20 多年自动化行业经验

YEARS OF EXPERIENCE IN AUTOMATION INDUSTRY

高水准的智能制造解决方案·拥有资深的研发和技术服务团队

HIGH LEVEL OF INTELLIGENT MANUFACTURING SOLUTIONS
HAS A SENIOR R & D AND TECHNICAL SERVICE TEAM

苏州通锦精密工业股份有限公司 伺服电动缸产品选型手册

2023/06

苏州通锦精密工业股份有限公司
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Joint-stock Co.,Ltd

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样册电子版
Electronic sample book

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企业网站
Enterprise website

通锦精密

股票代码：837453

伺服电动缸
SERVO ELECTRIC CYLINDER

产品选型手册
PRODUCT SELECTION MANUAL

苏州通锦精密工业股份有限公司
SUZHOU TONGJIN PRECISION INDUSTRY JOINT-STOCK CO.,LTD

关于通锦
ABOUT US

公司简介 COMPANY PROFILE

苏州通锦精密工业股份有限公司成立2002年12月，目前座落于苏州市高新区建林路411号，注册资本4536万元，2015年9月股改，在全国中小企业股份转让系统挂牌，股票代码837453，目前拥有现代化的办公和厂房面积约15000平方米。

Suzhou Tongjin Precision Industry Co., Ltd. was established in December 2002, currently located in Suzhou High-tech Zone Jianlin Road 411, the registered capital of 45.36 million yuan, September 2015 stock reform, listed in the national small and medium enterprises share transfer system, stock code 837453, currently has a modern office and factory area of about 15,000 square meters.

行业经验 INDUSTRY EXPERIENCE

通锦公司有20多年的行业经验积累，伺服电动缸系列齐全，支持非标定制，大推力，大行程，可定制5公斤-200吨，出货快，售后服务有保障，可免费提供三维选型软件。

Tongjin company has more than 20 years of industry experience accumulation, complete series of electric cylinders, support non-standard customization, large thrust, large stroke, can be customized 5kg-200 tons, fast delivery, after-sales service is guaranteed, can provide free 3D selection software.

产品模块 PRODUCT MODULE

通锦伺服电动缸效率高、免维护、噪音低，分为轻负载系列和重负载系列，可定制多节伺服电动缸、水下电动缸、行业专用电动缸、多自由度运动平台等，应用于新能源汽车、军工、锂电、光伏、工程机械、冶金行业、轨道交通、航空航天、文旅等行业。

Tongjin electric cylinder has high efficiency, maintenance-free, low noise, can be customized multi-energy-saving cylinder, underwater electric cylinder, port electric cylinder, multi-freedom movement platform, etc., can be used in military, lithium, photovoltaic, construction machinery, steel industry, rail transit, aerospace, automobile manufacturing equipment and other industries.

文化理念 CULTURAL IDEA

企业愿景：工厂实现绿色无人化
企业使命：通向世界 锦绣中华
企业价值观：创新 进取 诚信 和谐

Enterprise vision: The factory to achieve green unmanned
Enterprise mission: To the world splendid China
Enterprise values: Innovation, Progress, Integrity And Harmony

2020中国非标自动化集成商全国百强	2020 China's top 100 non-standard automation integrators
江苏省服务型制造示范企业	Jiangsu Province service-oriented manufacturing demonstration enterprise
江苏省智能制造领军服务机构	Jiangsu Province intelligent manufacturing leading service organization
江苏省首台套重大装备	The first major equipment in Jiangsu Province
江苏省智能装配机械手工程技术研究中心	Jiangsu Province intelligent assembly manipulator engineering technology research center

江苏省高新技术企业	High-tech enterprises in Jiangsu Province
江苏省民营科技企业	Jiangsu Province private science and technology enterprises
江苏省专精特精中小企业	Jiangsu Province specialized in special fine small and medium-sized enterprises
苏州市非标自动化集成商百强企业奖	Suzhou non-standard automation integrator top 100 enterprise award
苏州市智能制造解决方案供应商	Suzhou intelligent manufacturing solution supplier

苏州市智能化制造示范十强	Suzhou intelligent manufacturing demonstration top ten
苏州市质量奖	Suzhou Quality Award
苏州高新区专精特新企业	Suzhou high-tech zone specialized in special new enterprises
苏州高新区瞪羚企业	Suzhou high-tech zone gazelle enterprise
产品获得“苏州名牌产品证书”	Products obtained "Suzhou Famous Brand Product Certificate"
产品获得“CE认证证书”	The product obtained "CE Certification"

通锦近年来一直注重研发投入，加大人才引进与自身培养，截至目前公司已申请专利**200**余项，已授权**105**项，其中发明专利**30**项；实用新型专利**74**项；已获得软件著作权**14**项；软件产品**4**项；江苏省高新技术产品**5** 项；有效商标注册**5**项,申请国际PCT专利**3**项。

In recent years, Tongjin has been focusing on research and development investment, increasing talent introduction and self-training, up to now the company has applied for more than 200 patents, has authorized 105, including 30 invention patents; 74 utility model patents; 14 software Copyrights have been obtained; 4software products; 5 high-tech products in Jiangsu Province; Registered 5 valid trademarks and applied for 3 international PCT patents.

PROVIDE FOR FREE

免费提供三维选型软件

通锦伺服电动缸选型软件作为一个全新的选型软件，一目了然的电机选型，快速预览的3D图纸，电动缸性能参数的选择，此软件可为您提供速度更快，功能更强的电缸型号选型。各位可通过我司官网www.sztongjin.com下载中心→ 伺服电动缸→ 电动缸选型进行注册使用此软件。

Tongjin servo electric cylinder selection software as a new selection software, clear motor selection, quick preview of 3D drawings, electric cylinder performance parameters selection, this software can provide you with faster, more powerful electric cylinder type selection. You can download the software from our official website www.sztongjin.com → Servo electric cylinder → Electric cylinder selection to register and use this software.

CATALOG

目录

结构特点 Structural Characteristics

电动缸是将电机的旋转运动转换为推杆的直线运动。利用伺服电机的闭环控制特性，可以很方便地实现对推力、速度和位置的精密控制，利用现代运动控制技术、数控技术及总线（网络）技术，实现程序化、总线(网络）化控制。由于其控制、使用的方便性，将实现气缸和液压缸传动所不能实现的精密运动控制。

The electric cylinder converts the rotating motion of the motor into the linear motion of the push rod. With the closed-loop control characteristic of servo motor, the precise control of thrust, speed and position can be realized easily. Using modern motion control technology, numerical control technology and bus (network) technology, the program and bus (network) control is realized. Because of its easy control and use, it will realize the precision motion control that the cylinder and hydraulic cylinder drive can not achieve.

TJEN 系列电动缸采用先进的模块化设计方法，具有：
TJEN series electric cylinder adopts advanced modular design method, with:

- 结构紧凑、外形尺寸小
- 高性能、低惯量、低噪音、高响应
- 高可靠性、长工作寿命
- 同时拥有滚珠丝杆和滚柱丝杆及T型丝杆的应用技术
- 安装、使用方便、省能源、简维护

- Compact structure and small size
- High performance, low inertia, low noise, high response
- High reliability and long working life
- At the same time, it has the application technology of ball screw and roller screw and T-screw
- Installation, easy to use, energy saving, simple maintenance

直线式电动缸 Linear Electric Cylinder

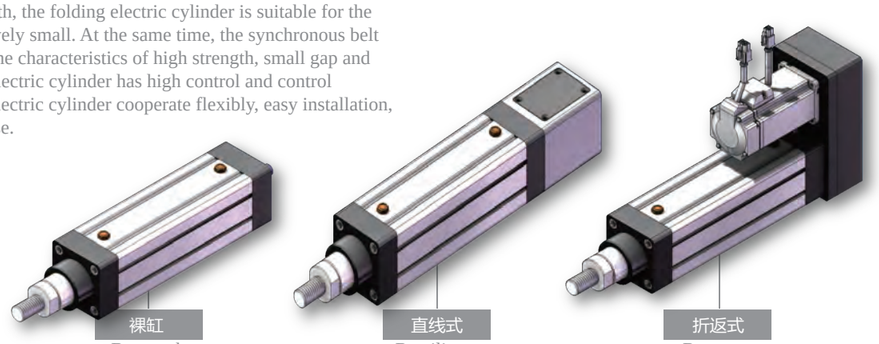
本系列电动缸集成了交流伺服电机、伺服驱动器、高精度滚珠丝杆、模块化设计等技术，整个电动缸具有结构紧凑、惯量小、响应快、低噪音和长寿命等特点。伺服电机与电动缸的传动丝杆直接相连接，使伺服电机的编码器直接反馈电缸移动活塞的位移量，减少了中间环节的惯量和间隙，提高了控制性和控制精度。伺服电机与电动缸整体相连，安装容易、设定简单、使用方便。通锦电动缸的主要零部件均采用国外名牌产品，性能稳定、故障率低、可靠性高。

This series of electric cylinder integrates AC servo motor, servo drive, high-precision ball screw, modular design and other technologies, the whole electric cylinder has the characteristics of compact structure, small inertia, fast response, low noise and long life. The servo motor is directly connected with the drive screw of the electric cylinder, so that the encoder of the servo motor can directly feedback the displacement of the moving piston of the electric cylinder, reduce the inertia and clearance of the intermediate link, and improve the control and control accuracy. The servo motor is connected with the electric cylinder as a whole, which is easy to install, simple to set and convenient to use. The main parts of the electric cylinder are made of foreign famous brand products, stable performance, low failure rate and high reliability.

折返式电动缸 Folding electric cylinder

折返式电动缸由于整体长度短，适用于安装位置比较小的场合。同时本方案选用的同步带，具有强度高、间隙小、寿命长的特点，使整个电动缸具有较高的控制性和控制精度。伺服电机与电动缸配合灵活，安装容易，设定简单，使用方便。

Due to the short overall length, the folding electric cylinder is suitable for the installation position is relatively small. At the same time, the synchronous belt selected in this scheme has the characteristics of high strength, small gap and long life, so that the whole electric cylinder has high control and control accuracy. Servo motor and electric cylinder cooperate flexibly, easy installation, simple setting, convenient use.



主要特性 Main Characteristics

1	节能干净、超长寿命、操作维护简单，具有很强的环境适应能力。伺服电动缸不容易受到周围环境温度的影响，可在低、高温，雨雪等恶劣环境下无故障正常工作，防护等级可以定制IP68。 Energy saving and clean, long life, simple operation and maintenance, with strong environmental adaptability. The servo electric cylinder is not easy to be affected by the ambient temperature, and can work normally without fault in low, high temperature, rain and snow and other harsh environments. Protection level can be customized IP68.
2	传动效率高。采用精密滚珠丝杠或行星滚柱丝杠等精密传动元件的电动缸，传动效率可以达到90%以上。 High transmission efficiency. Using precision ball screw or planetary roller screw and other precision transmission components of the electric cylinder, transmission efficiency can reach more than 90%.
3	定位精度高。通过伺服控制可以实现±0.005mm的精确定位，具有很高的定位精度，适合应用在对精度要求比较高的场合。 High positioning accuracy. The servo control can achieve the precise positioning of ±0.005mm, with high positioning accuracy, suitable for application in the case of high precision requirements.
4	结构简单，占用空间小，维护方便。 Simple structure, small space, easy maintenance.
5	可靠性和安全性高。电动缸可以配合各类传感器系统，以及各种行程控制装置，对电动缸的工作状态进行检测和反馈，形成全闭环控制。 High reliability and security. The electric cylinder can be combined with various sensor systems and various stroke control devices to detect and feedback the working state of the electric cylinder to form a full closed-loop control.
6	电动缸采用滚珠丝杠或行星滚柱丝杠，传动部分的摩擦较小，提高运行稳定性，延长使用寿命。 The electric cylinder adopts ball screw or planetary roller screw, and the friction of the transmission part is small, improving the operation stability and extending the service life.
7	直线工作速度可以达到2000 mm/s，速度优势非常明显。 Linear working speed can reach 2000 mm/s, the speed advantage is very obvious.

特殊制作（可选配） Special Production (Optional)

- 特殊安装、防护、防尘、防潮
- 高低温环境
- 海上防水、防爆作业
- 配线性位移传感器
- 配压力传感器
- 可抗回转机构
- 配行星减速机
- 电机：伺服电机、直流无刷电机、步进电机、直流电机、交流变频电机
  高低温电机、防爆电机、定制电机等。

- Special installation, protection, dust, moisture
- High and low temperature environment
- Marine waterproof, explosion-proof operation
- Equipped with linear displacement sensor
- Matching pressure sensor
- Anti-turning mechanism
- Equipped with planetary reducer
- Motor: Servo motor, DC brushless motor, stepper motor, DC motor, AC variable frequency motor
  High and low temperature motor, explosion-proof motor, custom motor, etc.

电动缸选型指南 Electric Cylinder Selection Guide

电机输出扭矩与电动缸输出力的关系
The relation between the output torque of motor and the output force of electric cylinder

$$F=T\times\eta\times2\pi\times R/L$$

F	电动缸输出力，单位：kN Electric cylinder output force, unit: kN
T	电机输出扭矩，单位：Nm Motor output torque, unit: Nm
R	减速比 Reduction ratio
L	丝杆导程，单位：mm Lead of lead screw, unit: mm
η	效 率（一般选择电动缸的总效率为85%，但是效率根据实际使用工况会有变化，请注意） Efficiency (The total efficiency of the electric cylinder is generally 85%, but the efficiency will change according to the actual working conditions, please note)

电动缸的寿命计算
Life calculation of electric cylinder

电动缸的寿命一般指电动缸内部使用的丝杆寿命，可分为两个部分，一是丝杆的疲劳寿命，它可以通过计算得出；另一个是使用寿命，取决于使用条件（如温度、灰尘、使用润滑的种类和定期添加的频率等），使用寿命往往通过经验得出。以下是疲劳寿命的计算方法：

The life of the electric cylinder generally refers to the life of the lead screw used inside the electric cylinder, which can be divided into two parts, one is the fatigue life of the lead screw, which can be calculated
Out; The other is the service life, depending on the conditions of use (such as temperature, dust, the type of lubrication used and the frequency of regular additions, etc.).
Service life is often learned by experience. The following is the calculation method of fatigue life:

$$L10=(Ca/Fm)^3\times L$$

- L10：电动缸的寿命，单位：Km
- Fm：电动缸承受的平均负载，单位：kN
- Ca： 丝杆螺母的基本额定动负载，单位kN（可通过丝杆样本查出）
- L：丝杆导程，单位：mm

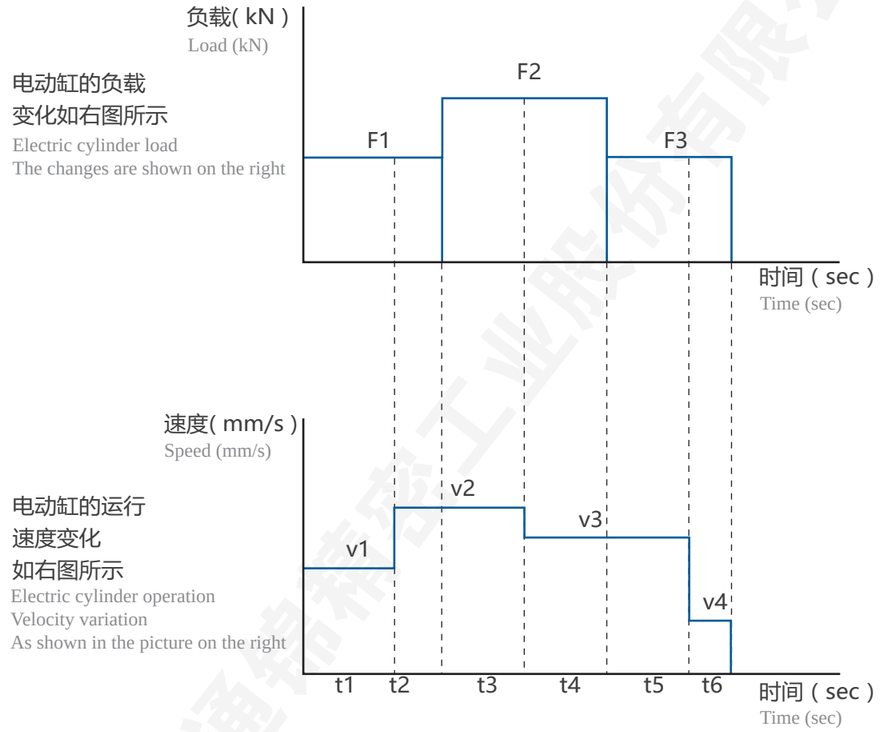
- L10: life of electric cylinder, unit: Km
- Fm: The average load of the electric cylinder, unit: kN
- Ca: The basic rated dynamic load of the screw nut, in kN (can be found by screw sample)
- L: lead of the lead screw, unit: mm

平均负载的计算
Calculation of average load

平均负载是指电动缸在一个工作循环中，综合在各个不同工作区间的力、速度和时间后得出的立方平均值。

The average load refers to the cubic average value of the electric cylinder in a working cycle, which is obtained after synthesizing the force, speed and time in different working intervals.

电动缸的负载
变化如右图所示
Electric cylinder load
The changes are shown on the right



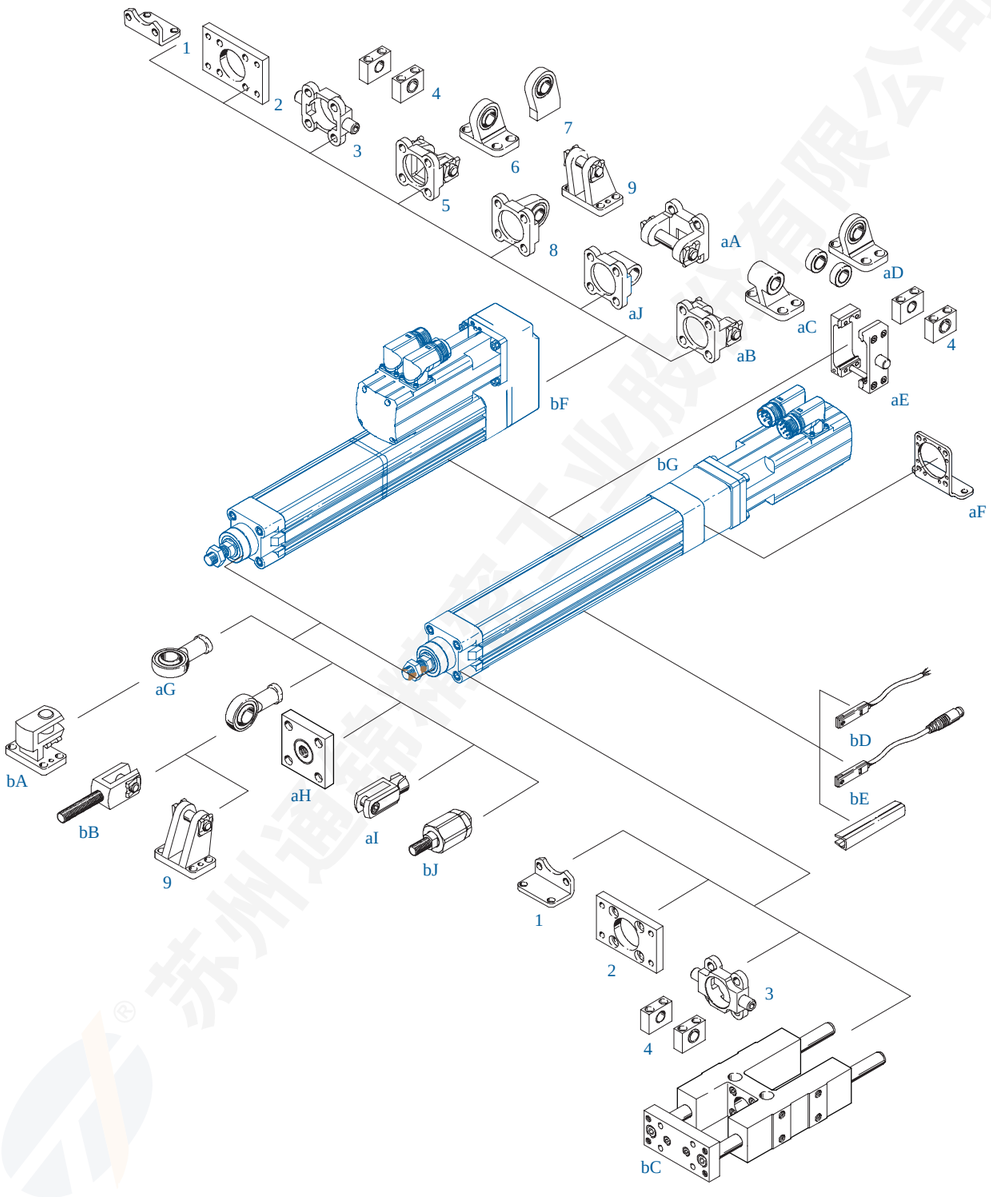
电动缸的运行
速度变化
如右图所示
Electric cylinder operation
Velocity variation
As shown in the picture on the right

电动缸平均负载的计算公式如下：
The average load of the electric cylinder is calculated as follows:

$$Fm=\sqrt[3]{\frac{F_1^3\times v_1\times t_1+F_1^3\times v_2\times t_2+F_2^3\times v_2\times t_3+F_2^3\times v_3\times t_4+F_2^3\times v_3\times t_4+F_3^3\times v_3\times t_5+F_3^3\times v_4\times t_6}{v_1\times t_1+v_2\times t_2+v_2\times t_3+v_3\times t_4+v_3\times t_5+v_4\times t_6}}$$

伺服电动缸外围部件一览表

List of peripheral parts of servo electric cylinder



安装辅件和附件

List of peripheral parts of servo electric cylinder

名称	简要说明
1-脚架安装件 1- Tripod mounting kit	马达平行安装时，用于安装轴承和减速机端盖 / 马达平行安装时，用于安装轴承端盖 When the motor is installed in parallel, it is used to install the bearing and the reducer end cover
2-法兰安装件 2- Flange mounting kit	马达平行安装时，用于安装轴承和减速机端盖 / 马达平行安装时，用于安装轴承端盖 When the motor is installed in parallel, it is used to install the bearing and the reducer end cover
3-耳轴安装件 3- trunnion mounting kit	马达平行安装时，用于安装轴承和减速机端盖 / 马达平行安装时，用于安装轴承端盖 When the motor is installed in parallel, it is used to install the bearing and the reducer end cover
4-耳轴支座 4- trunnion support	用于将耳轴安装件安装到缸体上 Used to mount the trunnion mounting to the cylinder block
5-双耳环支座 5- Double earring support	用于马达平行安装时 For parallel motor installation
6-球铰耳环支座 6- Ball hinge earring support	用于马达平行安装时，带球面轴承 For parallel motor mounting with spherical bearing
7-球铰耳环支座 7- Ball hinge earring support	用于马达平行安装时，焊接合成，带球面轴承 For parallel motor installation, welding synthesis, with spherical bearings
8-双耳环安装件 8- Double earring mounting kit	用于马达平行安装时，带球面轴承 For parallel motor mounting with spherical bearing
9-双耳环支座 9- Double earring support	用于马达平行安装时，带球面轴承 For parallel motor mounting with spherical bearing
aJ-双耳环安装件 SNCL aJ- Double earring mounting kit SNCL	用于马达平行安装时 For parallel motor installation
aA-双耳环安装件 SNCB/SNCB-...-R3 aA- Double Earring mounting SNCB/SNCB-... -R3	用于马达平行安装时，带球面轴承 For parallel motor mounting with spherical bearing
aB-双耳环安装件 SNCB/SNCB-...-R3 aB- Double Earring mounting SNCB/SNCB-... -R3	用于马达平行安装时 For parallel motor installation
aC-耳环支座 LNG/CRLNG aC- Earring support LNG/CRLNG	用于马达平行安装时 For parallel motor installation
aD-球铰耳环支座 LSN aD- Ball hinge earring support LSN	用于马达平行安装时，带球面轴承 For parallel motor mounting with spherical bearing
aE-耳轴安装支座 ZNCM aE- trunnion mounting support ZNCM	用于安装到缸体的任意位置，在马达平行安装时，安装位置不能临近马达 Used to install to any position of the cylinder block, when the motor is installed in parallel, the installation position cannot be near the motor
aF-脚架安装件 HNCE aF- Tripod mounting kit HNCE	用于马达轴向安装时 For parallel motor installation
aG-关节轴承 SGS/CRSGS aF- Tripod mounting kit HNCE	带球面轴承 Spherical bearing
aH-连接法兰 KSZ aH- Connecting flange KSZ	用于补偿径向偏差 Used to compensate for radial deviation
aI-双耳环 SG/CRSG aI- Pair earrings SG/CRSG	用于缸体在一个平面内作摆动运动 It is used for the cylinder block to swing in a plane
bJ-自对中连接件 FK bJ- Self centering connector FK	用于补偿径向和角度偏差 Used to compensate for radial and angular deviations
bA-直角球铰耳环支座 LQG bA- Straight Angle ball hinged earring support LQG	用于关节轴承SGS For joint bearing SGS
bB-双耳环 SGA bB- Pair earrings SGA	用于缸体摆动安装 Used for cylinder block swing installation
bC-导向单元 FENG bC- Guide unit FENG	在高力矩下防止缸体扭转 Prevents cylinder torsion under high torque
bD-接近开关 SME/SMT-8 bD- Proximity switch SME/SMT-8	用于位置检测，可集成于传感器安装槽内，没有了突出部分 For position detection, can be integrated into the sensor mounting slot, no protruding parts
bE-沟槽盖 ABP-5-S bE- Trench cover ABP-5-S	用于防止灰尘进入 Used to prevent dust from entering
bF-平行安装组件 EAMM-U bF- Parallel mounting component EAMM-U	用于马达平行安装时 For parallel motor installation
bG-轴向安装轴件 EAMM-A bG- Axial mounting shaft EAMM-A	用于马达轴向安装时 For axial motor installation

轻负载系列（0.1kN-50kN）

TJEN轻负载系列使用高强度铝合金材料，产品采用轻量化、模块化设计理念，外观与性能完美结合，推力范围: 0.1kN- 50kN，有效行程可至2米，工作制100% 速度可至1250mm/s，高动态响应时间，可实现20HZ，高加速度，高刚性，抗冲击力，超长寿命，操作维护简单，低噪音特殊加工处理，可在高低温环境下使用、防护等级可达IP54-IP68。

型号表示

TJEN075	S100	B	T	05	A	MX	C1	M	040	B	R5	P11	O1C2	N

电动缸型号

TJEN040	44×44mm
TJEN050	53×53mm
TJEN065	64×64mm
TJEN075	75×75mm
TJEN095	93×93mm
TJEN110	111×111mm
TJEN135	134×134mm

有效行程

TJEN040	50-500mm
TJEN050	50-500mm
TJEN065	50-600mm
TJEN075	50-800mm
TJEN095	50-1000mm
TJEN110	50-1200mm
TJEN135	50-1500mm

丝杆

A 滑动丝杆 B 滚珠丝杆 C 行星滚柱丝杆

防转机构

R 无防转型 T 有防转型

丝杆导程

TJEN040	4mm	TJEN110	5, 6, 8, 10, 20, 32mm
TJEN050	5, 10mm	TJEN135	10, 20, 50mm
TJEN065	4, 5, 10, 16mm		
TJEN075	4, 5, 10, 20mm		
TJEN095	4, 5, 6, 8, 10, 25mm		

电机连接

A 直线式 B 折返式

电动缸安装方式

M1	底部螺孔	M5	尾部销轴
M2	底板式	M6	尾部销孔
M3	前法兰	MX	用户自定义
M4	后法兰		

负载连接方式

C1	外螺纹	C3	U型插销
C2	内螺纹	C4	球头铰

电机品牌

M	三菱	P	松下	I	汇川
Y	安川	S	西门子	T	台达

电机功率

010	100W	040	400W	100	1000W	200	2000W	500	5000W
020	200W	075	750W	150	1500W	300	3000W		

刹车

A 不带刹车 B 带刹车

减速比

R1 1比1 R3 3比1 R5 5比1 R10 10比1

常开常闭

无 无常开常闭 O1 1个常开 O2 2个常开 C1 1个常闭 C2 2个常闭 O1C2 1个常开2个常闭 O2C1 2个常开1个常闭

传感类型

N NPN P PNP

P 光栅尺+压力传感器

压力传感器 ： ① 4-20mA ② 0-10V

光 栅 尺 ： ① TTL 24V ② RS422（5V差分）

缺省既不含压力传感器，又不含光栅尺。

P_{01} -只带光栅尺TTL（24V）
P_{02} -只带光栅尺RS422（5V差分）
P_{10} -只带光栅尺4-20mA
P_{20} -只带光栅尺0-10V
P_{11} -压力传感器4-20mA，光栅尺TTL（24V）
P_{12} -压力传感器4-20mA，光栅尺RS422（5V差分）
P_{21} -压力传感器0-10V，光栅尺TTL（24V）
P_{22} -压力传感器0-10V，光栅尺RS422（5V差分）

Light load series (0.1kN-50kN)

TJEN light load series uses high strength aluminum alloy material, the product adopts lightweight, modular design concept, perfect combination of appearance and performance, thrust range: 0.1kN-50kN, effective stroke up to 2 meters, working 100% speed up to 1250mm/s, high dynamic response time, 20HZ, high acceleration, high rigidity, impact resistance, long life, simple operation and maintenance, low noise special processing, It can be used in high and low temperature environment, and the protection level can reach IP54-IP68.

Type indication

TJEN075	S100	B	T	05	A	MX	C1	M	040	B	R5	P11	O1C2	N

Electric cylinder type

TJEN040	44×44mm
TJEN050	53×53mm
TJEN065	64×64mm
TJEN075	75×75mm
TJEN095	93×93mm
TJEN110	111×111mm
TJEN135	134×134mm

Effective stroke

TJEN040	50-500mm
TJEN050	50-500mm
TJEN065	50-600mm
TJEN075	50-800mm
TJEN095	50-1000mm
TJEN110	50-1200mm
TJEN135	50-1500mm

Lead screw

A Acme screw B Ball screw C Roller screw

Anti-rotation

R No T Have

Lead of the screw

TJEN040	4mm	TJEN110	5, 6, 8, 10, 20, 32mm
TJEN050	5, 10mm	TJEN135	10, 20, 50mm
TJEN065	4, 5, 10, 16mm		
TJEN075	4, 5, 10, 20mm		
TJEN095	4, 5, 6, 8, 10, 25mm		

Motor connection

A Rectilinear B Reentrant

Electric cylinder mounting method

M1	Bottom hole	M5	Tail pin
M2	Baseplate	M6	Tail pin hole
M3	Front flange	MX	User-defined
M4	Back flange		

Load connection mode

C1	Male thread	C3	U-shaped latch
C2	Internal thread	C4	Ball joint

Motor brand

M	Mitsubishi	P	Panasonic	I	Inovance
Y	Yaskawa	S	Siemens	T	Delta

Motor power

010	100W	040	400W	100	1000W	200	2000W	500	5000W
020	200W	075	750W	150	1500W	300	3000W		

Brake

A Without brake B Band brake

Reduction ratio

R1 1:1 R3 3:1 R5 5:1 R10 10:1

Normally open normally closed

无 Impermanence always closes O1 1usually open O2 2normally open C1 1normally closed C2 2normally closed O1C2 1usually open 2normally closed O2C1 2usually open 1normally closed

Sensing type

N NPN P PNP

P Grating ruler + pressure sensor

Pressure sensor: ① 4-20mA ② 0-10V

Grating ruler: ① TTL 24V ② RS422（5Vdifference）

By default, neither pressure sensor nor grating ruler is included.

P_{01} - TTL (24V) with grating ruler only
P_{02} - Only grating ruler RS422 (5V differential)
P_{10} - Only with grating ruler 4-20mA
P_{20} - Only with raster ruler 0-10V
P_{11} - Pressure sensor 4-20mA, grating scale TTL (24V)
P_{12} - Pressure sensor 4-20mA, grating ruler RS422 (5V differential)
P_{21} - Pressure sensor 0-10V, grating TTL (24V)
P_{22} - Pressure sensor 0-10V, grating ruler RS422 (5V differential)

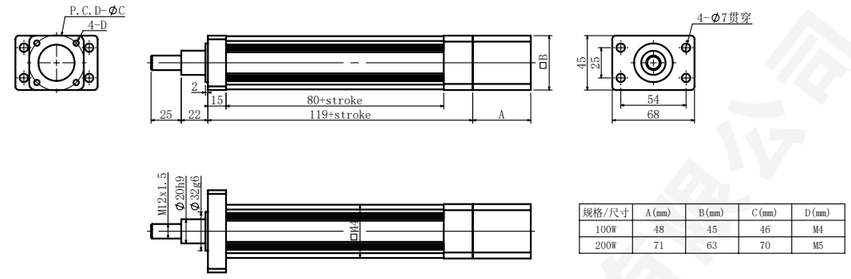
轻负载系列技术参数及尺寸图 Light load series (0.1kN-50kN)

TJEN040

TJEN	040	S100	B	T	04	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

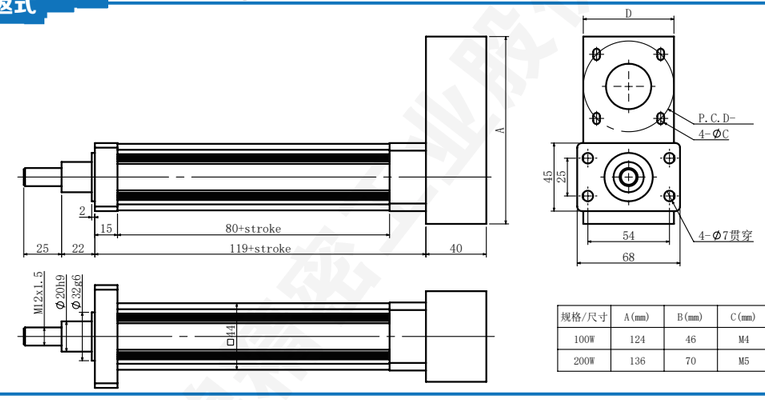
螺杆规格 Screw specification	1204	
标准马达额定功率 KW Standard motor rated power KW	0.1	0.2
马达额定扭矩 N·m Motor rated torque N·m	0.32	0.64
马达额定转速 r/min Rated motor speed r/min	3000	3000
标准马达额定推力 kN Standard motor rated thrust kN	0.45	0.65
标准马达额定速度 mm/s Standard motor rated speed mm/s	200	200
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02	
最长有效行程 mm Maximum effective travel mm	500	
最大负载推力 kN Maximum load thrust kN	0.65	
最快伸缩速度 mm/s Maximum expansion speed mm/s	200	
磁性开关 Magnetic switch	AL-39DFL-02	两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M
	AL-39DFBL-02	两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M

TJEN040直线式 TJEN040 Straight line



规格/尺寸	A(mm)	B(mm)	C(mm)	D(mm)
100W	48	45	46	M4
200W	71	63	70	M5

TJEN040折返式 TJEN040 Folding mode



规格/尺寸	A(mm)	B(mm)	C(mm)	D(mm)
100W	124	46	M4	60
200W	136	70	M5	70

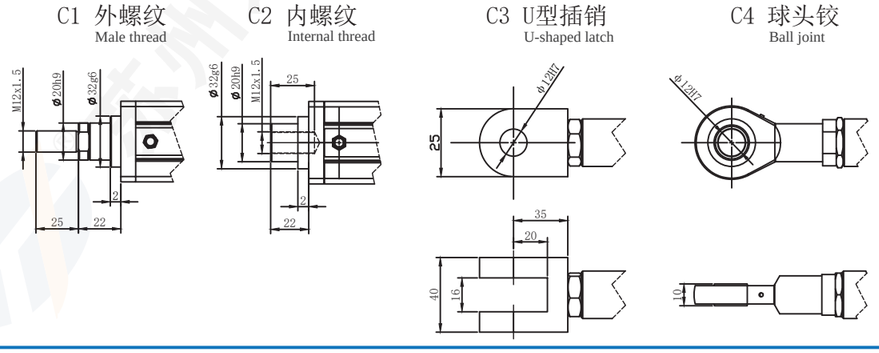
TJEN040连接附件 TJEN040 Connecting accessories

C1 外螺纹 Male thread

C2 内螺纹 Internal thread

C3 U型插销 U-shaped latch

C4 球头铰 Ball joint



注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJEN050

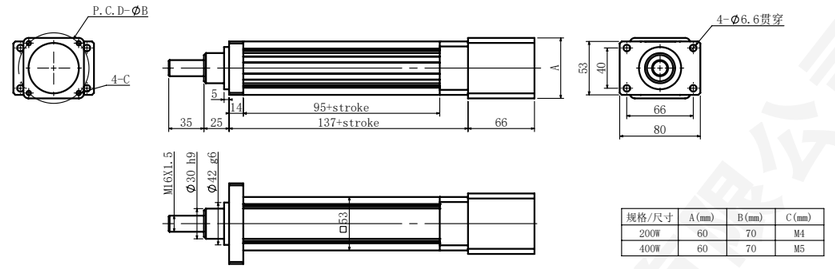
TJEN	050	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	1205	
标准马达额定功率 KW Standard motor rated power KW	0.2	0.4
马达额定扭矩 N·m Motor rated torque N·m	0.64	1.27
马达额定转速 r/min Rated motor speed r/min	3000	3000
标准马达额定推力 kN Standard motor rated thrust kN	0.72	1.44
标准马达额定速度 mm/s Standard motor rated speed mm/s	250	250
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02	
最长有效行程 mm Maximum effective travel mm	500	
最大负载推力 kN Maximum load thrust kN	1.5	
最快伸缩速度 mm/s Maximum expansion speed mm/s	500	
磁性开关 Magnetic switch	AL-39DFL-02	两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M
	AL-39DFBL-02	两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M

螺杆规格 Screw specification	1210	
标准马达额定功率 KW Standard motor rated power KW	0.2	0.4
马达额定扭矩 N·m Motor rated torque N·m	0.64	1.27
马达额定转速 r/min Rated motor speed r/min	3000	3000
标准马达额定推力 kN Standard motor rated thrust kN	0.36	0.72
标准马达额定速度 mm/s Standard motor rated speed mm/s	500	500
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02	
最长有效行程 mm Maximum effective travel mm	500	
最大负载推力 kN Maximum load thrust kN	1.5	
最快伸缩速度 mm/s Maximum expansion speed mm/s	500	
磁性开关 Magnetic switch	AL-39DFL-02	两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M
	AL-39DFBL-02	两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M

TJEN050直线式

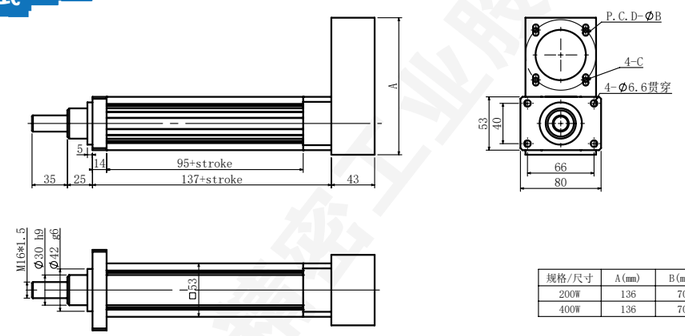
TJEN050 Straight line



规格/尺寸	A(mm)	B(mm)	C(mm)
200W	60	70	M4
400W	60	70	M5

TJEN050折返式

TJEN050 Folding mode



规格/尺寸	A(mm)	B(mm)	C(mm)
200W	136	70	M4
400W	136	70	M5

TJEN050连接附件

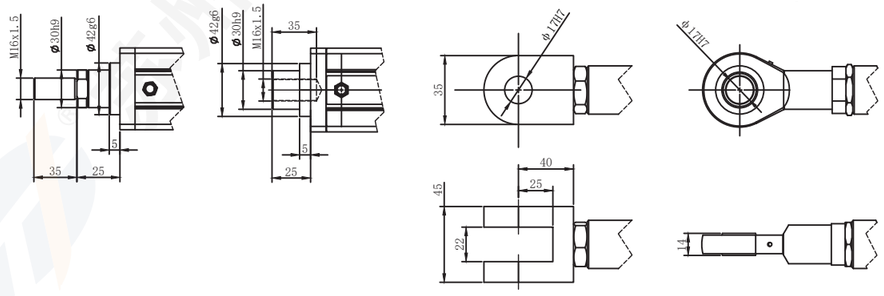
TJEN050 Connecting accessories

C1 外螺纹 Male thread

C2 内螺纹 Internal thread

C3 U型插销 U-shaped latch

C4 球头铰 Ball joint



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Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJEN065

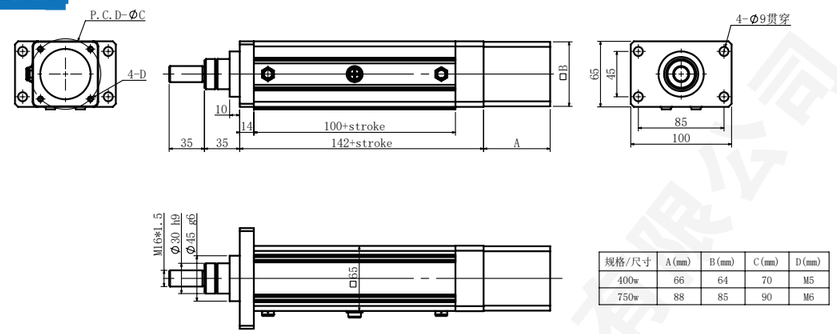
TJEN	065	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构 R无 T有	导程	电机连接 A直连 B折返	电动缸安装方式	负载连接方式	开关数量
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	1604	1605		
标准马达额定功率 KW Standard motor rated power KW	0.4	0.4		0.75
马达额定扭矩 N·m Motor rated torque N·m	1.27	1.27		2.39
马达额定转速 r/min Rated motor speed r/min	3000	3000		3000
减速比 Reduction ratio	3	3	5	3
标准马达额定推力 kN Standard motor rated thrust kN	4.5	4.31	4.5	4.5
标准马达额定速度 mm/s Standard motor rated speed mm/s	67	83	50	83
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02			
最长有效行程 mm Maximum effective travel mm	600			
最大负载推力 kN Maximum load thrust kN	4.5			
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000			
磁性开关 Magnetic switch	AL-39DFBL-02	两线式无接点型 常闭 线长2M Two wire type no contact type normal open line length 2M		
	AL-39DFL-02	两线式无接点型 常开 线长2M Two wire type no contact type normally closed line length 2M		

螺杆规格 Screw specification	1610			1616						
标准马达额定功率 KW Standard motor rated power KW	0.4			0.75		0.4			0.75	
马达额定扭矩 N·m Motor rated torque N·m	1.27			2.39		1.27			2.39	
马达额定转速 r/min Rated motor speed r/min	3000			3000		3000			3000	
减速比 Reduction ratio	3	5	10	3	5	3	5	10	3	5
标准马达额定推力 kN Standard motor rated thrust kN	2.15	3.59	4.5	4.05	4.5	1.35	2.24	4.49	2.53	4.22
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	50	167	100	267	160	80	267	160
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02									
最长有效行程 mm Maximum effective travel mm	600									
最大负载推力 kN Maximum load thrust kN	4.5									
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000									
磁性开关 Magnetic switch	AL-39DFL-02			两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M						
	AL-39DFBL-02			两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M						

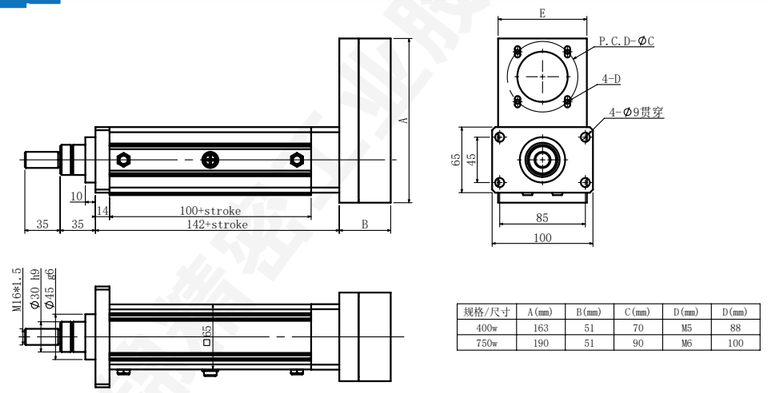
TJEN065直线式

TJEN065 Straight line



TJEN065折返式

TJEN065 Folding mode



TJEN065连接附件

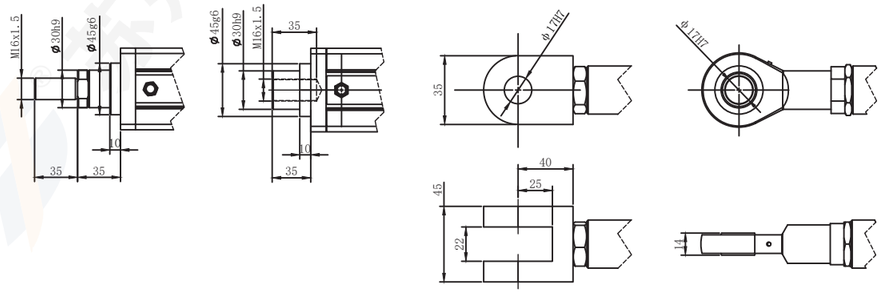
TJEN065 Connecting accessories

C1 外螺纹 Male thread

C2 内螺纹 Internal thread

C3 U型插销 U-shaped latch

C4 球头铰 Ball joint



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Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJEN075

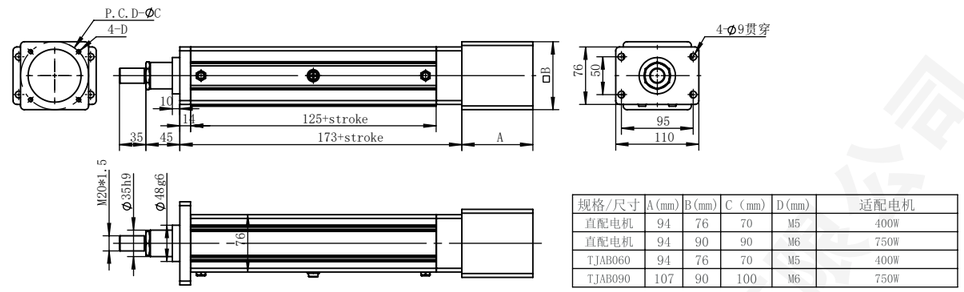
TJEN	075	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构 R无 T有	导程	电机连接 A直连 B折返	电动缸安装方式	负载连接方式	开关数量
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	2005										
标准马达额定功率 KW Standard motor rated power KW	0.4						0.75				
马达额定扭矩 N·m Motor rated torque N·m	1.27						2.39				
马达额定转速 r/min Rated motor speed r/min	3000						3000				
减速比 Reduction ratio	1	1.5	2	3	5	10	1	1.5	2	3	5
标准马达额定推力 kN Standard motor rated thrust kN	1.44	2.15	2.87	4.31	7.18	8	2.7	4.05	5.4	8	8
标准马达额定速度 mm/s Standard motor rated speed mm/s	250	167	125	83	50	25	250	167	125	83	50
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02										
最长有效行程 mm Maximum effective travel mm	800										
最大负载推力 kN Maximum load thrust kN	8										
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000										
磁性开关 Magnetic switch	AL-39DFL-02						两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M				
	AL-39DFBL-02						两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M				

螺杆规格 Screw specification	2010										
标准马达额定功率 KW Standard motor rated power KW	0.4						0.75				
马达额定扭矩 N·m Motor rated torque N·m	1.27						2.39				
马达额定转速 r/min Rated motor speed r/min	3000						3000				
减速比 Reduction ratio	1	1.5	2	3	5	10	1	1.5	2	3	5
标准马达额定推力 kN Standard motor rated thrust kN	0.72	1.08	1.44	2.15	3.59	7.18	1.35	2.03	2.7	4.05	6.75
标准马达额定速度 mm/s Standard motor rated speed mm/s	500	333	250	167	100	50	250	333	250	167	100
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02										
最长有效行程 mm Maximum effective travel mm	800										
最大负载推力 kN Maximum load thrust kN	8										
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000										
磁性开关 Magnetic switch	AL-39DFL-02						两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M				
	AL-39DFBL-02						两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M				

TJEN075直线式

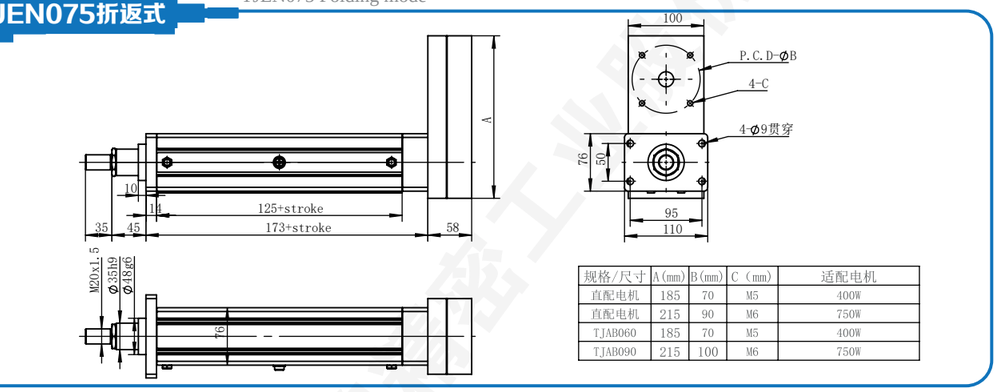
TJEN075 Straight line



规格/尺寸	A(mm)	B(mm)	C（mm）	D(mm)	适配电机
直配电机	94	76	70	M5	400W
直配电机	94	90	90	M6	750W
TJAB060	94	76	70	M5	400W
TJAB090	107	90	100	M6	750W

TJEN075折返式

TJEN075 Folding mode

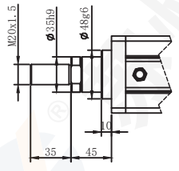


规格/尺寸	A(mm)	B(mm)	C（mm）	适配电机
直配电机	185	70	M5	400W
直配电机	215	90	M6	750W
TJAB060	185	70	M5	400W
TJAB090	215	100	M6	750W

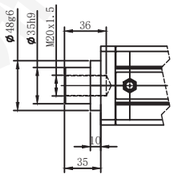
TJEN075连接附件

TJEN075 Connecting accessories

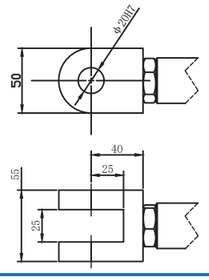
C1 外螺纹 Male thread



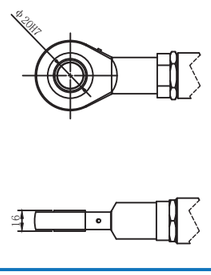
C2 内螺纹 Internal thread



C3 U型插销 U-shaped latch



C4 球头铰 Ball joint



注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJEN095

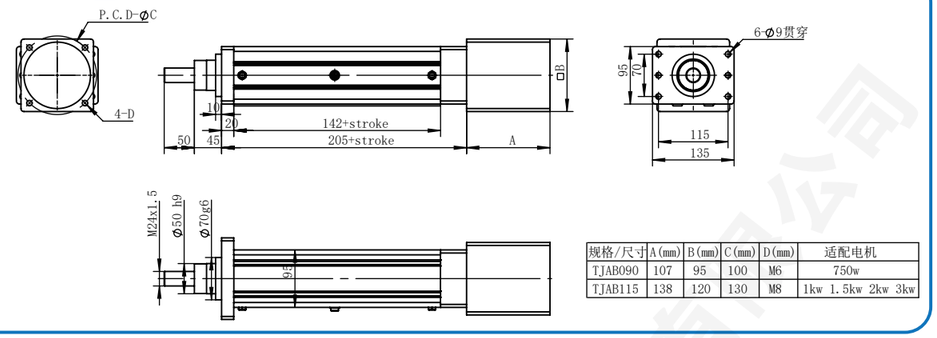
TJEN	095	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	3205					
标准马达额定功率 KW Standard motor rated power KW	0.75		1		1.5	2
马达额定扭矩 N·m Motor rated torque N·m	2.39		3.18		4.77	6.37
马达额定转速 r/min Rated motor speed r/min	3000		3000		3000	3000
减速比 Reduction ratio	3	5	3	5	3	3
标准马达额定推力 kN Standard motor rated thrust kN	8.1	13.51	10.78	17.97	16.18	20
标准马达额定速度 mm/s Standard motor rated speed mm/s	83	50	83	50	83	83
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02					
最长有效行程 mm Maximum effective travel mm	1000					
最大负载推力 kN Maximum load thrust kN	20					
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000					
磁性开关 Magnetic switch	AL-39DFL-02	两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M				
	AL-39DFBL-02	两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M				

螺杆规格 Screw specification	3210										
标准马达额定功率 KW Standard motor rated power KW	0.75			1			1.5			2	3
马达额定扭矩 N·m Motor rated torque N·m	2.39			3.18			4.77			6.37	9.55
马达额定转速 r/min Rated motor speed r/min	3000			3000			3000			3000	3000
减速比 Reduction ratio	3	5	10	3	5	10	3	5	10	5	3
标准马达额定推力 kN Standard motor rated thrust kN	4.05	6.75	13.51	5.39	8.99	17.97	8.09	13.48	10.08	18	16.19
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	50	167	100	50	167	100	167	100	167
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02										
最长有效行程 mm Maximum effective travel mm	1000										
最大负载推力 kN Maximum load thrust kN	20										
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000										
磁性开关 Magnetic switch	AL-39DFL-02			两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M							
	AL-39DFBL-02			两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M							

TJEN095直线式

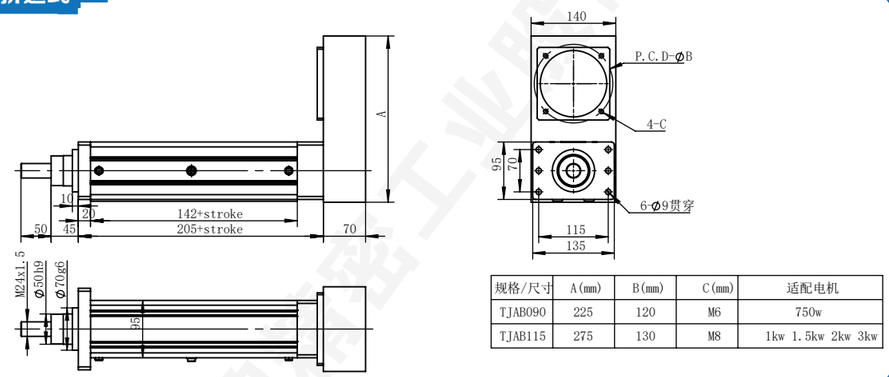
TJEN095 Straight line



规格/尺寸	A(mm)	B(mm)	C(mm)	D(mm)	适配电机
TJAB090	107	95	100	M6	750w
TJAB115	138	120	130	M8	1kw 1.5kw 2kw 3kw

TJEN095折返式

TJEN095 Folding mode



规格/尺寸	A(mm)	B(mm)	C(mm)	适配电机
TJAB090	225	120	M6	750w
TJAB115	275	130	M8	1kw 1.5kw 2kw 3kw

TJEN095连接附件

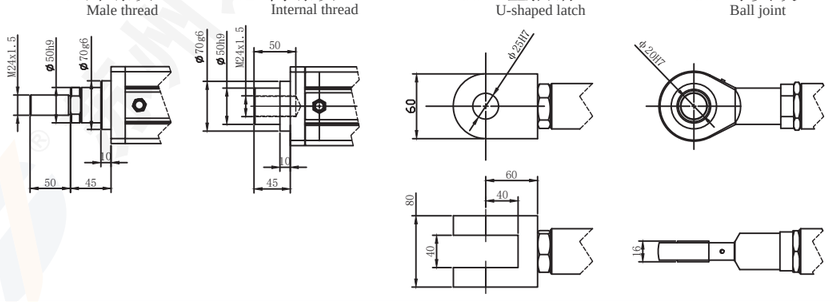
TJEN095 Connecting accessories

C1 外螺纹 Male thread

C2 内螺纹 Internal thread

C3 U型插销 U-shaped latch

C4 球头铰 Ball joint



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Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

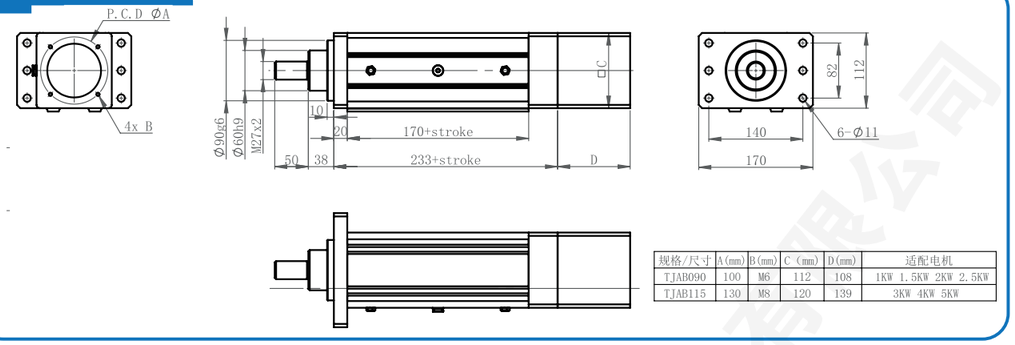
TJEN110

TJEN	110	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	4005		
标准马达额定功率 KW Standard motor rated power KW	1		1.5
马达额定扭矩 N·m Motor rated torque N·m	3.18		4.9
马达额定转速 r/min Rated motor speed r/min	3000		3000
减速比 Reduction ratio	3	5	3
标准马达额定推力 kN Standard motor rated thrust kN	10.78	17.97	16.62
标准马达额定速度 mm/s Standard motor rated speed mm/s	83	50	83
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02		
最长有效行程 mm Maximum effective travel mm	1200		
最大负载推力 kN Maximum load thrust kN	40		
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000		
磁性开关 Magnetic switch	AL39-DF-02		两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M
	AL39-DFB-02		两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M

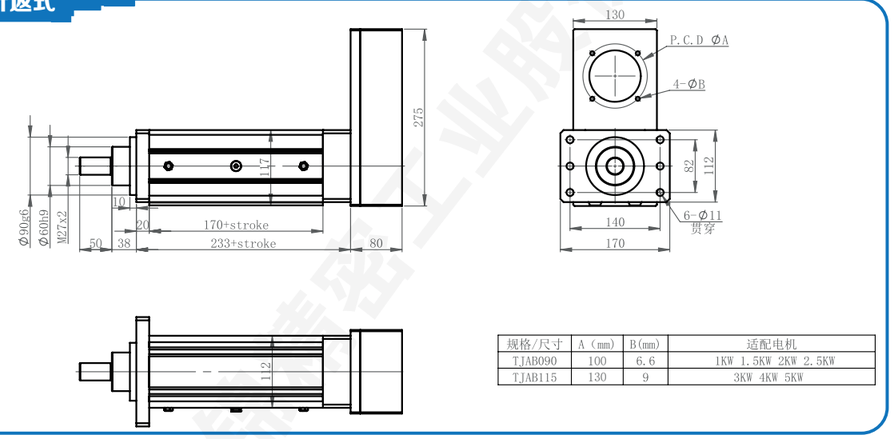
螺杆规格 Screw specification	4010																			
标准马达额定功率 KW Standard motor rated power KW	1			1.5			2			2.5			3			4			5	
马达额定扭矩 N·m Motor rated torque N·m	3.18			4.9			6.36			7.96			9.8			12.6			15.8	
马达额定转速 r/min Rated motor speed r/min	3000			3000			3000			3000			3000			3000			3000	
减速比 Reduction ratio	3	5	10	3	5	10	3	5	10	3	5	10	3	5	10	3	5	10	3	5
标准马达额定推力 kN Standard motor rated thrust kN	5.39	8.99	18	8.31	13.9	27.7	10.8	18	30	13.5	22.5	30	16.6	27.7	30	21.4	30	30	27	30
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	50	167	100	50	167	100	50	167	100	50	167	100	50	167	100	50	167	100
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02																			
最长有效行程 mm Maximum effective travel mm	1200																			
最大负载推力 kN Maximum load thrust kN	40																			
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000																			
磁性开关 Magnetic switch	AL39-DF-02																		两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M	
	AL39-DFB-02																		两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M	

TJEN110直线式 TJEN110 Straight line



规格/尺寸	A(mm)	B(mm)	C (mm)	D(mm)	适配电机
TJAB090	100	M6	112	108	1KW 1.5KW 2KW 2.5KW
TJAB115	130	M8	120	139	3KW 4KW 5KW

TJEN110折返式 TJEN110 Folding mode



规格/尺寸	A (mm)	B(mm)	适配电机
TJAB090	100	6.6	1KW 1.5KW 2KW 2.5KW
TJAB115	130	9	3KW 4KW 5KW

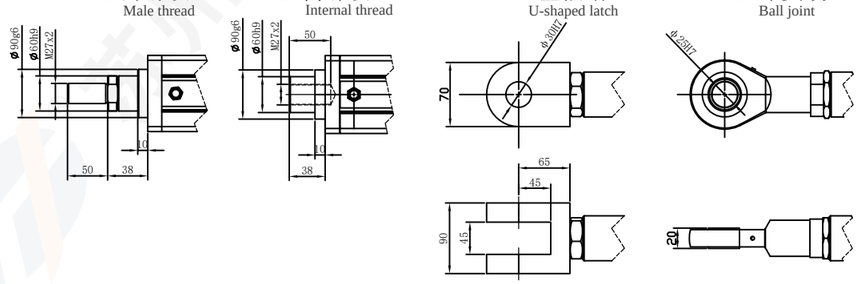
TJEN110连接附件 TJEN110 Connecting accessories

C1 外螺纹 Male thread

C2 内螺纹 Internal thread

C3 U型插销 U-shaped latch

C4 球头铰 Ball joint



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Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJEN135

TJEN 135 S100 B T 10 A M C 3

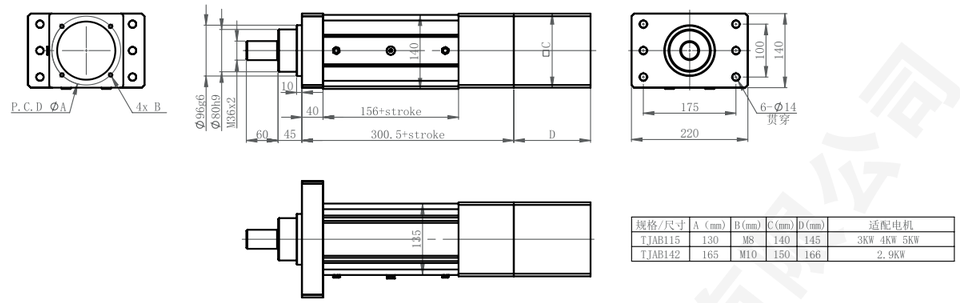
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	5010								
标准马达额定功率 KW Standard motor rated power KW	3			4			5		
马达额定扭矩 N·m Motor rated torque N·m	9.8			12.6			15.8		
马达额定转速 r/min Rated motor speed r/min	3000			3000			3000		
减速比 Reduction ratio	3	5	10	3	5	10	3	5	10
标准马达额定推力 kN Standard motor rated thrust kN	16.62	27.69	50	21.36	35.61	50	26.79	44.65	50
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	50	167	100	50	167	100	50
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02								
最长有效行程 mm Maximum effective travel mm	1500								
最大负载推力 kN Maximum load thrust kN	50								
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000								
磁性开关 Magnetic switch	AL39-DF-02			两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M					
	AL39-DFB-02			两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M					

螺杆规格 Screw specification	5020								
标准马达额定功率 KW Standard motor rated power KW	3			4			5		
马达额定扭矩 N·m Motor rated torque N·m	9.8			12.6			15.8		
马达额定转速 r/min Rated motor speed r/min	3000			3000			3000		
减速比 Reduction ratio	3	5	10	3	5	10	3	5	10
标准马达额定推力 kN Standard motor rated thrust kN	9.31	13.85	27.69	10.68	17.8	35.61	13.4	22.33	44.65
标准马达额定速度 mm/s Standard motor rated speed mm/s	333	200	100	333	200	100	333	200	100
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02								
最长有效行程 mm Maximum effective travel mm	1500								
最大负载推力 kN Maximum load thrust kN	50								
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000								
磁性开关 Magnetic switch	AL39-DF-02			两线式无接点型 常开 线长2M Two wire type no contact type normal open line length 2M					
	AL39-DFB-02			两线式无接点型 常闭 线长2M Two wire type no contact type normally closed line length 2M					

TJEN135直线式

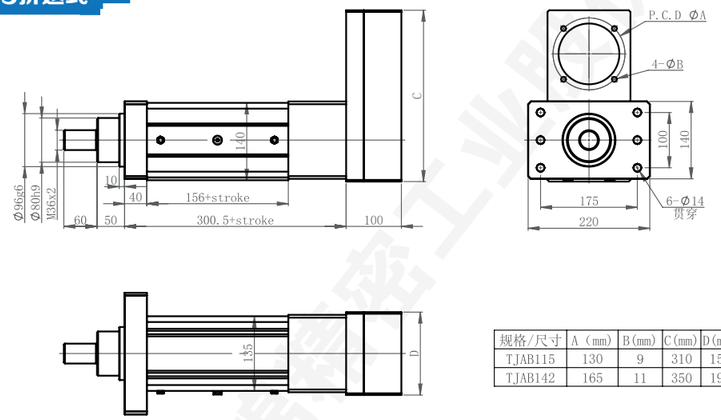
TJEN135Straight line



规格/尺寸	A (mm)	B(mm)	C(mm)	D(mm)	适配电机
TJAB115	130	M8	140	145	3KW 4KW 5KW
TJAB142	165	M10	150	166	2.9KW

TJEN135折返式

TJEN135 Folding mode

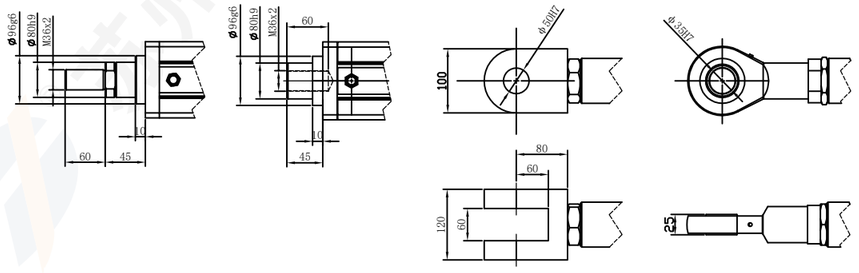


规格/尺寸	A (mm)	B(mm)	C(mm)	D(mm)	适配电机
TJAB115	130	9	310	150	3KW 4KW 5KW
TJAB142	165	11	350	190	2.9KW

TJEN135连接附件

TJEN135 Connecting accessories

C1 外螺纹　C2 内螺纹　C3 U型插销　C4球头铰



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Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

重负载系列（10kN-1000kN）

TJER重负载系列：采购高强度研磨钢管，研磨级滚珠丝杠/行星滚柱丝杆，适用重载、高速、长行程以及外部环境恶劣的工况下使用，使用温度可达-55℃~180℃，表面特殊处理，达到防腐、防水、防爆等特殊工况。

防护等级可达IP69K，推力范围:10kN-1000kN，行程可至5m，工作制100%，速度可至800mm/s。

型号表示

TJER160	S300	B	T	05	A	MX	C1	M	075	B	R05	P11	O1C2	N

电动缸型号

TJER080	TJER160
TJER100	TJER180
TJER120	TJER220
TJER140	TJER260

有效行程（可定制）

TJER080	50~1000mm
TJER100	50~1200mm
TJER120	50~1800mm
TJER140	50~2200mm
TJER160	50~3200mm
TJER180	50~3500mm
TJER220	50~4200mm
TJER260	50~4700mm

丝杆

A 滑动丝杆 B 滚珠丝杆 C 滚柱丝杆

防转机构

R 无防转型 T 有防转型

丝杆导程

TJER080	5、10、20、25mm	TJER160	5、10、20、25mm
TJER100	5、10、20、25mm	TJER180	5、10、20、25mm
TJER120	5、10、20、25mm	TJER220	5、10、20、25mm
TJER140	5、10、20、25mm	TJER260	5、10、20、25mm

电机连接

A 直线式 B 折返式

电动缸安装方式

M1	底部螺孔	M5	尾部销轴
M2	底板式	M6	尾部销孔
M3	前法兰	MX	用户自定义
M4	后法兰		

负载连接方式

C1	外螺纹	C3	U型插销	Cx	用户自定义
C2	内螺纹	C4	球头铰		

电机品牌

M	三菱	P	松下	I	汇川
Y	安川	S	西门子	T	台达

电机功率

075 750W 100 1000W 150 1500W 200 2000W 300 3000W 500 5000W 700 7000W 1100 11000W

刹车

A 不带刹车 B 带刹车

减速比

R01 1比1 R03 3比1 R05 5比1 R07 7比1 R10 10比1 R12 12比1

常开常闭

无 无常开常闭 O1 1个常开 O2 2个常开 C1 1个常闭 C2 2个常闭 O1C2 1个常开2个常闭 O2C1 2个常开1个常闭

传感类型

N NPN P PNP

P 光栅尺+压力传感器

压力传感器：① 4-20mA ② 0-10V

光 栅 尺：① TTL 24V ② RS422（5V差分）

缺省既不含压力传感器，又不含光栅尺。

P_{01} -只带光栅尺TTL（24V）

P_{02} -只带光栅尺RS422（5V差分）

P_{10} -只带光栅尺4-20mA

P_{20} -只带光栅尺0-10V

P_{11} -压力传感器4-20mA，光栅尺TTL（24V）

P_{12} -压力传感器4-20mA，光栅尺RS422（5V差分）

P_{21} -压力传感器0-10V，光栅尺TTL（24V）

P_{22} -压力传感器0-10V，光栅尺RS422（5V差分）

Heavy load series (10kN-1000kN)

TJER heavy load series: Purchase high-strength grinding steel pipe, grinding grade ball screw/planetary roller screw, suitable for heavy load, high speed, long travel and harsh external environment conditions, the use of temperature up to -55℃~180℃, surface special treatment, to achieve anti-corrosion, waterproof, explosion-proof and other special conditions.

Protection class up to IP69K, thrust range :10kN-1000kN, stroke up to 5m, 100%, speed up to 800mm/s.

Type indication

TJER160	S300	B	T	05	A	MX	C1	M	075	B	R05	P11	O1C2	N

Electric cylinder type

TJER080	TJER160
TJER100	TJER180
TJER120	TJER220
TJER140	TJER260

Effective stroke

TJER080	50~1000mm
TJER100	50~1200mm
TJER120	50~1800mm
TJER140	50~2200mm
TJER160	50~3200mm
TJER180	50~3500mm
TJER220	50~4200mm
TJER260	50~4700mm

Lead screw

A Acme screw B Ball screw C Roller screw

Anti-rotation

R No T Have

Lead of the screw

TJER080	5、10、20、25mm	TJER160	5、10、20、25mm
TJER100	5、10、20、25mm	TJER180	5、10、20、25mm
TJER120	5、10、20、25mm	TJER220	5、10、20、25mm
TJER140	5、10、20、25mm	TJER260	5、10、20、25mm

Motor connection

A linear B Parallel

Electric cylinder mounting method

M1	Bottom hole	M5	Tail pin
M2	Baseplate	M6	Tail pin hole
M3	Front flange	MX	User-defined
M4	Back flange		

Load connection mode

C1	Male thread	C3	U-shaped latch	Cx	User-defined
C2	Internal thread	C4	Ball joint		

Motor brand

M	Mitsubishi	P	Panasonic	I	Inovance
Y	Yaskawa	S	Siemens	T	Delta

Motor power

075 750W 100 1000W 150 1500W 200 2000W 300 3000W 500 5000W 700 7000W 1100 11000W

Brake

A Without brake B Band brake

Reduction ratio

R01 1:1 R03 3:1 R05 5:1 R07 7:1 R10 10:1 R12 12:1

Normally open normally closed

无 Impermanence always closes O1 1usually open O2 2normally open C1 1normally closed C2 2normally closed O1C2 1usually open 2normally closed O2C1 2usually open 1normally closed

Sensing type

N NPN P PNP

P Grating ruler + pressure sensor

Pressure sensor: ① 4-20mA ② 0-10V

Grating ruler: ① TTL 24V ② RS422（5Vdifference）

By default, neither pressure sensor nor grating ruler is included.

P_{01} - TTL (24V) with grating ruler only

P_{02} - Only grating ruler RS422 (5V differential)

P_{10} - Only with grating ruler 4-20mA

P_{20} - Only with raster ruler 0-10V

P_{11} - Pressure sensor 4-20mA, grating scale TTL (24V)

P_{12} - Pressure sensor 4-20mA, grating ruler RS422 (5V differential)

P_{21} - Pressure sensor 0-10V, grating TTL (24V)

P_{22} - Pressure sensor 0-10V, grating ruler RS422 (5V differential)

重负载系列技术参数及尺寸图 Heavy load series (10kN-1000kN)

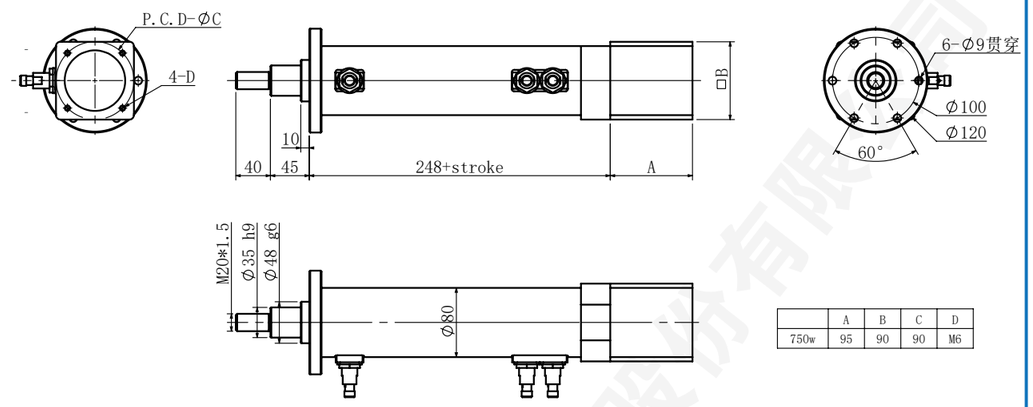
TJER080

TJER	080	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	2005	2010		
标准马达额定功率 KW Standard motor rated power KW	0.75	0.75		
马达额定扭矩 N·m Motor rated torque N·m	2.39	2.39		
马达额定转速 r/min Rated motor speed r/min	3000	3000		
减速比 Reduction ratio	3	3	5	7
标准马达额定推力 kN Standard motor rated thrust kN	8	4.05	6.75	8
标准马达额定速度 mm/s Standard motor rated speed mm/s	83	167	100	71
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02			
最长有效行程 mm Maximum effective travel mm	1000			
最大负载推力 kN Maximum load thrust kN	8			
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000			
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）		NPN 线长2M NPN Line length 2M	
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）		PNP 线长2M PNP Line length 2M	

TJER080直线式

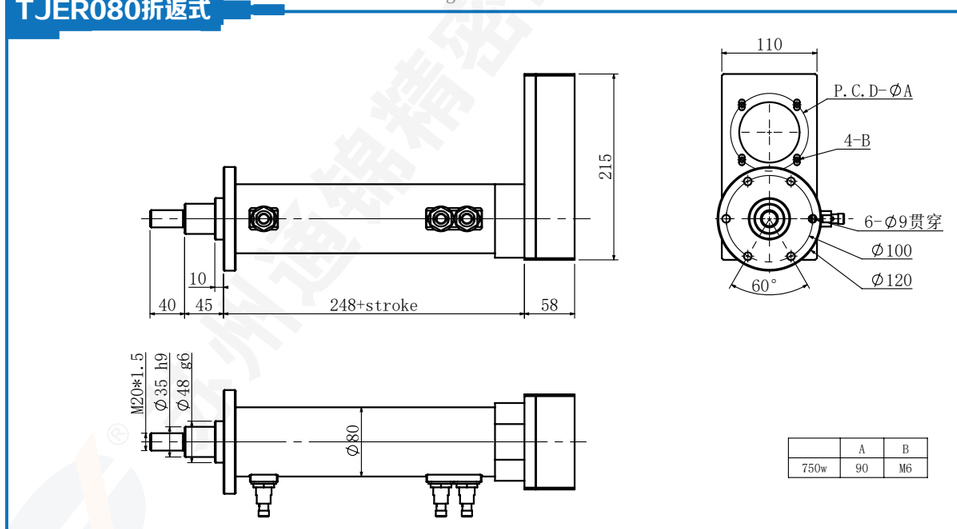
TJER080 Straight line



	A	B	C	D
750w	95	90	90	M6

TJER080折返式

TJER080 Folding mode



	A	B
750w	90	M6

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJER100

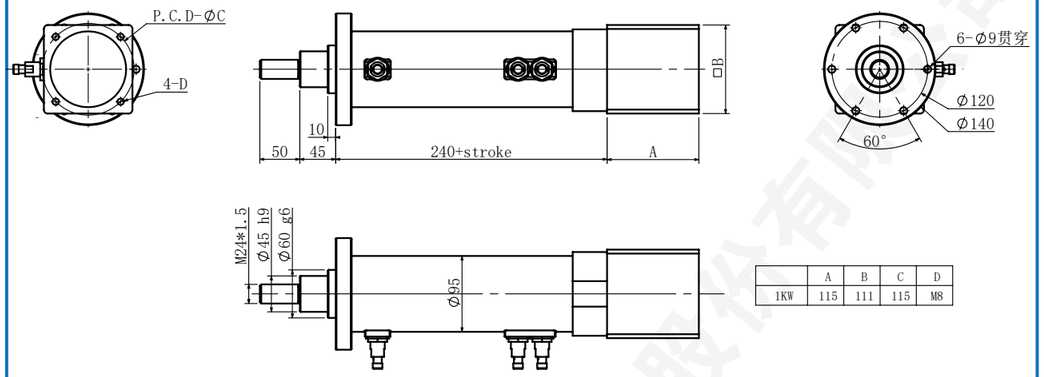
TJER	100	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	3205							
标准马达额定功率 KW Standard motor rated power KW	0.75			1		1.5		2
马达额定扭矩 N·m Motor rated torque N·m	2.39			3.18		4.77		6.37
马达额定转速 r/min Rated motor speed r/min	3000			3000		3000		3000
减速比 Reduction ratio	3	5	10	3	5	3	5	3
标准马达额定推力 kN Standard motor rated thrust kN	8.1	13.51	20	10.78	17.97	16.18	20	20
标准马达额定速度 mm/s Standard motor rated speed mm/s	83	50	25	83	50	83	50	83
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02							
最长有效行程 mm Maximum effective travel mm	1200							
最大负载推力 kN Maximum load thrust kN	20							
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000							
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）							NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）							PNP 线长2M PNP Line length 2M

螺杆规格 Screw specification	3210									
标准马达额定功率 KW Standard motor rated power KW	0.75			1			1.5		2	3
马达额定扭矩 N·m Motor rated torque N·m	2.39			3.18			4.77		6.37	9.55
马达额定转速 r/min Rated motor speed r/min	3000			3000			3000		3000	3000
减速比 Reduction ratio	3	5	10	3	5	10	3	5	3	5	3
标准马达额定推力 kN Standard motor rated thrust kN	4.05	6.75	13.51	5.39	8.99	17.97	8.09	13.48	10.08	18	16.19
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	50	167	100	50	167	100	167	100	167
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02										
最长有效行程 mm Maximum effective travel mm	1200										
最大负载推力 kN Maximum load thrust kN	20										
最快伸缩速度 mm/s Maximum expansion speed mm/s	1000										
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）									NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）									PNP 线长2M PNP Line length 2M

TJER100直线式

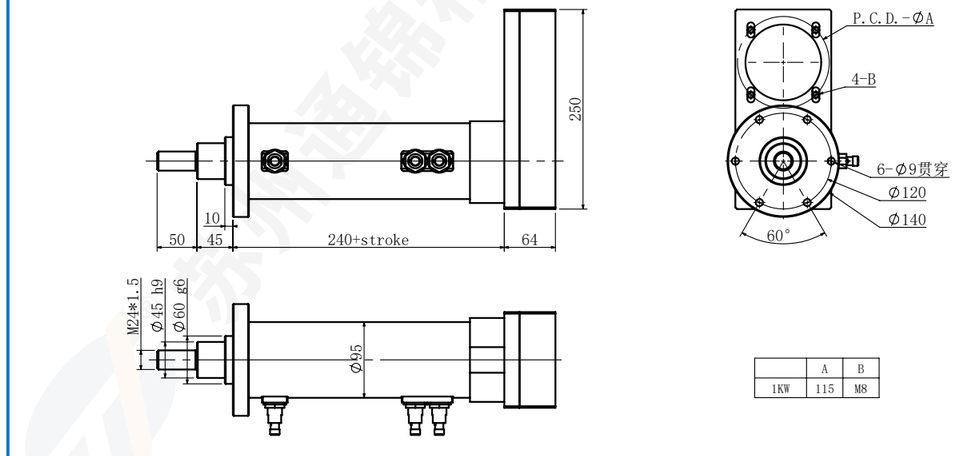
TJER100 Straight line



	A	B	C	D
1KW	115	111	115	M8

TJER100折返式

TJER100 Folding mode



	A	B
1KW	115	M8

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJER120

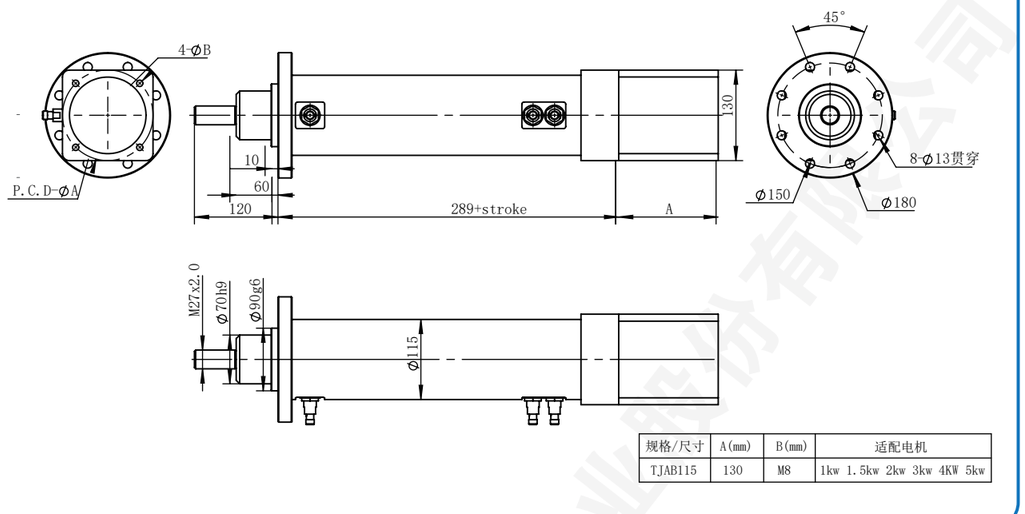
TJER	120	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	4005						
标准马达额定功率 KW Standard motor rated power KW	0.75				1		1.5
马达额定扭矩 N·m Motor rated torque N·m	2.39				3.18		4.77
马达额定转速 r/min Rated motor speed r/min	3000				3000		3000
减速比 Reduction ratio	3	5	7	10	3	5	3
标准马达额定推力 kN Standard motor rated thrust kN	8.1	13.51	18.91	27.02	10.78	17.97	16.18
标准马达额定速度 mm/s Standard motor rated speed mm/s	83	50	36	25	83	50	83
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02						
最长有效行程 mm Maximum effective travel mm	1800						
最大负载推力 kN Maximum load thrust kN	40						
最快伸缩速度 mm/s Maximum expansion speed mm/s	500						
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）						NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）						PNP 线长2M PNP Line length 2M

螺杆规格 Screw specification	4010																					
标准马达额定功率 KW Standard motor rated power KW	0.75				1				1.5				2				3				5	
马达额定扭矩 N·m Motor rated torque N·m	2.39				3.18				4.77				6.37				9.55				15.8	
马达额定转速 r/min Rated motor speed r/min	3000				3000				3000				3000				3000				3000	
减速比 Reduction ratio	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7
标准马达额定推力 kN Standard motor rated thrust kN	4.05	6.75	9.46	13.51	5.39	8.99	12.58	17.97	8.09	13.48	18.87	26.96	10.8	18	25.2	36	16.19	26.99	37.78	40	26.96	40	40
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	71	50	167	100	71	50	167	100	71	50	167	100	71	50	167	100	71	50	167	100	71
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02																						
最长有效行程 mm Maximum effective travel mm	1800																						
最大负载推力 kN Maximum load thrust kN	40																						
最快伸缩速度 mm/s Maximum expansion speed mm/s	500																						
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）																				NPN 线长2M NPN Line length 2M		
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）																				PNP 线长2M PNP Line length 2M		

TJER120直线式

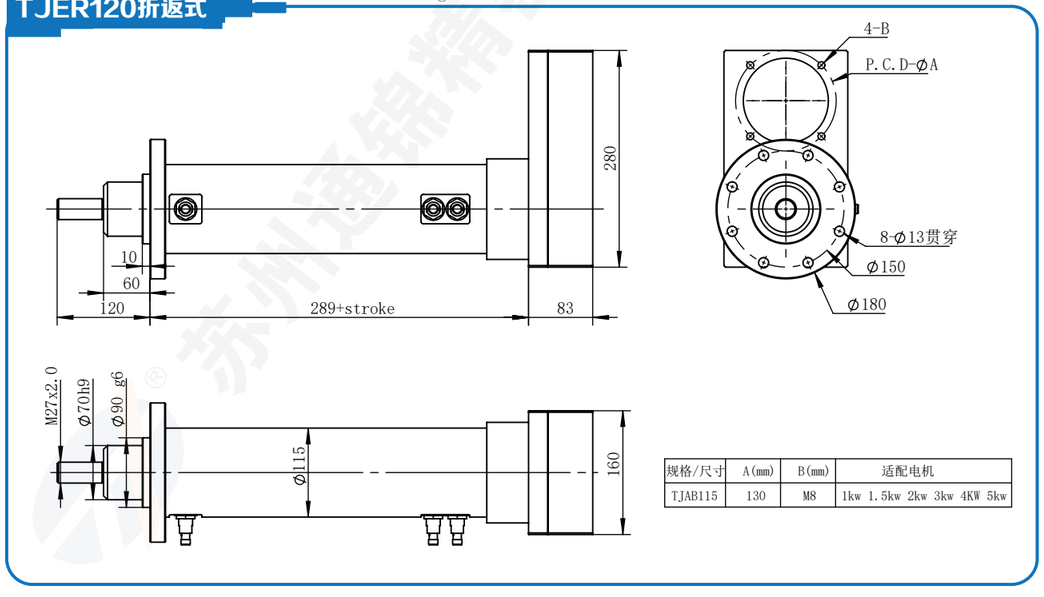
TJER120 Straight line



规格/尺寸	A(mm)	B(mm)	适配电机
TJAB115	130	M8	1kw 1.5kw 2kw 3kw 4KW 5kw

TJER120折返式

TJER120 Folding mode



规格/尺寸	A(mm)	B(mm)	适配电机
TJAB115	130	M8	1kw 1.5kw 2kw 3kw 4KW 5kw

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

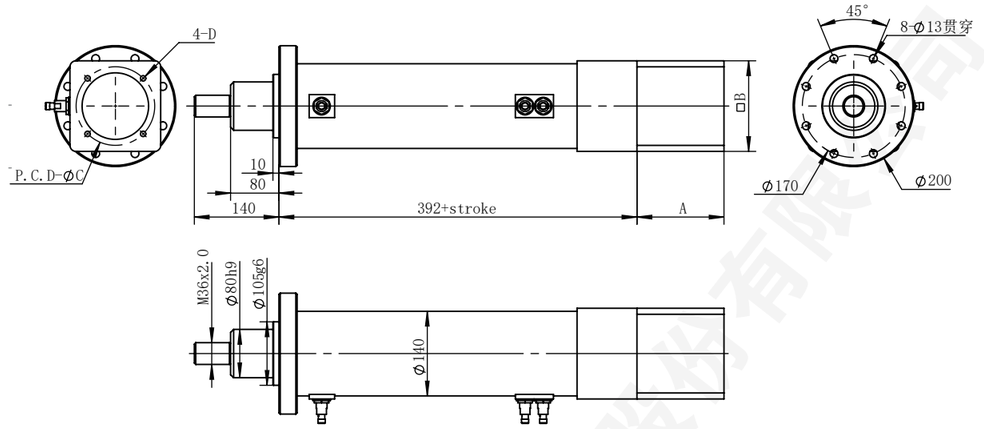
TJER140

TJER	140	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	5010																					
标准马达额定功率 KW Standard motor rated power KW	1				1.5				2				3				4			5		
马达额定扭矩 N·m Motor rated torque N·m	3.18				4.9				6.36				9.8				12.6			15.8		
马达额定转速 r/min Rated motor speed r/min	3000				3000				3000				3000				3000			3000		
减速比 Reduction ratio	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7	3	5	7
标准马达额定推力 kN Standard motor rated thrust kN	5.39	8.99	12.58	17.97	8.31	13.85	19.39	27.69	10.78	17.97	25.16	35.95	16.62	27.69	38.77	55.39	21.36	35.61	49.85	26.79	44.65	56
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	71	50	167	100	71	50	167	100	71	50	167	100	71	50	167	100	71	167	100	71
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02																					
最长有效行程 mm Maximum effective travel mm	2200																					
最大负载推力 kN Maximum load thrust kN	60																					
最快伸缩速度 mm/s Maximum expansion speed mm/s	500																					
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）																NPN 线长2M NPN Line length 2M					
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）																PNP 线长2M PNP Line length 2M					

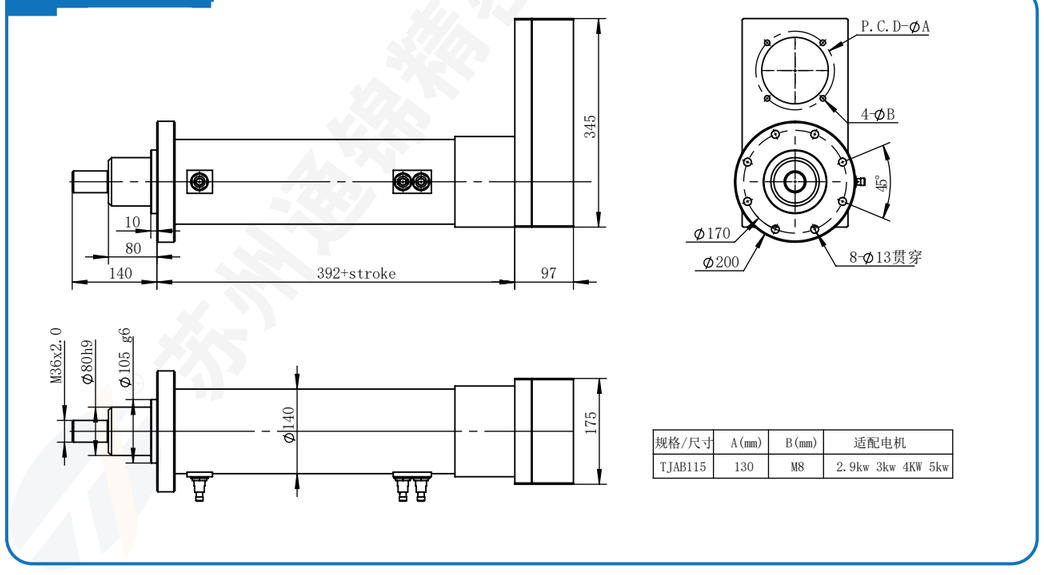
螺杆规格 Screw specification	5020																					
标准马达额定功率 KW Standard motor rated power KW	1				1.5				2				3				4			5		
马达额定扭矩 N·m Motor rated torque N·m	3.18				4.9				6.36				9.8				12.6			15.8		
马达额定转速 r/min Rated motor speed r/min	3000				3000				3000				3000				3000			3000		
减速比 Reduction ratio	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7	10	3	5	7
标准马达额定推力 kN Standard motor rated thrust kN	2.7	4.49	6.29	8.99	4.15	9.92	9.69	13.85	5.39	8.99	12.58	17.97	8.31	13.85	19.39	27.69	10.68	17.8	24.97	35.61	13.4	22.33	31.26
标准马达额定速度 mm/s Standard motor rated speed mm/s	333	200	143	100	333	200	143	100	333	200	143	100	333	200	143	100	333	200	143	100	333	200	100
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02																					
最长有效行程 mm Maximum effective travel mm	2200																					
最大负载推力 kN Maximum load thrust kN	60																					
最快伸缩速度 mm/s Maximum expansion speed mm/s	500																					
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）																NPN 线长2M NPN Line length 2M					
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）																PNP 线长2M PNP Line length 2M					

TJER140直线式 TJER140 Straight line



规格/尺寸	A(mm)	B(mm)	C(mm)	D(mm)	适配电机
TJAB115	144	150	130	M8	2.9kw 3kw 4KW 5kw

TJER140折返式 TJER140 Folding mode



规格/尺寸	A(mm)	B(mm)	适配电机
TJAB115	130	M8	2.9kw 3kw 4KW 5kw

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJER160

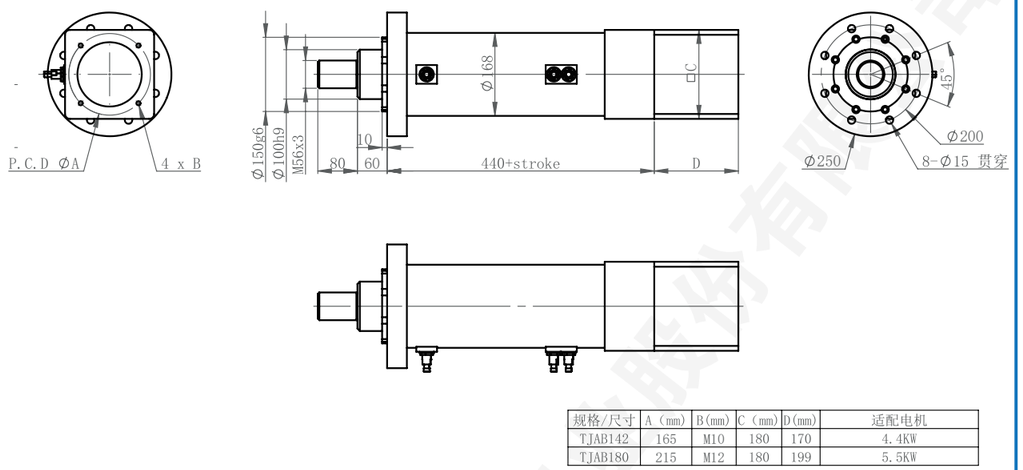
TJER	160	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构 R无 T有	导程	电机连接 A直连 B折返	电动缸安装方式	负载连接方式	开关数量
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	6310					
标准马达额定功率 KW Standard motor rated power KW	5.5			7.5		
马达额定扭矩 N·m Motor rated torque N·m	35			48		
马达额定转速 r/min Rated motor speed r/min	1500			1500		
减速比 Reduction ratio	3	5	7	3	5	
标准马达额定推力 kN Standard motor rated thrust kN	59.35	98.91	100	81.39	100	
标准马达额定速度 mm/s Standard motor rated speed mm/s	83	50	36	83	50	
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02					
最长有效行程 mm Maximum effective travel mm	2000					
最大负载推力 kN Maximum load thrust kN	100					
最快伸缩速度 mm/s Maximum expansion speed mm/s	300					
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）					NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）					PNP 线长2M PNP Line length 2M

螺杆规格 Screw specification	6320									
标准马达额定功率 KW Standard motor rated power KW	5.5					7.5				
马达额定扭矩 N·m Motor rated torque N·m	35					48				
马达额定转速 r/min Rated motor speed r/min	1500					1500				
减速比 Reduction ratio	3	5	7	10	12	3	5	7	10	12
标准马达额定推力 kN Standard motor rated thrust kN	29.67	49.46	69.24	98.91	100	40.69	67.82	94.95	100	100
标准马达额定速度 mm/s Standard motor rated speed mm/s	167	100	71	50	42	167	100	71	50	42
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02									
最长有效行程 mm Maximum effective travel mm	2000									
最大负载推力 kN Maximum load thrust kN	100									
最快伸缩速度 mm/s Maximum expansion speed mm/s	300									
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）									NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）									PNP 线长2M PNP Line length 2M

TJER160直线式

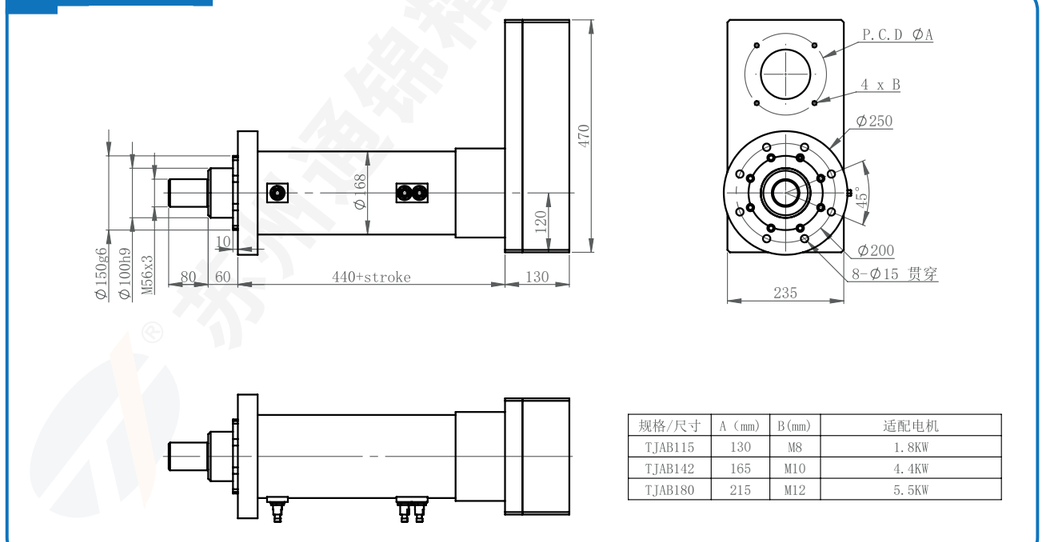
TJER160 Straight line



规格/尺寸	A（mm）	B(mm)	C（mm）	D(mm)	适配电机
TJAB142	165	M10	180	170	4.4KW
TJAB180	215	M12	180	199	5.5KW

TJER160折返式

TJER160 Folding mode



规格/尺寸	A（mm）	B(mm)	适配电机
TJAB115	130	M8	1.8KW
TJAB142	165	M10	4.4KW
TJAB180	215	M12	5.5KW

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJER180

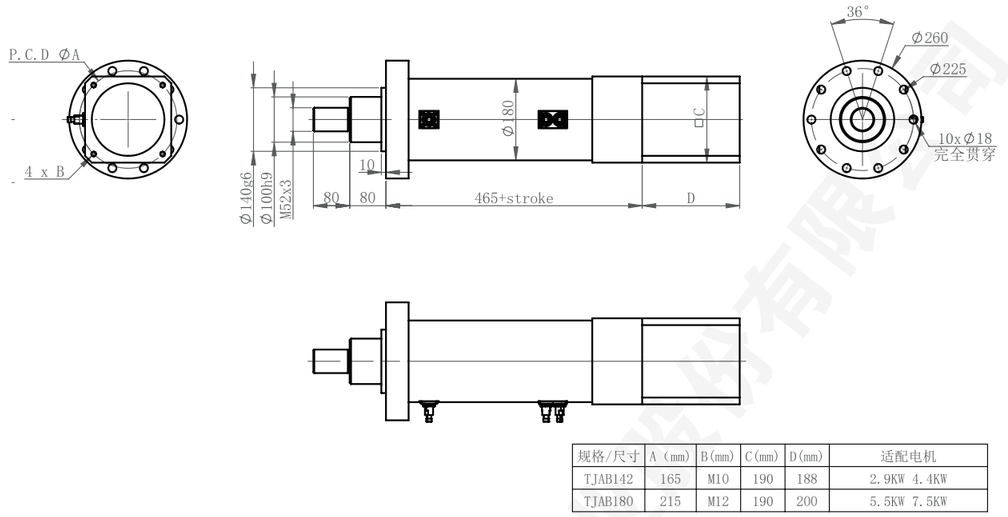
TJER	180	S100	B	T	10	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	6310						
标准马达额定功率 KW Standard motor rated power KW	5.5			7.5			
马达额定扭矩 N·m Motor rated torque N·m	35			48			
马达额定转速 r/min Rated motor speed r/min	1500			1500			
减速比 Reduction ratio	5	7		5	7		
标准马达额定推力 kN Standard motor rated thrust kN	98.91	100		100	100		
标准马达额定速度 mm/s Standard motor rated speed mm/s	50	36		50	36		
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02						
最长有效行程 mm Maximum effective travel mm	2000						
最大负载推力 kN Maximum load thrust kN	100						
最快伸缩速度 mm/s Maximum expansion speed mm/s	250						
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNSZW2S(Normally open)		IME18-08BNOZW2S（常闭） IME18-08BNOZW2S（Normally close）		NPN 线长2M NPN Line length 2M		
	IME18-08BPSZW2S(常开） IME18-08BNSZW2S(Normally open)		IME18-08BPOZW2S（常闭） IME18-08BNOZW2S（Normally close）		PNP 线长2M PNP Line length 2M		

螺杆规格 Screw specification	6320							
标准马达额定功率 KW Standard motor rated power KW	5.5				7.5			
马达额定扭矩 N·m Motor rated torque N·m	35				48			
马达额定转速 r/min Rated motor speed r/min	1500				1500			
减速比 Reduction ratio	5	7	10	12	5	7	10	12
标准马达额定推力 kN Standard motor rated thrust kN	49.46	69.24	98.91	118.69	67.82	94.95	120	120
标准马达额定速度 mm/s Standard motor rated speed mm/s	100	71	50	42	100	71	50	42
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02							
最长有效行程 mm Maximum effective travel mm	2000							
最大负载推力 kN Maximum load thrust kN	130							
最快伸缩速度 mm/s Maximum expansion speed mm/s	250							
接近开关（3线） Proximity switch (3-wire)	IME18-08BNSZW2S(常开） IME18-08BNSZW2S(Normally open)			IME18-08BNOZW2S（常闭） IME18-08BNOZW2S（Normally close）			NPN 线长2M NPN Line length 2M	
	IME18-08BPSZW2S(常开） IME18-08BNSZW2S(Normally open)			IME18-08BPOZW2S（常闭） IME18-08BNOZW2S（Normally close）			PNP 线长2M PNP Line length 2M	

TJER180直线式

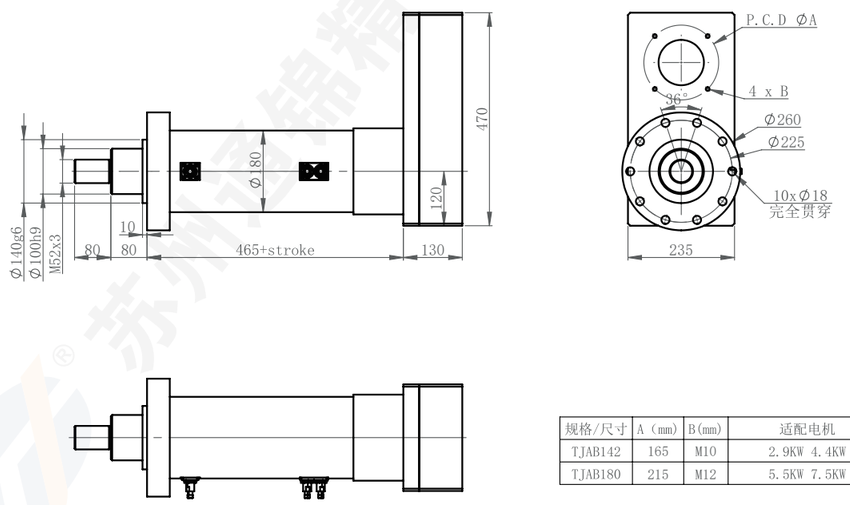
TJER180 Straight line



规格/尺寸	A（mm）	B(mm)	C(mm)	D(mm)	适配电机
TJAB142	165	M10	190	188	2.9KW 4.4KW
TJAB180	215	M12	190	200	5.5KW 7.5KW

TJER180折返式

TJER180 Folding mode



规格/尺寸	A（mm）	B(mm)	适配电机
TJAB142	165	M10	2.9KW 4.4KW
TJAB180	215	M12	5.5KW 7.5KW

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

伺服电动缸 TJER180 参数表及尺寸图 Servo electric cylinder TJER180 parameter table and size drawing

TJER220

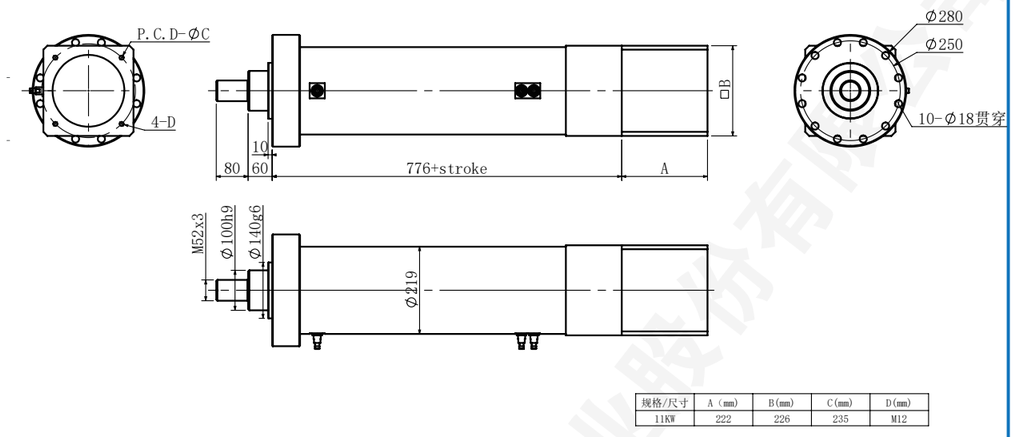
TJER	220	S100	B	T	25	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构 R无 T有	导程	电机连接 A直连 B折返	电动缸安装方式	负载连接方式	开关数量
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	8020											
标准马达额定功率 KW Standard motor rated power KW	5.5				7.5				11			
马达额定扭矩 N·m Motor rated torque N·m	35				48				70			
马达额定转速 r/min Rated motor speed r/min	1500				1500				1500			
减速比 Reduction ratio	5	7	10	12	5	7	10	12	5	7	10	12
标准马达额定推力 kN Standard motor rated thrust kN	49.46	69.24	98.91	118.69	67.82	94.95	135.65	162.78	98.91	138.47	197.82	237.38
标准马达额定速度 mm/s Standard motor rated speed mm/s	100	71	50	42	100	71	50	42	100	71	50	42
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02											
最长有效行程 mm Maximum effective travel mm	4200											
最大负载推力 kN Maximum load thrust kN	250											
最快伸缩速度 mm/s Maximum expansion speed mm/s	625											
接近开关 Proximity switch	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）								NPN 线长2M NPN Line length 2M			
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）								PNP 线长2M PNP Line length 2M			

螺杆规格 Screw specification	8025											
标准马达额定功率 KW Standard motor rated power KW	5.5				7.5				11			
马达额定扭矩 N·m Motor rated torque N·m	35				48				70			
马达额定转速 r/min Rated motor speed r/min	1500				1500				1500			
减速比 Reduction ratio	5	7	10	12	5	7	10	12	5	7	10	12
标准马达额定推力 kN Standard motor rated thrust kN	39.56	55.39	79.13	94.95	54.26	75.96	108.52	130.22	79.13	110.78	158.26	189.91
标准马达额定速度 mm/s Standard motor rated speed mm/s	125	89	63	52	125	89	63	52	125	89	63	52
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02											
最长有效行程 mm Maximum effective travel mm	4200											
最大负载推力 kN Maximum load thrust kN	250											
最快伸缩速度 mm/s Maximum expansion speed mm/s	625											
接近开关 Proximity switch	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）								NPN 线长2M NPN Line length 2M			
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）								PNP 线长2M PNP Line length 2M			

TJER220直线式

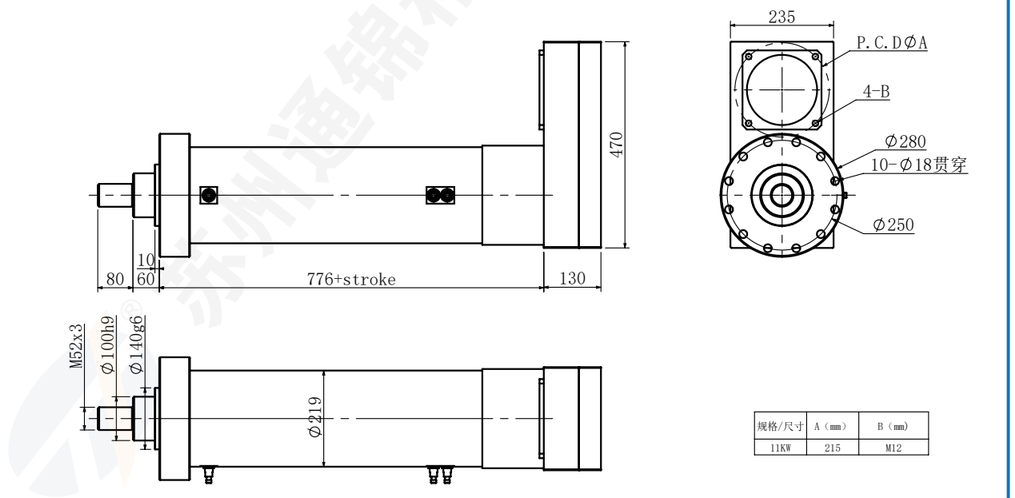
TJER220 Straight line



规格/尺寸	A（mm）	B（mm）	C（mm）	D（mm）
11KW	222	226	235	M12

TJER220折返式

TJER220 Folding mode



规格/尺寸	A（mm）	B（mm）
11KW	215	M12

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

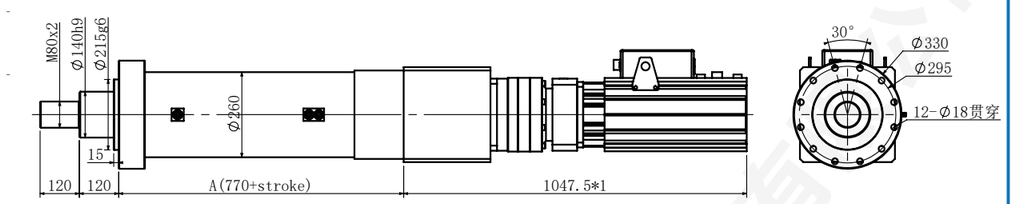
TJER260

TJER	260	S100	B	T	25	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	10025	
标准马达额定功率 KW Standard motor rated power KW	11	
马达额定扭矩 N·m Motor rated torque N·m	70	
马达额定转速 r/min Rated motor speed r/min	1500	
减速比 Reduction ratio	10	15
标准马达额定推力 kN Standard motor rated thrust kN	158.26	237.38
标准马达额定速度 mm/s Standard motor rated speed mm/s	63	42
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02	
最长有效行程 mm Maximum effective travel mm	4700	
最大负载推力 kN Maximum load thrust kN	500	
最快伸缩速度 mm/s Maximum expansion speed mm/s	625	
接近开关 Proximity switch	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）	NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）	PNP 线长2M PNP Line length 2M

TJER260直线式

TJER260 Straight line

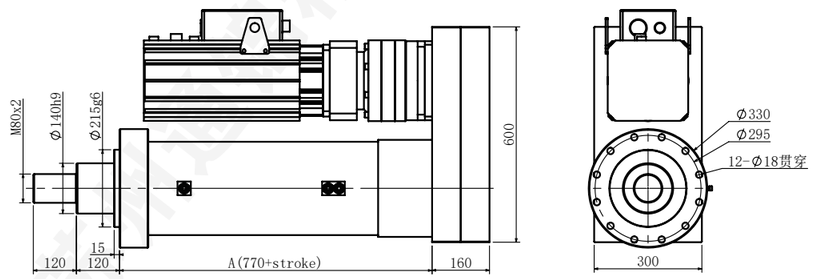


1：长度依马达变动
The length varies with the motor

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
A	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370

TJER260折返式

TJER260 Folding mode



1：长度依马达变动
The length varies with the motor

Stroke	50	100	150	200	250	300	350	400	450	500	550	600
A	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370

注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

TJER380

TJER	380	S100	B	T	25	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构	导程	电机连接	电动缸安装方式	负载连接方式	开关数量
				R无		A直连			
				T有		B折返			
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

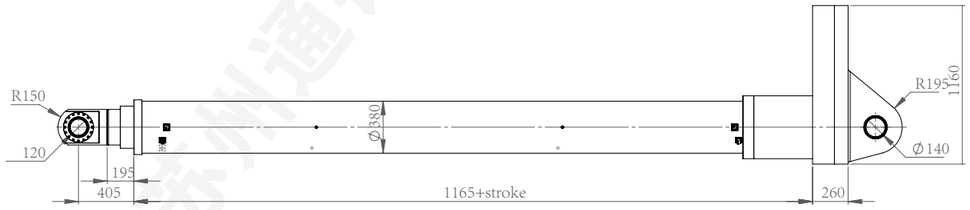
螺杆规格 Screw specification	16025	
标准马达额定功率 KW Standard motor rated power KW	22	
马达额定扭矩 N·m Motor rated torque N·m	140	
马达额定转速 r/min Rated motor speed r/min	1500	
减速比 Reduction ratio	20	
标准马达额定推力 kN Standard motor rated thrust kN	60	
标准马达额定速度 mm/s Standard motor rated speed mm/s	31	
重复定位精度 mm Repeated positioning accuracy mm	±0.02/±0.03	
最长有效行程 mm Maximum effective travel mm	4800	
最大负载推力 kN Maximum load thrust kN	600	
最快伸缩速度 mm/s Maximum expansion speed mm/s	625	
接近开关 Proximity switch	E2E-X10D1-N-2M	导线引出型 NPN 常开 线长2M Wire extraction type NPN normally open line length 2M
	E2E-X10D2-N-2M	导线引出型 PNP 常闭 线长2M Wire extraction type PNP normally closed line length 2M

TJER380直线式

TJER380 Straight line

TJER380折返式

TJER380 Folding mode



注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

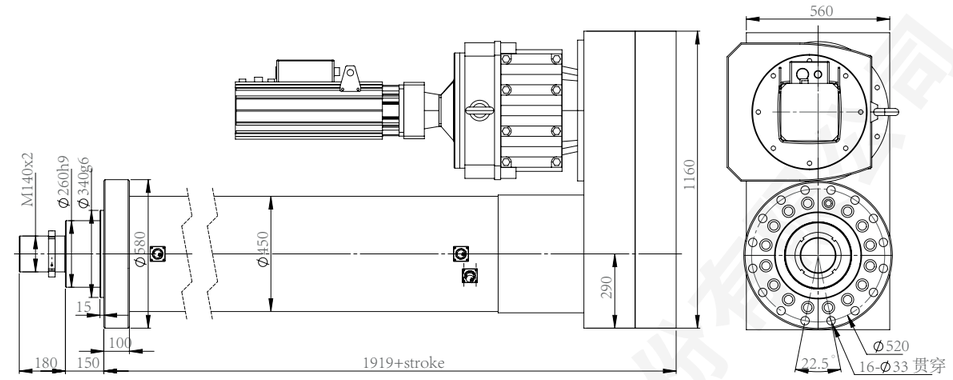
TJER450

TJER	450	S100	B	T	25	A	M	C	3
型号	缸径	行程mm	丝杆	防转机构 R无 T有	导程	电机连接 A直连 B折返	电动缸安装方式	负载连接方式	开关数量
Model number	Cylinder diameter	Travel mm	Lead screw	Anti-turning mechanism R None T has	Lead	Motor connection A Direct Connection B reentry	Electric cylinder Installation mode	Load tie Connection mode	Number of switches

螺杆规格 Screw specification	16032	
标准马达额定功率 KW Standard motor rated power KW	23.6	
马达额定扭矩 N·m Motor rated torque N·m	150	
马达额定转速 r/min Rated motor speed r/min	1500	
减速比 Reduction ratio	40.29	
标准马达额定推力 kN Standard motor rated thrust kN	1000	
标准马达额定速度 mm/s Standard motor rated speed mm/s	20	
重复定位精度 mm Repeated positioning accuracy mm	±0.01/±0.02	
最长有效行程 mm Maximum effective travel mm	4800	
最大负载推力 kN Maximum load thrust kN	1000	
最快伸缩速度 mm/s Maximum expansion speed mm/s	800	
接近开关 Proximity switch	IME18-08BNSZW2S(常开） IME18-08BNOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）	NPN 线长2M NPN Line length 2M
	IME18-08BPSZW2S(常开） IME18-08BPOZW2S（常闭） IME18-08BNSZW2S(Normally open） IME18-08BNOZW2S（Normally close）	PNP 线长2M PNP Line length 2M

TJER450折返式

TJER450 Folding mode



注：伺服电动缸缸体与伺服电机处的连接板是根据伺服电机的法兰尺寸定制，需要具体尺寸图，请联系我们。

Note: The connecting plate between the cylinder block and the servo motor is customized according to the size of the flange of the servo motor. Please contact us if you need a specific size diagram.

多节系列型号定义 Multi-section series model definition

型号表示 Type indication

TJED160 | S4*300 | B | 05 | A | M | C | 2 | O | N

电动缸型号
Electric cylinder type
- TJED120
- TJED160
- TJED200
- TJED290

节数（可定制）2、3、4、5、6、7
Number of sections (customizable)

有效行程（可定制）
Effective stroke
- TJED120 400-2000mm
- TJED160 400-2400mm
- TJED200 400-2800mm
- TJED290 400-4800mm

丝杆
Lead screw
- A 滑动丝杆 Acme screw
- B 滚珠丝杆 Ball screw
- C 滚柱丝杆 Roller screw

丝杆导程 Lead of the screw
- TJED120 5、10mm
- TJED160 16、20mm
- TJED200 16、20mm
- TJED290 16、20mm

电机连接
Motor connection
- A 直线式 Rectilinear
- B 折返式 Reentrant

电动缸安装方式
Electric cylinder mounting method
- M1 前法兰 Front flange
- M2 后法兰 Back flange
- MX 用户自定义 User-defined

负载连接方式
Load connection mode
- C1 外螺纹 Male thread
- C2 内螺纹 Internal thread
- C3 U型插销 U-shaped latch
- C4 球头铰 Ball joint
- CX 用户自定义 User-defined

限位开关数量
Number of limit switches
- 0 不带
- 2 2个
- 1 1个
- 3 3个（默认发货为常开NPN） The default delivery is normally NPN

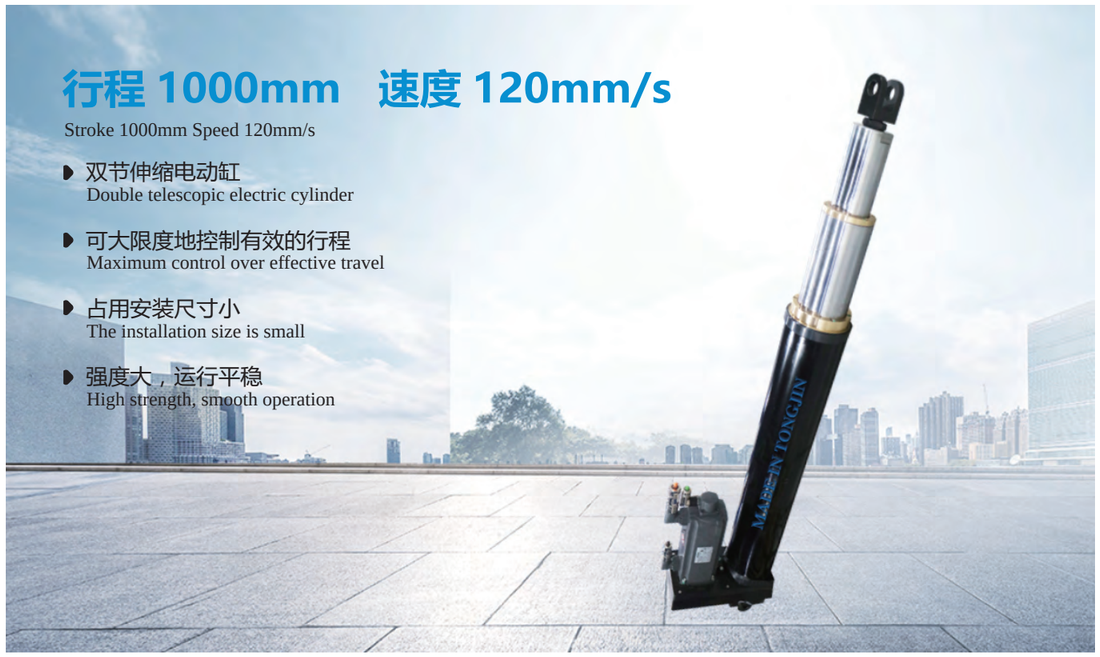
限位开关
Limit switch
- O 常开 Normally open
- C 常闭 Normal close

传感类型
Sensing type
- N NPN
- P PNP

多节系列技术参数 Multi-section series technical parameters

电动缸型号 Electric cylinder type		重复定位精度 mm Repeated positioning accuracy	电机功率 KW Motor power KW	减速比 Reduction ratio	有效行程 mm Effective stroke	丝杆导程 mm Lead of the screw	额定速度 mm/s Rated speed	额定出力 KN Rated output
TJED120	直线式 Rectilinear	±0.3	0.75	1:5	400-2000	5	100	6.5
						10	200	3.3
	折返式 Reentrant	±0.5	0.75	1:6	400-2000	5	80	8
						10	160	4
TJED160	直线式 Rectilinear	±0.3	1	1:20	400-2400	16	27	10
						20	33	8
	折返式 Reentrant	±0.5	1	1:20	400-2400	16	27	10
						20	33	8
TJED200	直线式 Rectilinear	±0.3	5	1:20	400-2800	10	40	33
						20	50	26
	折返式 Reentrant	±0.5	5	1:25	400-2800	10	20	67
						20	40	33
TJED200	直线式 Rectilinear	±0.3	5	1:20	400-2800	10	40	33
						20	50	26
	折返式 Reentrant	±0.5	5	1:25	400-2800	10	20	67
						20	40	33

双节电动缸案例 Two-section electric cylinder case



军事设备：雷达、导弹起竖架、特种车辆的升降装置等。
Military equipment: radar, missile erector, special vehicle lifting device, etc.

实验设备：仿真平台、六自由度仿真平台、试验台、造波机等。
Experimental equipment: simulation platform, six degrees of freedom simulation platform, test bench, wave making machine, etc.

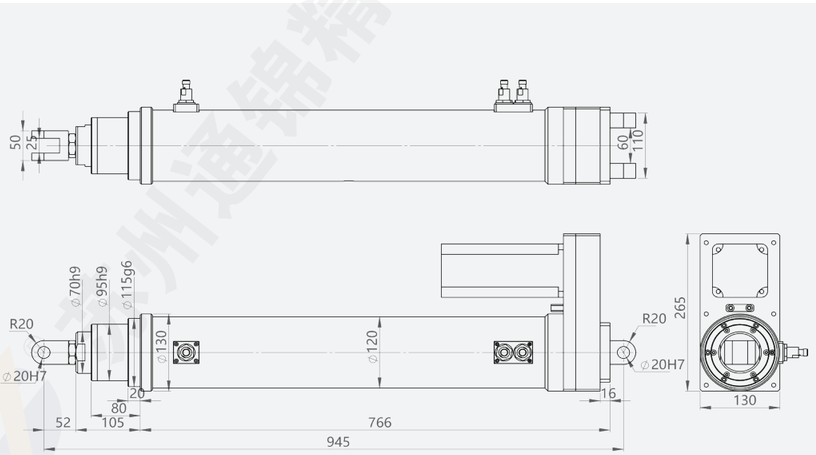
用于工程及矿山用自卸汽车和特种车辆车厢的后卸、侧卸和三向卸装置。
It is used for the rear unloading, side unloading and three-way unloading devices of dump trucks and special vehicles used in engineering and mining.

专用设备：自动化生产线、物流传送、升降台、阀门控制、坐标机械手、CT 伽马刀及冶金、石油、化工、机械、运输、纺织、食品等行业。
Special equipment: automatic production line, logistics transmission, lifting platform, valve control, coordinate manipulator, CT gamma knife and metallurgical, petroleum, chemical, machinery, transportation, textile, food and other industries.

双节电动缸技术参数 Two-section electric cylinder technical parameters

案例参数 Case parameter			
型　　号 Type number	TJED120S500S500BT05BM6C3 301C2P（根据客户要求可定制） Customized according to customer requirements		
有效行程 Effective stroke	1000mm	驱动器 Driver	6SL3210-5FE10-8UF0
丝杆导程 Lead of the screw	5mm	同步比 Synchronization ratio	1：2
额定速度 Rated speed	120mm/s	安装方式 Installation mode	尾部销孔 Tail pin hole
额定推力 Rated thrust	500kg	负载形式 Mode of load	U型插销 U-shaped latch
伺服型号 Servo type	1FL6044-1AF61-2LH1	限位开关 Limit switch	2个常闭，1个常开 Two are normally closed and one is normally open

双节电动缸尺寸图 Two-section electric cylinder size drawing



多自由度运动平台 Multi-degree of freedom motion platform

全电动多自由度平台 All-electric multi-freedom platform

苏州通锦多年来推出多种规格、上百个项目的全电动多自由度平台系统。平台种类包含多自由度震动平台，实现了部分或者完全替代市场上原有的液压平台，由于使用了电动控制，省略了液压泵站、配管等周围设备，简化了整个装置，除去了由于使用液压油而产生的跑、冒、滴、漏等现象，免去了液压油的污染控制等繁琐的维护保养工作，大幅度的减少了功率损耗，提高了这个系统的效率。同时由于使用了全电动控制，提高了系统的控制精度和控制稳定性，大大地提高了系统的安全性和可靠性。

Suzhou Tongjin has launched a variety of specifications, hundreds of projects of all-electric multi-freedom platform system over the years. The platform type includes multi-degree of freedom vibration platform, which realizes partial or complete replacement of the original hydraulic platform on the market. Due to the use of electric control, the hydraulic pump station, piping and other surrounding equipment are omitted, simplifying the entire device, removing the phenomenon of running, bubbling, dripping and leaking caused by the use of hydraulic oil, eliminating the tedious maintenance work such as pollution control of hydraulic oil. The power loss is greatly reduced and the efficiency of the system is improved. At the same time, due to the use of all-electric control, the control precision and control stability of the system are improved, and the safety and reliability of the system are greatly improved.

苏州通锦全电动多自由度平台分为两大种类，模拟仿真用的动感平台和精密度定位测试用平台。模拟仿真用动感平台的有效载荷范围为 0.25 吨 -20 吨，这些模拟仿真动感平台通过接受来自上位控制的状态信号，控制平台的运动，广泛应用在各种训练模拟器如飞行操纵模拟器、舰艇操纵模拟器、直升机操纵模拟平台、坦克操纵模拟器、汽车驾驶模拟器、火车驾驶模拟器、地震模拟器以及动感电影、娱乐设备等领域。

The Suzhou Tongjin all-electric multi-degree-of-freedom platform is divided into two types，analog simulation with dynamic platform and precision positioning test platform.. Analog simulation with dynamic platform payload range of 0.25 tons-20 tons, the simulation dynamic platform by accepting the status signal from the host control, movement control platform, widely used in a variety of training simulators such as flght control simulator, warships Handling Simulator Helicopter manipulating simulation platform, tanks maneuvering simulator car driving simulator, train driving simulator, earthquake simulators, and dynamic film, entertainment equipment and othe fields.

精密度定位测试用多自由度平台的有效载荷为 0.5 吨 -50 吨，位置控制精度达到 0.02mm。广泛应用在各种汽车姿态测试设备，飞机 / 导弹等飞行器飞行姿态测试设备等精密测试多自由度平台，以及空间宇宙飞船的对接，空中加油机的加油对接，同时利用多自由度精密定位机构，可以形成高刚度，高精度的多自由度加工机械和装配机械手，广泛应用于各种复杂的特种加工、复杂装配和飞机装配、卫星装配等。

The payload of the multi-degree-of-freedom platform for precision positioning testing is 0.5-50 tons, and the position control accuracy reaches 0.02mm. It is widely used in various automobile attitude test equipment, aircraft/missiles and other aircraft flight attitude test equipment and other precision testing multi-degree of freedom platform, as well as space spacecraft docking, refueling docking of air tanker, while using multi-degree of freedom precision positioning mechanism, can form high stiffness, high precision multi-degree of freedom machining machinery and assembly manipulator. Widely used in a variety of complex special processing, complex assembly and aircraft assembly, satellite assembly and so on.

苏州通锦在平台的开发、设计的过程中积累了大量的实际应用技术和经验，具备很强的定制化设计能力，可以根据您的不同要求，进行合理设计，优化参数，提供不同特性参数的多自由度平台，并为您提供细致周到的技术咨询和完善的售后服务。

Suzhou Tongjin has accumulated a lot of practical application technology and experience in the process of platform development and design, and has a strong ability of customized design. According to your different requirements, we can carry out reasonable design, optimize parameters, provide a multi-freedom platform with different characteristics and parameters, and provide you with detailed and thoughtful technical advice and perfect after-sales service.

多自由度运动模拟器系统组成

The multi-freedom motion simulator system is composed

1、运动平台控制系统 The motion platform control system

包含：控制柜，工控机，多轴运动控制卡，伺服驱动器及布线等。采用全数字控制技术，菜单式模块化人机界面，简洁明了的参数设定 ,多重电气控制保护程序。与上位控制器采用网络通讯 ,内置运动能源优化分配系统 ,提高能源使用效率 ,降低系统能耗。

Include: Control cabinet, industrial computer, multi-axis motion control card, servo driver and wiring, etc. Full digital control technology, menu type modular man-machine interface, simple and clear parameter setting, multiple electrical control protection program. Network communication with upper controller, built-in motion energy optimization distribution system, improve energy efficiency, reduce system energy consumption.

2、伺服电动缸 Servo electric cylinder

伺服电动缸是由伺服电机、高精度传动丝杆（滚珠丝杆和行星滚柱丝杆）等组成的高精度、高可靠性机电一体化传动组件。我们自主开发设计的伺服电动缸，是专为电动平台开发的高性能、高可靠性伺服电动缸。它采用伺服电机控制保证运动平台具有高速、高响应和高精度。电动缸的具备多重安全保护功能，保证了平台的安全可靠的运行。低噪音和免维护性使电动缸平台可以使用在任何场合。

The servo electric cylinder is a high-precision, high-reliability mechatronics transmission component composed of servo motor, high-precision transmission screw (ball screw and planetary roller screw). Our self-developed and designed servo electric cylinder is a high-performance, high-reliability servo electric cylinder specially developed for electric platform. It uses servo motor control to ensure that the moving platform has high speed, high response and high precision. The electric cylinder has multiple safety protection functions to ensure the safe and reliable operation of the platform. Low noise and maintenance free make the electric cylinder platform can be used in any situation.

3、平台结构 Platform structure

电动缸与上下平台采用虎克铰连接，运动平稳平滑，刚性好，强度大，免维护。
平台结构合理，刚性高，可以根据客户的要求任意设计和验算。

The electric cylinder up and down platform using Hooke dumplings connection, smooth movement and smooth, good rigidity, strength and maintenance-free. Reasonable structure, high rigidity platform can be any according to the requirements of customers design and checking.

优势特点 Advantages and characteristics

★ 高性能运动拟真和精调算法，能够极大降低换向冲击并确保高逼真度。
★ High-performance motion simulation and fine-tuning algorithm can greatly reduce commutation shock and ensure high fidelity.

★ 采用高可靠性数字控制闭环，不会发生漂移或性能退化，从而确保更高逼真度。
★ High reliability digitally controlled closed loop ensures higher fidelity without drift or performance degradation.

★ 高度模块化设计提高了系统灵活性，易于与操纵负荷、抖振平台和过载座椅集成。
★ The highly modular design increases system flexibility and allows easy integration with handling loads, buffeting platforms and overload seats.

★ 设计和运行，经济高效。
★ Cost-effective design and operation.

★ 硬件冗余和软件保障架构设计，打造市场上最安全的系统。
★ Hardware redundancy and software assurance architecture designed to create the most secure system on the market.

★ 内置测试功能，并可记录性能参数。
★ Built-in test function and record performance parameters.

★ 集成多种功能，例如严重故障模式或厂房断电时的自动回停机位置（RTH）功能。
★ Integrate multiple functions, such as severe failure mode or automatic return to stop position (RTH) in case of plant power failure.

★ 易于安装、使用和维护。
★ Easy to install, use and maintain.

六自由度运动平台

SIX DEGREE OF FREEDOM

智能制造解决方案提供商

Intelligent design for smart manufacturing solution provider

刚性大 | 承载强 | 运行平稳

Large rigidity | Strong bearing | Smooth operation

软件控制界面

Software control interface

厂家供应 MANUFACTURER

加工定制 CUSTOMIZATION

严选材料 MATERIAL SCIENCE

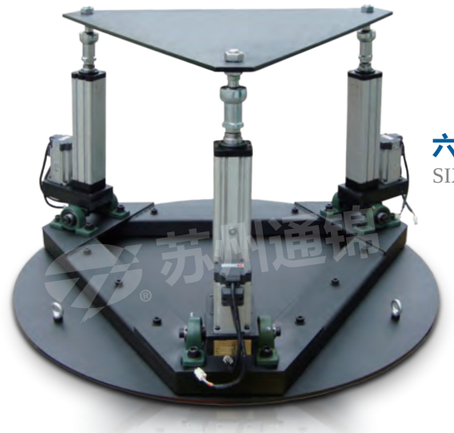
性能卓越 EXCELLENT PERFORMANCE

模拟仿真动感
多自由度平台参数规格

THE SIMULATION DYNAMIC
MULTI-DEGREE OF FREEDOM PLATFORM
PARAMETER SPECIFICATIONS

三自由度平台

Three degree of freedom



六自由度平台

SIX DEGREE OF FREEDOM

型号Model number：TJE3DOFS300-500kg 运动能力 Exercise capacity			
自由度 Degrees of freedom	幅 度 Margin	速 度 Speed	加速度 Acceleration
升 降 Lift	±300mm	±500mm / s	±0.82g
俯 仰 Pitch	±25°	±30°/ s	±300°/ s²
侧 倾 Roll	±23°	±30°/ s	±300°/ s²
负载等级 Load level			
250kg / 500kg / 800kg / 1000kg / 2000kg			

三自由度平台

型号Model number：TJE6DOFS200-1000kg 运动能力 Exercise capacity			
自由度 Degrees of freedom	幅 度 Margin	速 度 Speed	加速度 Acceleration
前 后 Before and after	-310mm/+300mm	±600mm / s	±0.61g
左 右 Left and right	±320mm	±600mm / s	±0.61g
升 降 Lift	±200mm	±500mm / s	±0.82g
俯 仰 Pitch	-23°/+25°	±50°/ s	±300°/ s²
侧 倾 Roll	±22°	±40°/ s	±300°/ s²
偏 航 Yaw	±23°	±50°/ s	±500°/ s²
负载等级 Load level			
250kg / 500kg / 800kg / 1000kg / 1500kg / 2000kg			
3000kg / 5000kg / 8000kg / 10000kg / 12000kg / 16000kg / 20000kg / 30000kg			

六自由度平台

以上的参数仅供参考，可以根据客户的实际要求，做相应的非标设计。

The above parameters are for reference only, according to the actual requirements of the customer, and the corresponding non-standard design.

行业定制电动缸

Industry customized electric cylinder

行业定制电动缸 TJER220S1100BR16BM5CX3 技术特性

Industry customized electric cylinder TJER220S1100BR16BM5CX3 Technical features

电动缸承受下述自然条件：

（1）风力：最大工作风速 20 米 / 秒，最大非工作风速 55 米 / 秒。

（2）扬尘天气，灰尘多，含有化工成分，存在雨水冲刷。

（3）相对湿度：最大 100%。

（4）室外温度：-55℃到 80℃，暴露于直射阳光下。

（5）大气腐蚀性类别（ISO 12944-2），C5-M very high（marine）

正常使用时，组件应能承受沿上下方向最大 3G 的振动；

总结：电动缸能够在恶劣环境下正常使用，具有高低温特性和三防特性。

Electric cylinders withstand the following natural conditions:

(1) Wind: maximum working wind speed of 20 m/s, maximum non-working wind speed of 55 m/s.

(2) Dust weather, dust, containing chemical components, there is rain erosion.

(3) Relative humidity: maximum 100%.

(4) Outdoor temperature :-55℃ to 80℃, exposed to direct sunlight.

(5) Atmospheric corrosivity category (ISO 12944-2), C5-M very high (marine)

In normal use, the component should be able to withstand up to 3G vibration in the up and down direction;

Summary: The electric cylinder can be used normally in harsh environments, with high and low temperature characteristics and three protection characteristics.

性能Features：

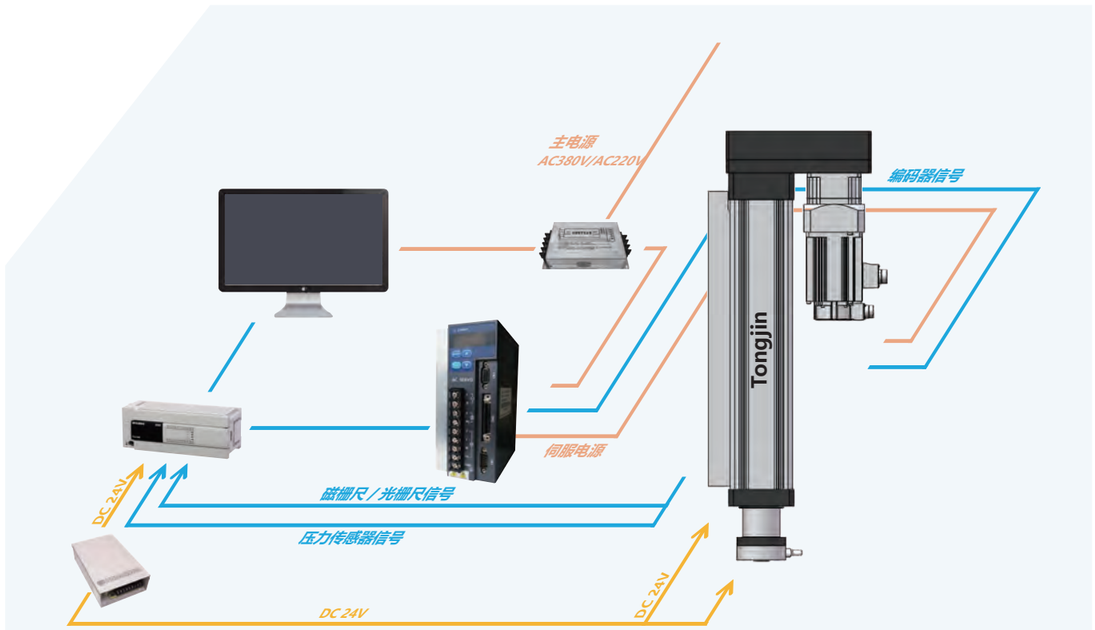
序号 Serial number	性能分类 Performance classification	项目 Item	性能目标 Performance objective
1	运动性能 Athletic performance	额定推力 Rated thrust	200KN
2		最大负载推力 Maximum load thrust	250KN
3		最快伸缩速度 Maximum expansion speed	50mm/s
4		有效行程 Effective stroke	1100mm
5		电推缸过载倍数 Overload multiple of electric push cylinder	1.5
6	承受工作环境 Withstand working environment	工作温度 Operating temperature	- 55-- + 80℃
7		相对湿度 Relative humidity	> 100%
8		粉尘环境 Dust environment	存在扬尘、化工成分、雨水、日晒 There are dust, chemical components, rain, sun
9		腐蚀情况 Corrosion condition	大气腐蚀性类别（ISO 12944-2） Atmospheric corrosivity Category (ISO 12944-2)
10		防护等级 Class of protection	不低于IP65 Not lower than IP65
11	安全性能 Safety performance	设计寿命 Design life	25年
12		限位开关 Limit switch	3个
13		润滑方式 Lubrication mode	在水平和竖直状态，无油脂泄漏 No grease leakage in horizontal and vertical state

总结：电动缸过载能力强、密封性能优越、置双编码器能配置双编码器，避免电气故障造成事故，可实时检测负载拉压力参数，使用寿命长，传动方式采用齿轮传动，重载型丝杆，风电专用低温电机，低温减速机，重载轴承，保证安全可靠。

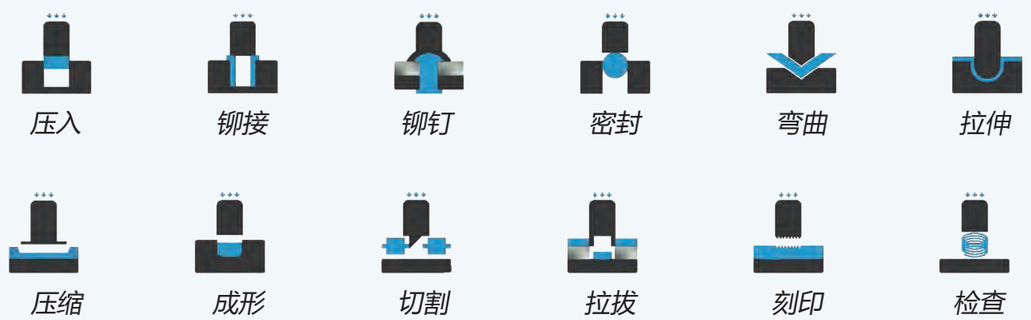
Summary: The electric cylinder overload ability is strong, the sealing performance is superior, the double encoder can be configured with double encoder, avoid the accident caused by electrical failure, can detect the load tension parameters in real time, long service life, transmission

The method adopts gear transmission, heavy-duty screw, low-temperature motor for wind power, low-temperature reducer and heavy-duty bearing to ensure safety and reliability.

伺服压装机构架图 Servo press mounting mechanism frame diagram



工艺应用 Process application



技术原理 Technical Principles

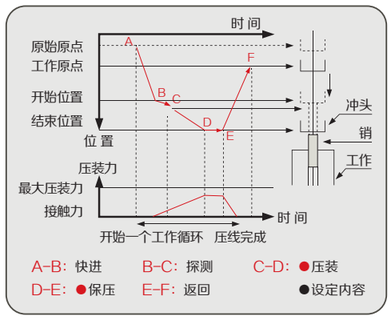
★ 伺服压装机：由交流伺服电机驱动，通过高精度滚珠丝杆输出作用力，实施压力装配和压力位移检测功能。
★ 内置的精密压力传感器和编码器能精确测量速度、压力和位置；专业开发的控制软件可保证全过程精确控制压装力、停止位置、压装速度和保压时间等参数，达到全过程数控管理。

★ Servo Pressure machine: is driven by AC servo motor and output force precision ball screw to achieve the functions of press fitting and measuring pr-essure displacement.

★ Precise pressure sensor and encoder inside can measure the speed, press and position precisely; Professionally developed control software can assure precisely to control the parameters of press mounting force, stop position, press mounting speed and holdup time etc, in the whole process to achieve the CNC control .

基本操作 Basic Operation

★ 示教模式：可以设定相关的参数；
★ 运行模式：启动按钮，伺服压装机按照已经设定的参数开始运行（如右图示曲线）；
★ 外部控制模式：伺服压装机可以通过外部 I/O 端口接受运行指令进行工作；
★ 编辑功能：允许在压装过程中进行多种条件设置去控制压装速度和停止位置；实现设定判定窗口和增量控制等应用。



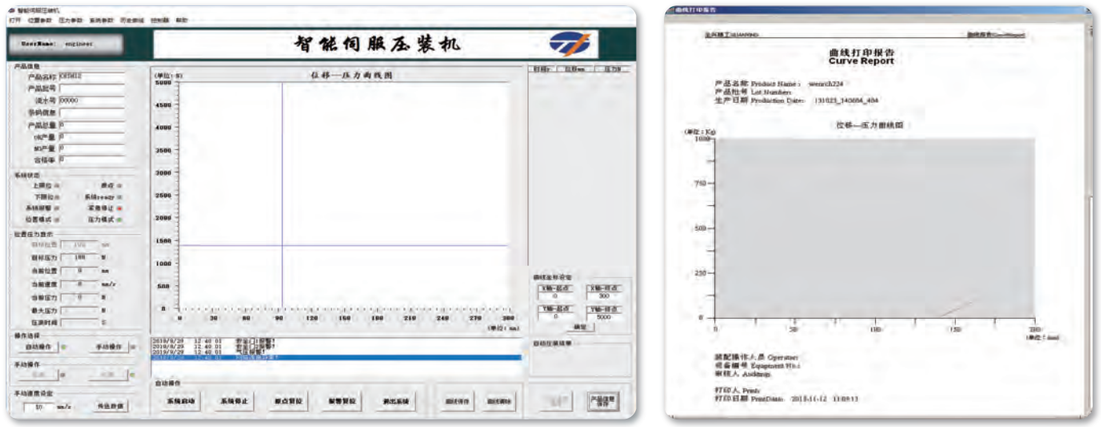
★ Teaching Mode: can set related parameters.
★ Running Mode: start button. Servo pressure machine start running according to the set parameters (curve pictured at right).
★ External Control Mode: servo pressure machine can accept the command code through external I/O port and work.
★ Editing Function： During press mounting process allows to set varieties of con-ditions to control press mounting speed and the stop position; Implementing app-lication of setting the determine window and incremental control etc.

伺服压装机软件 Software of Servo Pressure Machine

★ 设定程序：允许编辑作业程序和设置判定条件；
★ 数据采样程序：可以下载整个压装过程中的数据并保存到计算机内。

★ Program Set-allows editing procedures and setting determine conditions.
★ Data Sampling Program-can download the data the whole process of press mounting and save in the PC.

触摸屏设置界面
Touch screen settings interface

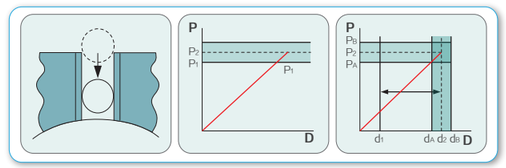


电脑操作设置界面
Computer operation Settings interface

精确控制压装装配尺寸
Precise control the size pressed assembly

★ 伺服压装机按照设定的压入深度精确试压，可以补偿工作尺寸公差，保证最终装配精度。同时可以设定压力和位移质量判定区域，在线检测确保产品压装100%合格。

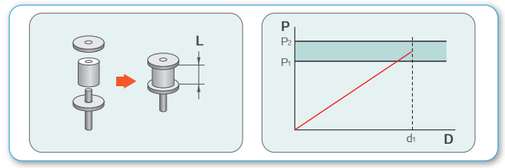
★ According to set pressure depth, servo pressure machine can make a precise pressure and can benefit the tolerance dimension to ensure accuracy of final assembly. At the same time, we can set pressure and displacement quality evaluation area and test online to ensure prod-uct 100% qualified installation.



精确控制压装停止位置
Precise control press mounting stop condition

★ 导轮装配在两个定位托盘之间，装配要求精确压装托盘以保证尺寸。
★ 设定精确停止位置，检测停止时的压力。

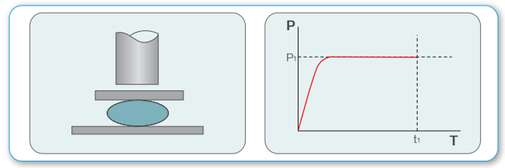
★ Guide roller is assembled between two position bonding trays precisely press mounting trays to ensure dim-ension L.
★ Set precise stop position determine the press when it stops.



精确控制压装时间及压力
Precise control regular time

★ 伺服压装机可以实施精确的定时定压作业以保证安全可靠的粘接，广泛应用在粘接作业和超声波焊接过程中。

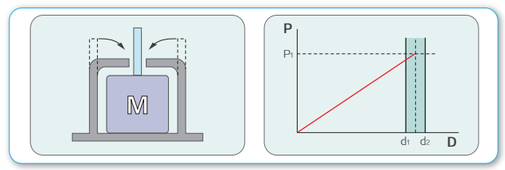
★ Servo pressure machine can operate with constant pressure at regular time to ensure safe and reliable bond. Widely used in bonding and ultrasonic welding process.



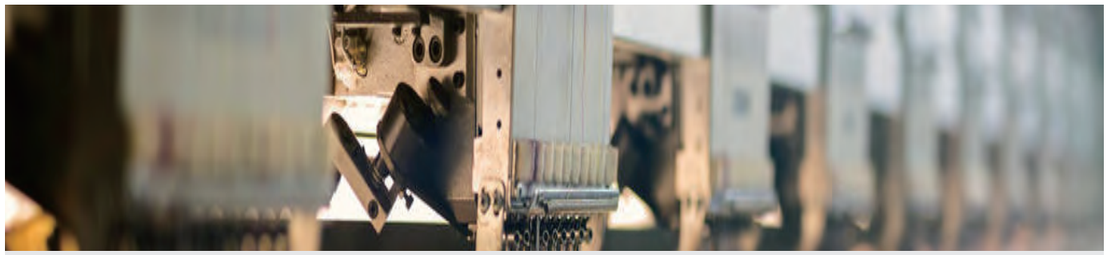
精确控制压装停止力
Precise Control press mounting stop force

★ 铝罩壳的封装，需要精确的 力和位移控制，精确设定压力，控制压装终止时的位置，以避免马达受到压力破坏。

★ Packaging aluminum cover needs precise force and displacement con-trol precisely set press and control press mounting end position to avoid motor under pressure being destroyed.



行业应用 Industry application



汽车 CARS

发动机组件压装（缸套、缸盖、油封等）转向器组件压装；（齿轮、销轴）
传动轴组件压装，齿轮箱组件压装，刹车盘组件压装等；
ENGINE ASSEMBLY PRESSING (CYLINDER LINER, CYLINDER HEAD, OIL SEAL, ETC.)
STEERING ASSEMBLY PRESSING; (GEAR, PIN)
DRIVE SHAFT ASSEMBLY, GEAR BOX ASSEMBLY, BRAKE DISC ASSEMBLY, ETC.;

军工 WAR INDUSTRY

模拟飞行器和导弹搬运车，雷达监测等；
SIMULATION AIRCRAFT AND MISSILE CARRIER, RADAR MONITORING, ETC.;

航空航天 AEROSPACE

航天航空试验测试；
AEROSPACE TEST AND TESTING;

冶金 METALLURGY

金属材料加工等；
METAL MATERIAL PROCESSING;

文旅 CULTURAL TRAVEL

娱乐舞台、动感座椅等；
ENTERTAINMENT STAGE, DYNAMIC SEATS, ETC

其他 OTHER

其他需要精密压装位移和精密压装力的场合，机械零部件压装、自动化组线等；
OTHER OCCASIONS THAT REQUIRE PRECISION PRESS DISPLACEMENT AND PRECISION PRESS FORCE, MECHANICAL PARTS PRESS ASSEMBLY, AUTOMATION LINE ASSEMBLY, ETC.;

合作客户 Cooperative customer

中国航天 CASC
中国电科 CETC
中船重工 CSIC
中国兵器 NORINCO GROUP
SANY
Panasonic 松下电器
美的 Midea
清华控股 TSINGHUA HOLDINGS
BOSCH
ABB
Nidec 尼得科 All for dreams
上汽通用汽车 SAIC-GM
BYD
CHERY
JOHNSON ELECTRIC
CATL 宁德时代

精工制造·品质优异

EXCELLENT QUALITY OF SEIKO MANUFACTURING

五大优势 为您提供更好的产品使用体验

Five advantages to provide you with a better product experience

-加工定制流程-

Customized process

01 前期咨询

Preliminary consultation

您只需要把设备关键参数告诉我们，如有效行程、速度、精度、负载等。

You only need to tell us the key parameters of the equipment, such as effective travel, speed, accuracy, load, etc.

02 方案设计

Scheme design

工程师针对您提供的参数设计对应图纸，并根据您选择的产品给出详细的报价方案。

The engineer designs the corresponding drawings according to the parameters you provide, and gives a detailed quotation scheme according to the products you choose.

03 加工生产

Processing and production

下单后，我们会确定生产周期并严格按照生产流程生产，在规定时间内将产品送到您手上，并提供安装指导服务。

After placing an order, we will determine the production cycle and strictly follow the production process, deliver the product to you within the specified time, and provide installation guidance services.

04 急速发货

Prompt delivery

专人专车发货，确保产品安全送达您的手中。

Special car delivery, to ensure that the product safely delivered to your hands.

05 售后服务

After-sales service

自出厂之日起，免费保修一年。

Free warranty for one year from the date of delivery.

电动缸使用说明书

一、电机的安装

1、当电机与电动缸直联（直线式）时，中间是通过联轴器相连，安装步骤如下：
（1）将电机安装座小盖板打开，松开电机端联轴器螺丝；
（2） 将电机插入联轴器中，将电机安装好并均匀交替将电机的四个安装螺钉拧紧；
（3）将联轴器连接电机一端的螺丝拧紧；
（4）注意，检查一下与丝杆相连接的联轴器螺钉；
（5）将电机安装座盖板盖好。
2、当电机与电动缸直联（折返式）时：
（1）将电机固定在电动缸的底板上；
（2）将齿形带轮安装在电机轴上，确定轴向位置，将胀套螺丝均匀拧紧，多次调整直至均匀受力；
（3）装上齿形带。
（4）调整齿形带的张紧力，调整缸体的调节螺丝使齿形带张紧，然后拧紧电机的四个螺钉；
（5）反复调整直到合适，盖上后盖。
（6）若负载大，速度快，工作一段时间后，重新检查一下。

二、电动缸安装注意事项

1、电动缸主要承受轴向载荷，只能承受很小的径向载荷；
2、负载应有独立的导向机构；
3、电动缸在垂直、水平、倾斜位置均可安装使用；
4、校正行程：电动缸的行程可使用磁性或U型光电开关进行控制和校正；不带磁性或U型光电开关的，用户可在与电动缸连接的机械适当部位安装磁性或U型光电开关。校正行程时按电气线路图查对接线正确无误后，从磁性或U型光电开关动作至推拉停止，有一惯性行程，校正磁性或U型光电开关位置时就将惯性行程考虑在内。
注意：不允许有弯曲载荷作用于缸筒及活塞杆上！！

三、使用

1、运转前的检查：接地是否可靠。磁性或U型光电开关安装是否可靠。
2、开始启动时注意：
运转准备结束后，开始启动时必须校正电动机的转向，开始以点动运转，确定按下前进、后退按钮时与推杆的前进、后退方向是否一致。
验证后磁性或U型光电开关是否正常工作。

四、维护保养

1、电动缸在出厂时丝杆上已经加上润滑脂（通用锂基润滑脂3号）；
2、开始使用300小时后，应进行加补。根据使用环境和每天运行时间来确定加油的次数，一般情况下，每2000小时加一次，一次加量2-3ml；
3、加油方法：将电动缸外壳上的加油孔打开，使推杆行程前进，可以直接加在丝杆上。
4、润滑脂要求：通用锂基润滑脂3号。

五、保修

1、电动缸出厂时，缸体上刻有唯一的出厂编码以及公司的专用标签（合格证标签/注油标签/安全警示标签）；
2、自出厂之日起，保修一年，人为除外；
3、用户未经允许不得私自拆解电动缸，否则不予保修。

Electric cylinder operating instructions

一、Motor mounting

(1) When motor and electric cylinder connect directly through coupling(linear) , mounting steps are as follows:
①Open the small cover plate of the motor mounting seat and loosen the motor end coupling screw;
②Put the motor into the coupling, mount the motor and tighten on alternating 4 installation nuts;
③Tighten the coupling screw at one end of the motor;
④Notes: Check the coupling screws connected to the screw rod;
⑤Cover the motor mounting cover;
(2) When motor and electric cylinder connect directly (parallel), mounting steps are as follows:
①Fix the motor on the electric cylinder bottom;
②Install the gear belt wheel on the motor shaft, determine the axial position, then tighten the expansion sleeve screw evenly, adjust repeatedly until the uniform force;
③ Mount the cog belt;
④ Adjust the toothed belt tension, adjust the tension wheel on the cog belt to make tooth tension, then tighten the four motor nuts;
⑤ Adjust repeatedly, until it's ok then cover the back cover;
⑥ If its load is big and speed is fast, when it works after a period of time, check it again!

二、Notes for electrical cylinder mounting

(1) Electric cylinder bears mainly axial load but little radial load;
(2) The load should have independent steering mechanism;
(3) Electric cylinder all can be mounted and used in vertical, horizontal, oblique position.
(4) Correction stroke: The stroke of electric cylinder can use magnetic or U type photoelectric switch for control and correction; Users can install magnetic or U type photoelectric switches in suitable mechanical parts on the mechanical position connected to the electric cylinder when there isn't magnetic or U type photoelectric switches. After checking the correct wiring according to the electrical circuit diagram, move from the magnetic or U photoelectric switch to the push-pull stop,There is a inertia between the work of magnetic or U type photoelectric switch to the end of the push rod , we should consider the inertial stroke when we correct magnetic or U type photoelectric switch.
Notes: Don't allow to exist bending load acting on the cylinder barrel and the piston rod.

三、How to use

(1) Check before operation:
□ if grounding is reliable;
□ if magnetic or U type photoelectric switch installation is reliable;
(2) Notes when start:
□ It must be corrected after the prepare of operation and when the start of motor, start with point operation and determine if it puts forward and back in the same direction when we press forward, back button;
□ Verify if magnetic or U type photoelectric switch is normal.

四、Maintenance

(1)Before delivery of electric cylinder grease has been added on the screw (universal No. 3 lithium grease);
(2) When having used 300 hours cylinder should add oil; According to the operating environment and the run time every day we can ensure the number of refueling， normally once every 2000 hours at a time add 2-3 ml ;
(3) Refuel way: Open the lubrication hole on the shell of electric and push the rod forward and oil directly on the screw rod;
(4) Grease requirements: Universal No. 3 lithium grease.

五、Warranty

(1) When electric cylinder delivery, the cylinder block is engraved with a unique manufacturing No. and the company's special label (certificate label / oil injection label / safety warning label)
(2) The warranty period one year after delivery date , other than man-made;
(3) Without permission users shall not remove electric cylinder by themselves, otherwise no warranty.

伺服电动缸选型参数表

THE SERVO ELECTRIC CYLINDER SELECTION PARAMETERS TABLE

序 号 Number	电动缸型号 Electric Cylinder Model		
1	电机联接方式 Motor Connection	☐ 直连式 Linear	☐ 折返式 Parellel
2	外形图号 Outline Drawing No.		
3	有效行程（mm） Effective Stroke		
4	额定出力（KN） Rated Payload		
5	额定速度（mm/s） Rated Speed		
6	重复定位精度（mm） Repeated Positioning Accuracy		
7	内部防转机构 Internal Anti - Transfer Mechanism	☐ 无 Nothing	☐ 有 Have
8	限位开关数量 Number Of Limit Switches		
9	电动缸安装方式 Electric Cylinder Installation Method		
10	负载连接方式 Load Connection Mode		
11	推杆防尘套 Push Rod Dustproof Cover	☐ 无 Nothing	☐ 有 Have
12	伺服电机 Servo Motor	☐ 无 Nothing	
		☐ 有—品牌/电机/驱动器/线(米) Have-Brand/Motor/Drive/Line (m)	
13	减速机 Reducer	☐ 无 Nothing	
		☐ 有—品牌/型号 Have-Brand/Model	
14	压力传感器（品牌，型号） Pressure Sensors (Brand, Model)		
15	☐ 电压型 Voltage Type	☐ 电流型 Current Type	几（伏）: A Few (V)
16	位移传感器（品牌 / 型号）: Displacement Sensor (Brand, Model)		
17	位置精度 Location Accuracy	TTL： 差分： Differential	几（伏）: A Few (V)
客户单位： Customer Unit		联系人： Contacts	
联系电话： Contact Number		邮　箱： E-Mail	
联系地址： Address			
备注： Note			

请写下您的需求
我们竭诚为您服务