	Φ152.4	Φ304.8
2	气胀轴充气前直径 Shaft diameter before expanding	Φ37	Φ74	Φ150	Φ302
3	气胀轴充气后直径 Shaft diameter after expanding	Φ40	Φ79	Φ156	Φ308

订货指南 Order guide

用户在定制气胀轴时需指明气胀轴的类型、外形尺寸、气嘴位置，标注轴头上重要尺寸的公差。如轴向进气，则气嘴安装时轴头外径需大于35mm。所有气胀轴都需出具正式图纸，双方确认后方可生产。

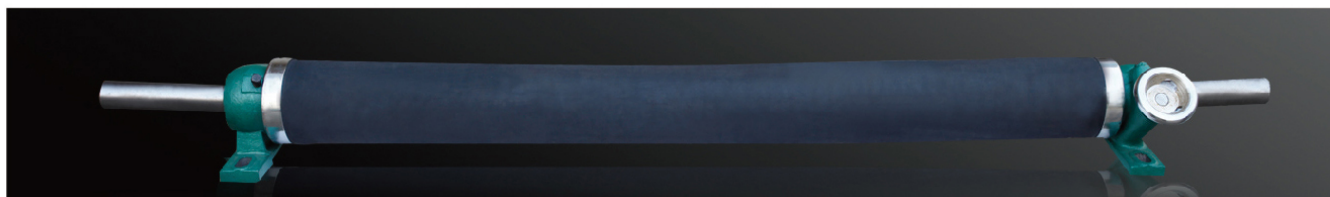
Users should specify type, dimension, the position of gas nozzle, and the tolerance of the important size of the top of shaft. If the shaft inlet gas, when gas nozzle is mounting, the out diameter of the top of the shaft should be more than 35mm; All formal drawing of overall dimension should be provided. After the confirmation of both sides, we will start production.

Rubber arc roller

橡胶弯辊



橡胶弯辊（弧形展平辊） The rubber curved roller (arc roller)



用途 Purpose

适用于纸张、薄膜、纺织品、金属箔等卷绕材料的加工机械，可防止基材在运行中产生皱纹并予以舒展伸直。

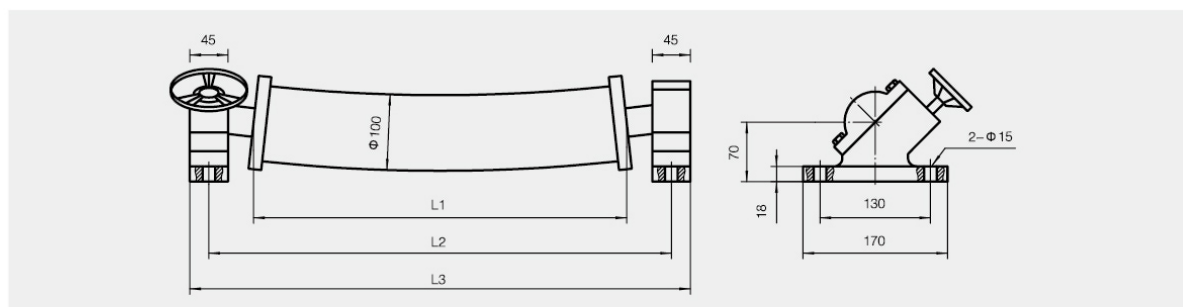
Suitable for the processing machineries of the coiling products like the paper, Thin film, textile, metallic foil, preventing substrate from wrinkles during the long transportation and stretching straightly.

结构特点 Structural features

胶管直径有Φ85、Φ100、Φ125、Φ150四种规格；胶管内部装置轴承，回转扭矩小；橡胶表面平滑，对基材无不良影响；舒展角度可自由调整。

Hose diameter has four specifications, such as Φ85、Φ100、Φ125、Φ150; Hose built-bearing and small rotary torque; it will not have an adverse effect on the substrate due to smooth surface. It is free to adjust the angle.

外形尺寸 Outline dimension



技术参数 Technical parameter

序号 No.	支承座 长×宽×中心高 Length × Width × Center height of bearing seat	舒展辊面长度 L1 Length of stretch roller surface	总长 L3 Total length	适用于基材宽度 Applicable to substrate width
1	170 × 45 × 70	580	730	500
2	170 × 45 × 70	1800	1925	1600

订货指南 Order guide

上述参数仅提供用户参考，可根据客户要求定制。

The specification above is for your reference, we can also provide goods according to your request.

测功系统

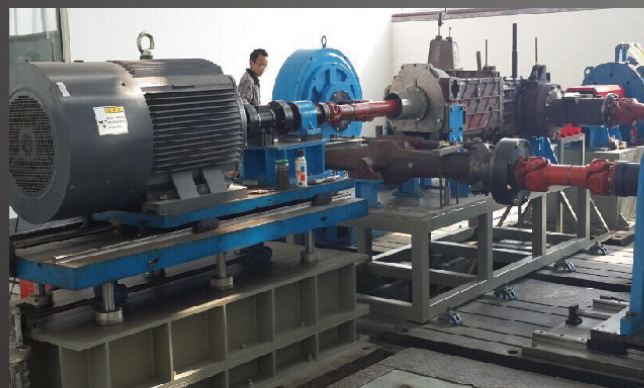
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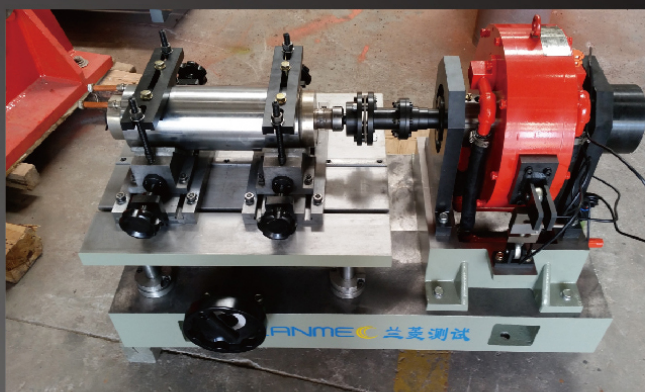
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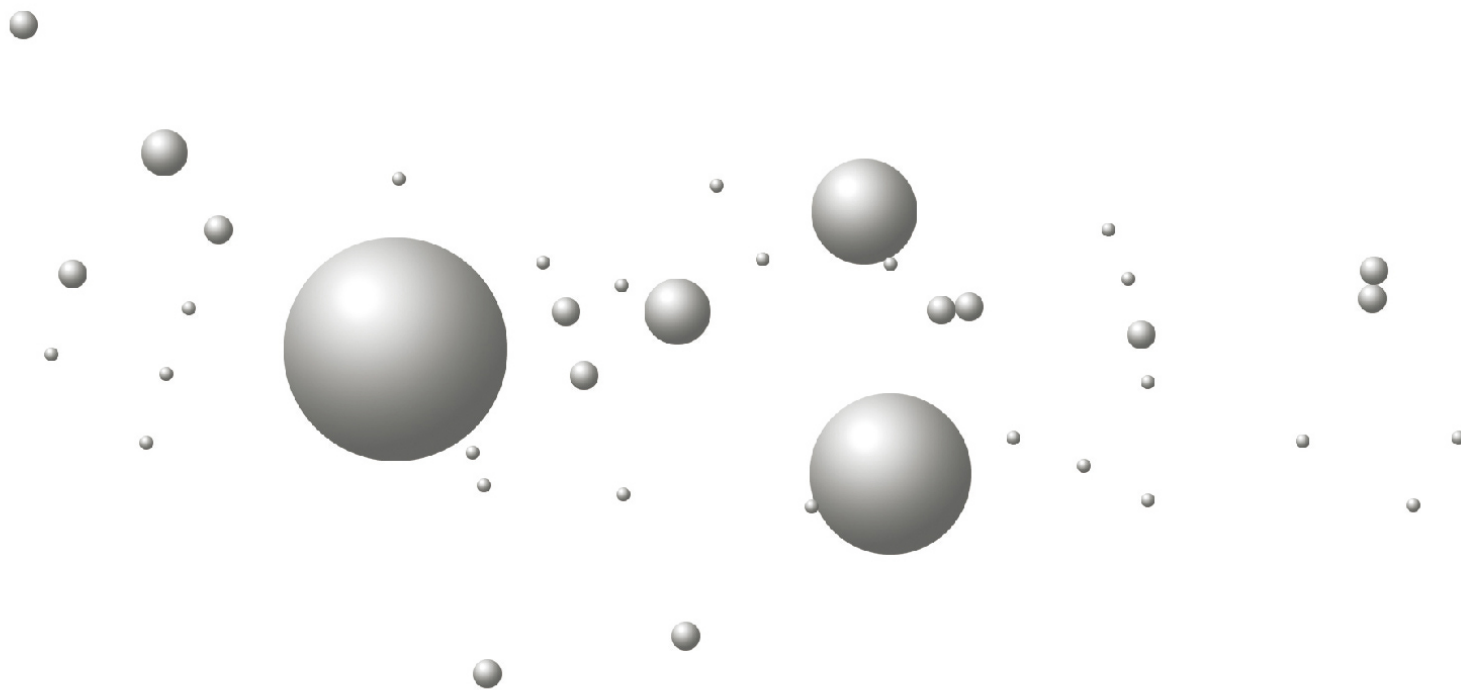
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