

# 目 录 CONTENTS

## 张力器及张力测量系列 01 TENSIONER AND TENSION MEASUREMENT SERIES

- 01 伺服张力器 Servo Tensioner
- 11 伺服张力器附件 Servo Tensioner Accessories
- 14 磁力张力器 Magnetic Tensioner
- 24 磁力张力器附件 Magnetic Tensioner Accessories
- 26 张力测量及张力数据智能管理系统  
Tension Measurement and Tension Data Intelligent Management System

## 气剪治具系列 32 PNEUMATIC SHEARS CATENA

- 33 气动剪刀 Air Nipper
- 37 气剪刀头 Air Nipper Blades
- 41 半自动剥漆机 Semiautomatic Stripping Machine
- 42 剥漆刀 Wire Stripper
- 43 工装治具 Tooling

## 导针系列 44 COIL WINDING NOZZLE

- 45 马达绕线嘴 Motor Nozzle
- 46 超硬质合金导针 Super Hard Alloy Guide Pin
- 48 红宝石导针 Ruby Tipped Nozzle

## 其它配件 50 TOOLING ACCESSORIES

- 50 瓷眼 Ceramic Eyelet
- 51 防跳线器 Wire Jump Preventer
- 52 过线导轮 Combined Wheel
- 54 其他陶瓷件 Other Ceramic Pieces

### 声明:

- 本宣传册所述的产品规格及参数如有变更, 以实际的产品为准, 不作另行通知。
- 部分产品已申请专利, 版权所有, 侵权必究。

**NHE**  
NEW · HORIZON · EFFICIENCY

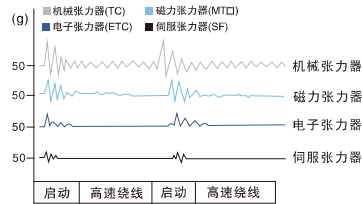
伺服张力器  
SERVO TENSIONER



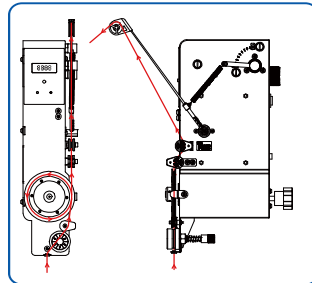
高性能伺服张力器系列 High Performance Servo Tensioner Series

产品特点 Product features

- 1、主动送线、自动跟随，加速度从0到最高速度只需0.3S；
- 2、采用高分辨率编码器的直流伺服驱动技术，可通过上位机联机在线调节电机参数；
- 3、稳定的在线测量功能；
- 4、选型简单，张力范围大。按张力范围分为800型、2000型、5000型、15000型四大类，张力覆盖2gf至15000gf；
- 5、能适应电机、汽车点火圈，传感器等高精度绕线要求。



挂线示意图 Hang line diagram



1. Active wire feeding and automatic following, acceleration from 0 to the highest speed is only 0.3S;
2. The DC servo motor with high resolution encoder and the most advanced driving technology are available, it has powerful function to adjust motor parameters online through upper computer;
3. Stable online measurement function;
4. Large tension range, simple selection; According to the tension, there are four categories with 800gf, 2000gf, 5000gf and 15000gf to achieve full range from 2gf-15000gf.
5. It can meet the requirements of high precision winding for motor, automobile ignition oil and sensor.

高性能伺服张力器系列 High Performance Servo Tensioner Series

规格参数表 Specification parameter table

张力器型号 Tensioner model	张力范围(gf) Tension range	最高线速度(m/s) Maximum line speed	外形尺寸(mm) Size	重量(kg) Weight	单段张力 力可调	两段张力 最高可调	两段张力 双向可调	在线张力 测量	编码器	双槽 过线	电压(V/功率(W)) Voltage/Power
SF600	2-450	12	273*138*72.5	1.2	●						DC24/100
SF800-I	2-800	12/20	288*164*72.5	1.8	●			●	AD/485	可选	DC36/100
SF800-II	2-800	12/20	293*170*62	2.3		●		●	AD/485	可选	
SFD800	2-800	12/20	293*189*72.5	2.3			●	●	AD/485		DC48/200
SFD2000	300-2000	9	323*206*87	3.3			●	●	可选	可选	
SFD2000-L	300-2000	9	323*206*87	3.3			●	●	可选	可选	

智能伺服张力器系列 Intelligent Servo Tensioner Series

规格参数表 Specification parameter table

张力器型号 Tensioner model	张力范围(gf) Tension range	最高线速度(m/s) Maximum line speed	外形尺寸(mm) Size	重量(kg) Weight	电压(V/功率(W)) Voltage/Power	供电类型 Power Type	主要功能 Main function
SFS800	2-800	12/20	293*124*72.5	2.2	DC36/200	开关电源 Switching Power Supply	可与绕线机PLC进行 485MODBUS通讯, 最高 8段张力任意设定与切换
SFS2000	300-2000	9	324*208*85.5	3.0	DC48/300	开关电源 Switching Power Supply	
ZST5000 ZST5000-L	1000-5000	5	226.5*265*188.5	5.3	DC72/500	专用电源 Dedicated Power Supply	It can communicate with PLC of winding machine through 485 MODBUS, 8-stage tension can be set and switched arbitrarily.
ZST15000 ZST15000-L	3000-15000	3	327*330*218	8.5	DC72/1000	专用电源 Dedicated Power Supply	

高性能伺服张力器系列 SF600/SF800 High Performance Servo Tensioner SF600/SF800



SF600



SF800-II



SF800-I

规格参数表 Specification parameter table

张力杆规格 Tension Arm	过线结构 Hole of Structure	拉簧规格 Tension Spring	张力范围(gf) Tension Range	参考线径 (mm) Wire Range	张力杆尺寸 Rod Size
SF-1#	空管	T1, T2	3-20	0.02-0.10	Φ0.2-Φ2-150
SF-2#	空管、滑轮(a) Roller (a)	T3, T4, T7	20-300	0.05-0.21	Φ1.5-Φ2-150
		T2, T4, T5	5-100	0.03-0.15	Φ1.5-Φ2-200
SF-3#	空管、滑轮(L) Roller (L)	T7, T8	65-700	0.10-0.35	Φ2-Φ3-150
		T5, T8, T9	30-450	0.06-0.28	Φ2-Φ3-200
SF-4#	防脱线槽(L) Groove (L)	T7, T9, T10	100-800	0.12-0.40	Φ4-150
		T7, T9, T10	75-600	0.12-0.40	Φ4-200

高性能伺服张力器系列 SFD800 High Performance Servo Tensioner SFD800



SFD800

产品特点 Product features

- 800系列伺服张力器通过更换张力杆和弹簧可实现张力范围2gf-800gf;
- 在线张力测量, 高效节能, 长时间工作无需散热;
- 张力稳定, 响应快, 加速度可达0.3S, 最高线速度可达20m/s;
- SF\*800-I 为一段可调; SF\*800-II 可通过控制气压实现两段张力切换;
- SFD800第一段和第二段张力通过两个对应的手动旋钮进行调节; 并接入0.5MPa 气压, 对气缸进行充放动作实现两段张力切换。
- SF\*800系列可在线实时输出张力值, 信号有AD4-20mA/485MODBUS 两种形式, 可联接我司开发的张力数据智能管理系统软件, 也可以读入绕线机PLC系统, 在工控电脑上进行张力数据处理。

- 800 Series servo tensioner can achieve tension range of 2gf-800gf by replacing tension arm and spring;
- On-line tension measurement, high efficiency and energy saving, long time work without heat dissipation;
- Stable tension, fast response, the acceleration can reach 0.3S, and the maximum wire can reach 20m/s;
- SF\*800-I is one-stage adjustable, and SF\*800-II can realize two-stage tension adjust by controlling air pressure;
- The tension of the first section and the second section of SFD800 is adjusted by two corresponding manual knobs, and connected with 0.5MPa air pressure, charging and discharging the cylinder to realize two tension switching.
- SF\*800 series can output tension value on line and in real-time. The signal is AD4-20mA and 485 MODBUS, two forms can be connected with the tension data intelligent management system software developed by our company, and can also be read in Tension PLC processing system, tension data processing on industrial computer.

高性能伺服张力器系列 SFD2000 High Performance Servo Tensioner SFD2000



SFD2000

规格参数表 Specification parameter table

张力杆规格 Tension Arm	拉簧规格 Tension Spring	张力范围(gf) Tension Range	参考线径 (mm) Wire Range	过线结构 Tension Arm Head Structure	张力杆尺寸 Rod Size
SF-5#	TA, TB, TC, TD	300-2000	0,25-0,80	双槽过线(008) Ceramic Pulley(008)	Φ4-150
SF-5#	TA, TB, TC, TD	200-1500	0,20-0,70	单槽过线(008) Ceramic Pulley(008)	Φ4-200

产品特点 Product features

- 1、SFD2000送线轮为单双槽可选;
- 2、双槽过线, 适合小张力的较粗线;
- 3、在线张力测量, SFD2000第一段和第二段张力通过两个对应的手动旋钮进行调节; 并接入0.5MPa气压, 对气缸进行充放动作实现两段张力切换。
- 4、SFD2000系列可在线实时输出张力值, 信号有AD4-20mA\485MODBUS两种形式, 可联接我司开发的张力数据智能管理系统软件, 也可以读入绕线机PLC系统, 在工控电脑上张力数据处理。

1. Servo Tensioner SFD2000 is optional for single and double groove;
2. Double groove suitable for thicker wire with small tension.
3. On-line tension measurement. The tension of the first section and the second section of SFD2000 is adjusted by two corresponding manual knobs; and connected with 0.5MPa air pressure, charging and discharging the cylinder to realize two tension switching.
4. SFD2000 series can output tension value online and in real time. The signal is AD4-20mA and 485 MODBUS. These two forms can be connected with the tension data intelligent management system software developed by our company, and can also be read in Tension PLC processing system, tension data processing on industrial computer.

智能伺服张力器 SFS Intelligent Servo Tensioner SFS



SFS800/SFS2000

产品特点 Product features

- 1、SFS系列伺服张力器采用两套伺服电机结构, 通过485MODBUS RTU协议与绕线机通信任意设定多段张力, 开关量控制切换;
- 2、在线张力测量并输出张力值, 以及张力上/下限报警输出。

规格参数表 Specification parameter table

SFS800

张力杆规格 Tension Arm	过线结构 Tension Arm Head Structure	拉簧规格 Tension Spring	张力范围(gf) Tension Range	参考线径 (mm) Wire Range	张力杆尺寸 Rod Size
SF-1#	双槽	T1, T2	3-20	0,02-0,10	Φ0,8-Φ2-150
SF-2#	空芯、滑轮(3) Pulley/Wire Pulley(3)	T3, T4, T7	20-300	0,05-0,21	Φ1,5-Φ2-150
		T2, T4, T5	5-100	0,03-0,15	Φ1,5-Φ2-200
SF-3#	空芯、滑轮(2) Pulley/Wire Pulley(2)	T7, T9	85-700	0,10-0,35	Φ2-Φ3-150
		T5, T8, T9	30-450	0,06-0,28	Φ2-Φ3-200
SF-4#	双槽过线(1) Ceramic Pulley(1)	T7, T9, T10	100-800	0,12-0,40	Φ4-150
		T7, T9, T10	75-600	0,12-0,40	Φ4-200

SFS2000

张力杆规格 Tension Arm	拉簧规格 Tension Spring	张力范围(gf) Tension Range	参考线径 (mm) Wire Range	过线结构 Tension Arm Head Structure	张力杆尺寸 Rod Size
SF-5#	TA, TB, TC, TD	300-2000	0,25-0,80	双槽过线(008) Ceramic Pulley(008)	Φ4-150 金属
SF-5#	TA, TB, TC, TD	200-1500	0,20-0,70	单槽过线(008) Ceramic Pulley(008)	Φ4-200 金属

注: 标配一支张力杆及对应的弹簧  
Note: Standard match with one piece of tension arm and corresponding spring.

1. SFS series servo tensioners adopt two sets of servo motor structure and through 485 MODBUS RTU protocol communicates with winding machine to set multi-stage tension arbitrarily, switching value control switching;
2. On-line tension measurement and output of tension value, and upper/lower limit alarm output of tension

智能伺服张力器 ZST Intelligent Servo Tensioner ZST



智能伺服张力器 ZST Intelligent Servo Tensioner ZST

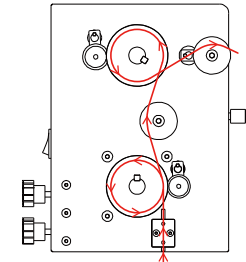
■ ZST系列专用电源 ZST Series dedicated power supply



■ 产品特点 Product features

- 1、采用伺服电机扭矩闭环控制原理；伺服电机具有主动送线和主动收线功能；无需张力杆和羊毛毡压紧装置；
  - 2、配有专用直流稳压电源；
  - 3、大屏功能设定，485MODBUS RTU通讯协议与上位机联机控制，8段张力任意设定，三位开关量自由切换张力段；
  - 4、发明专利产品。
1. Adopt servo motor torque closed loop control principle; servo motor with active Wire feeding and active take-up function; no need tension arm and wool felt device;
2. Equipped with special DC dedicated power supply;
3. Large screen function setting, 485 MODBUS communication protocol and PC Online Control, 8-segment tension arbitrary setting, three-switching value switching tension stage freely;
4. This product is a product patent of invention.

■ 挂线示意图 Hang line diagram



■ 规格参数表 Specification parameter table

张力器型号 Tensioner model	张力范围(gf) Tension Range	参考线径 (mm) wire size	功率(W) Power	电压(V) V.Rage
ZST5000	1000-5000	0.5-1.20	500	DC72
ZST5000-L	3000-15000	0.8-1.60	1000	DC72

注：必须使用我司专用电源  
Note: Must use our dedicated power supply.

分体式伺服张力器 STF Separated Servo Tensioner STF

产品特点 Product features

- 1、伺服张力器的电机与张力器结构体分离，电机与线筒相连，直接驱动线筒进行送线；
- 2、适合扁或异形线等特殊材质的绕线；
- 3、低线速，张力稳定，在线测量；
- 4、根据客户线材定制。

1. The motor of the servo tensioner is separated from the tensioner structure. The motor is connected to the wire barrel, and the wire barrel is directly driven to feed the wire;
2. Suitable for winding special materials such as flat or special-shaped wires;
3. Low wire speed, stable tension, on-line measurement;
4. Customize according to customer wire.



伺服张力器附件 Servo Tensioner Accessories

伺服张力杆 Tension Arm

产品特点 Product features

- 伺服张力器专用张力杆由过线头、杆子、弹簧挂钩三部份组成。
- 1、过线头有：瓷眼，红蓝宝石，滑轮，防跳线圈四种形式；
  - 2、杆子有优质碳纤维材质杆和金属杆（ST2000选用）。
- The tension arm of the servo tensioner consists of a wire head, rod and spring hook.
1. There are four kinds of the wire head, Ceramic Eyelet, Ruby Eyelet, Wire Rollers and Ceramic pulley;
  2. There are two material of the Rod high quality carbon fiber and metal rod (selected by ST2000).



规格参数表 Specification parameter table

序号 Part No	张力杆规格 Tension Arm	过线结构 Tension Arm Head Structure	参考线径(mm) Wire Range	张力范围 (gf) Tension Range	张力杆尺寸 (mm) Rod Size	张力杆材质 Rod Material	适用张力器型号 Applicable Tensioner Model
1	SF-1'	宝石(Ruby Eyelet)	0.02-0.10	3-25	Φ0.8-Φ2-150	碳纤维 Carbon Fiber	600/800系列
2	SF-2'	宝石/滑轮 (Ruby Eyelet / Wire Roller)	0.03-0.15	20-300 5-100	Φ1.5-Φ2-200		
3	SF-3'	宝石/滑轮 (Ruby Eyelet / Wire Roller)	0.06-0.28	85-700 30-150	Φ2-Φ3-200		
4	SF-4'	防跳线圈(L) Ceramic Pulley	0.12-0.40	100-800 75-600	Φ4-150		
5	SF-5'	防跳线圈(OOS) Ceramic Pulley(OOS)	0.25-0.80 0.20-0.70	300-2000 200-1500	Φ4-150 Φ4-200	金属 Metal	2000系列

伺服张力器附件 Servo Tensioner Accessories

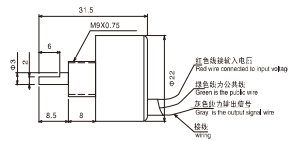
角度传感器 Angular Transducer

产品特点 Product features

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1、非接触式结构，长使用寿命设计；</li> <li>2、日本原装轴承，主轴旋转灵活；</li> <li>3、具有超强的温度变化电流自动补偿性；</li> <li>4、较宽的电器工作角度（120°）。</li> </ol> | <ol style="list-style-type: none"> <li>1. Non contact structure, long life design;</li> <li>2. High precision bearings, main entrance shaft rotating flexible;</li> <li>3. With superior temperature characteristics of the current automatic compensation;</li> <li>4. Electrical work wide angle (120°).</li> </ol> |
|--|---|

主要参数 Main parameters

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1、输入电压：DC 5V ± 0.25V；</li> <li>2、有效工作角度：120°；</li> <li>3、输出电压：0.3V~3.8V；</li> <li>4、线性度：± 3%；</li> <li>5、温度敏感度：± 3% (± 2%/30℃~70℃)；</li> <li>6、温飘值：± 40mV；</li> <li>7、绝缘电阻：100MΩ (500V Dc)。</li> </ol> | <ol style="list-style-type: none"> <li>1. Input voltage: DC 5V ± 0.25V;</li> <li>2. Effective angle: 120°;</li> <li>3. Output voltage: 0.3V~3.8V;</li> <li>4. linearity: ± 3%;</li> <li>5. Temperature sensitivity: ± 3% (± 2%/30 °C~70 °C);</li> <li>6. Temperature: ± 40mV;</li> <li>7. Insulation resistance: 100MΩ (500V Dc).</li> </ol> |
|---|--|



伺服电机 Servo Motor



产品特点 Product features

- 1、采用最先进的设计及工艺制造；
- 2、低压直流高效节能；
- 3、可选配各种型号的高精度编码传感器。

主要参数 Main parameters

- 1、输入电压：DC24V；
- 2、输出扭矩：0.30NM；
- 3、额定转速：3000转/分钟。

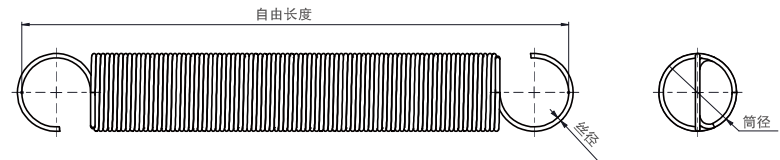
1. Input voltage: DC24V;
2. Output torque: 0.30NM;
3. Rated speed: 3000rpm/min.

伺服张力器附件 Servo Tensioner Accessories

拉簧

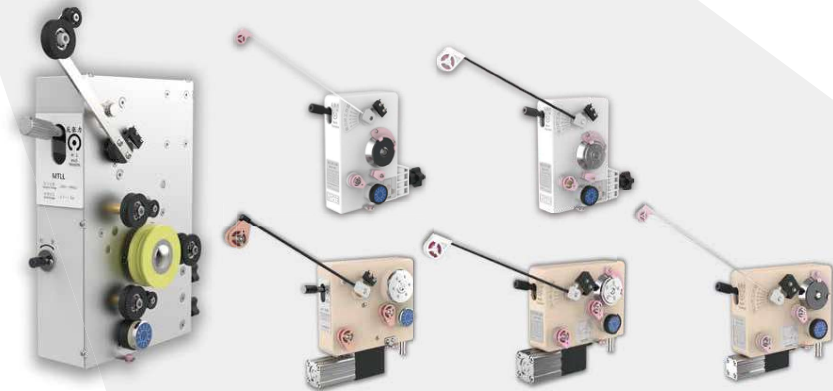
规格参数表 Specification parameter table

拉簧型号	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	TA	TB	TC	TD
丝径	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	1	1.1	1.2	1.3
筒径	5.8	7.0	5.6	7.0	6.0	6.3	6.7	7.9	8.7	7.5	13	12.6	12.9	13.3
有效圈数	129	91	98	73	77	60	62	50	42	47	29	28	27	26
自由长度	49.4	49.2	49.2	49	49	48.8	48.8	48.6	48.4	48.6	48	47.8	47.6	47.4





磁力张力器  
MAGNETIC TENSIONER



www.china-nhe.com

NEW · HORIZON · EFFICIENCY 

磁力张力器系列 Magnetic Tensioner Series

■ 测试条件 Test Conditions

线速度为10m/s, 瞬间启动、急停不断线, 匀速绕线状态张力稳定在  $\pm 1\%$ 。

Wire speed is 10M/S, instant start, stop the continuous line, stable tension in  $\pm 1\%$ .

■ 产品特点 Product features

- 1、张力范围大;
- 2、张力刻度对应张力值精度统一, 方便多台机器的调试;
- 3、MTC系列为安装孔安装, 直径为  $\Phi 16\text{mm}$  立式结构; MTA/MTQ系列为安装柱安装, 直径为  $\Phi 10\text{mm}$  卧式结构, 两个小陶瓷导轮增加了防跳线功能;
- 4、张力产生采用多对NS磁场, 无机机械摩擦, 张力稳定性好;
- 5、主要部件: O形圈, 轴承全部采用进口优质产品。

1. Large range tension;
2. Tension scale corresponding to the tension value precision unified, convenient debugging of multiple machines;
3. MTC series is vertical structure installed with  $\Phi 16\text{mm}$  mounting hole, MTA/MTQ series is horizontal structure with  $\Phi 10\text{mm}$  mounting stud, and two small ceramic guide wheels have anti-jumping function;
4. Tension generated with multi NS magnetic field, no mechanical friction, and good stability tension;
5. The main component: All O-rings and bearings are imported with high-quality products.

■ 注意事项 Note

- 1、使用前仔细阅读产品说明书;
- 2、如果长时间停止使用, 阻尼轮出现抖动时, 在开机前要进行消磁处理: 先顺时针将张力调节到最大值再立即逆时针调节到最小即可完成消磁处理;
- 3、调试时, 先调节张力大小在需要的刻度位置, 再调节反张力旋钮使得张力杆在工作区域;
- 4、张力值调不上去的原因: 1)羊毛毡预紧力不够, 应调节羊毛毡压紧力; 2) O形圈与羊毛毡太脏, 及时清理或更换;
- 5、正常工作时, 可以调节张力由小变大(顺时针), 禁止张力由大调小(逆时针), 否则引起断线;
- 6、羊毛毡的厚度尺寸请以出厂时的规格进行更换。

1. Please read the product instruction carefully before using;
2. If long time without using. When the damping wheel jitter, before starting please turning to degaussing process: first clockwise and then counterclockwise tension adjuster to adjust the maximum to the minimum immediately to complete the degaussing;
3. When debugging, first adjust the tension to the scale position, and then adjust the Anti-pack tension adjustment knob;
4. The reason for the tension can't adjust: 1) The wool pre-tighten is not enough and need to be adjusted; 2) The O-Ring and the wool felt are too dirty and need to be clean or replace;
5. Normally working the tension can be adjusted from small to large (clockwise), prohibit the tension by major to small (counterclockwise), otherwise, cause breakage;
6. When replace Wool felt please according to the thickness and size with the factory, or it will cause the wire not smoothly.



磁力张力器系列 Magnetic Tensioner Series

规格参数表 Specification parameter table

张力器型号 Tensioner Model	外形尺寸(mm) Size	重量(kg) Weight	安装方式 Installation Method	参考线径(mm) Wire Range	张力范围(gf) Tension Range	张力杆选配 Tension Arm	过线轮 Crossing Wheel	阻尼轮 Crossing Wheel
SS	MTC	150*182*84	安装孔 Φ16 Mounting Hole Φ16	0.025-0.12	4-100	CX-1*, 2* (200mm)	QH-M	POM
	MTA	167*130*84	安装柱 Φ10*24.5 Mounting Stud Φ10*24.5					
	MTQ	167*135*84	0.6					
300S	MTC	150*182*84	安装孔 Φ16 Mounting Hole Φ16	0.06-0.30	14-400	CX-3*, 4* (200mm)	QH-M	POM
	MTA	167*130*84	安装柱 Φ10*24.5 Mounting Stud Φ10*24.5					
	MTQ	167*145.5*84	0.73					
S	MTC	150*182*84	安装孔 Φ16 Mounting Hole Φ16	0.10-0.50	50-900	CX-6*, 7* (250mm)	QH-L	铝合金 Aluminium Alloy
	MTA	167*130*84	0.51					
	MTQ	167*145.5*84	0.77					
M	MTA	184*154.5*81	安装柱 Φ10*24.5 Mounting Stud Φ10*24.5	0.25-0.80	300-1500	CX-8* (200mm)	QH-008*	铝合金 Aluminium Alloy
	MTQ	184*176*81						
L	MTA	184*154.5*81	安装柱 Φ10*24.5 Mounting Stud Φ10*24.5	0.30-1.0	400-2000	CX-8* (200mm)	QH-008*	铝合金 Aluminium Alloy
	MTQ	184*176*81						
LL	MT	252*280*150	安装孔 Φ16*75 Mounting Hole Φ16*75	0.5-1.5	1000-4000	特制(不锈钢) Special (Stainless Steel)	POM	PU+铝合金 PU+Aluminium Alloy

注：断线报警功能可选配，MTO系列带有反张力衰减功能  
 Note: The disconnection alarm function is optional, and the MTO series has anti-tension attenuation function.

磁力张力器 QH19-MTLL Magnetic Tensioner QH19-MTLL

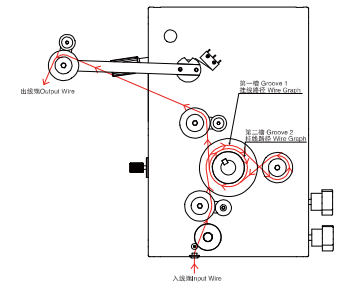


QH19-MTLL

产品特点 Product features

- 1、张力范围大，多对NS磁场产生无机械摩擦阻力；
  - 2、通过接入气压实现两段张力控制；
  - 3、合理的双槽过线结构，有效防止漆包线在阻力轮上打滑；
  - 4、安装孔为 Φ16\*75。
1. Large tension range and there is no mechanical friction resistance to NS magnetic field;  
 2. Two-stage tension control is realized by connecting air pressure;  
 3. Reasonable double groove over-wire structure can effectively prevent enameled wire from slipping on the resistance wheel;  
 4. Mounting hole size is Φ16\*75.

挂线示意图 Hang line diagram



规格参数表 Specification parameter table

产品系列 Products Series	张力范围(gf) Tension Range	线径范围(mm) Wire Range	产品重量(kg) Product Weight
QH19-MTLL	1000-4000	0.5-1.5	5.1

注：需接入5Kg/cm²气压,实现反张力衰减  
 Note: Connected with 5Kg/cm² air pressure to achieve back tension attenuation.

磁力张力器 MTC Magnetic Tensioner MTC



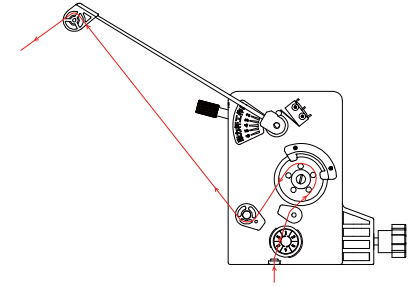
磁力张力器 MTC Magnetic Tensioner MTC

产品特点 Product features

- 1、羊毛毡在使用一段时间后易脏，可按区域标识转动位置；
- 2、阻尼轮结构更合理，改善O形圈材质，耐磨不易打滑；
- 3、调节反张力，使张力杆工作在张力杆工作范围标识内。

1. Wool felt is easily dirty after using for a period of time. It can mark the rotating position according to the area;
2. Damping wheel structure is more reasonable, material quality of O-ring is improved, wear resistance is not easy to slip;
3. Adjust the back tension to make the tension bar work within the indication of the working range of the tension bar;

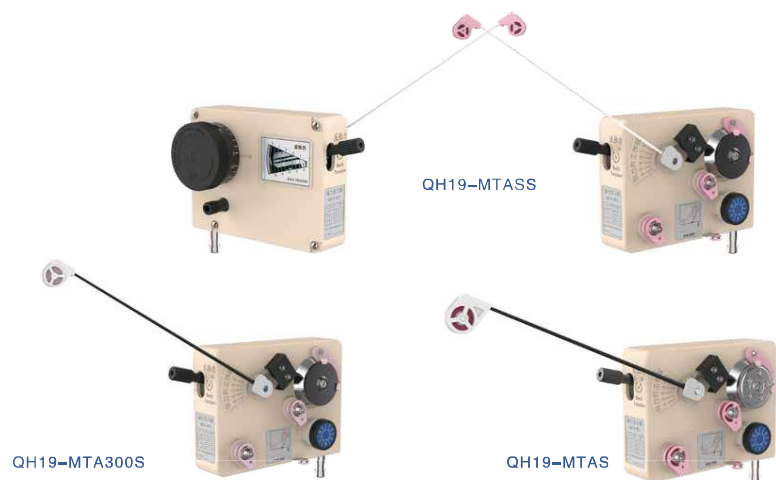
挂线示意图 Hang line diagram



规格参数表 Specification parameter table

产品系列 Products Series	规格型号 Model	张力杆选配 Tension Arm	张力范围(gf) Tension Range	线径范围(mm) Wire Range	产品重量 Products Series
MTC系列(立式) MTC Series (Vertical type)	QH19-MTCSS	CX-1#, 2#	4~100	0.025~0.12	0.42
	QH19-MTC300S	CX-3#, 4#	14~400	0.06~0.30	0.45
	QH19-MTCS	CX-6#, 7#	50~900	0.10~0.50	0.48

磁力张力器 MTA Magnetic Tensioner  
MTA

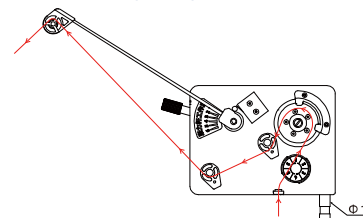


QH19-MTA300S

QH19-MTAS

磁力张力器 MTA Magnetic Tensioner  
MTA

挂线示意图 Hang line diagram

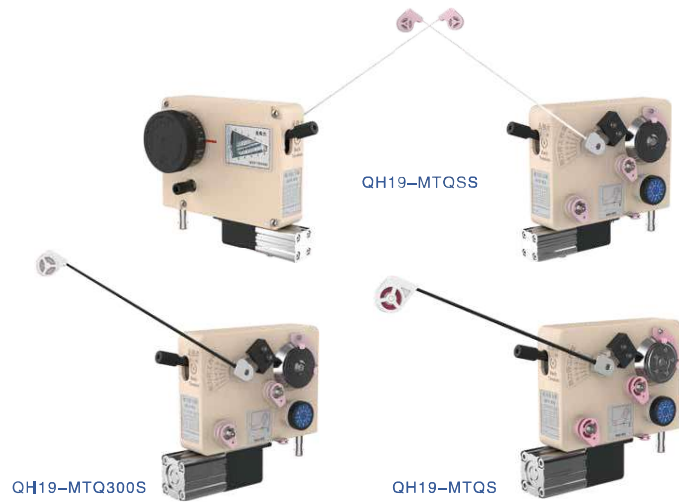


QH19-MTAM/MTAL

规格参数表 Specification parameter table

产品系列 Products Series	规格型号 Model	张力杆选配 Tension Arm	张力范围(gf) Tension Range	线径范围(mm) Wire Range	产品重量(kg) Product Weight
MTA系列 (卧式) MTA Series (Horizontal)	QH19-MTASS	CX-1 <sup>#</sup> , 2 <sup>#</sup>	4~100	0.025~0.12	0.45
	QH19-MTA300S	CX-3 <sup>#</sup> , 4 <sup>#</sup>	14~400	0.06~0.30	0.48
	QH19-MTAS	CX-6 <sup>#</sup> , 7 <sup>#</sup>	50~900	0.10~0.50	0.51
	QH19-MTAM	CX-8 <sup>#</sup>	300~1500	0.25~0.80	0.79
	QH19-MTAL	CX-8 <sup>#</sup>	400~2000	0.30~1.0	0.8

磁力张力器 MTQ Magnetic Tensioner  
MTQ



www.china-nhe.com

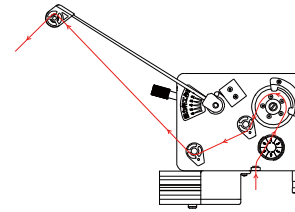
QH19-MTQ300S

QH19-MTQS

www.china-nhe.com

磁力张力器 MTQ Magnetic Tensioner  
MTQ

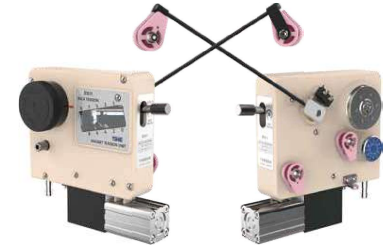
■ 挂线示意图 Hang line diagram



■ 规格参数表 Specification parameter table

产品系列 Products Series	规格型号 Model	张力杆选配 Tension Arm	张力范围(gf) Tension Range	线径范围(mm) Wire Range	产品重量(kg) Product Weight
MTQ系列 (卧式) MTQ Series (Horizontal)	QH19-MTQSS	CX-1", 2"	4~100	0.025~0.12	0.6
	QH19-MTQ300S	CX-3", 4"	14~400	0.06~0.30	0.73
	QH19-MTQS	CX-6", 7"	50~900	0.10~0.50	0.77
	QH19-MTQM	CX-8"	300~1500	0.25~0.80	1.17
	QH19-MTQL	CX-8"	400~2000	0.30~1.0	1.18

注：需接入5Kg/cm<sup>2</sup>气压,实现反张力衰减  
Note: Connected with 5Kg/cm<sup>2</sup> air pressure to achieve back tension attenuation.



QH19-MTQM/MTQL

### 磁力张力器附件

Magnetic Tensioner Accessories

#### 张力杆 Tension Arm

##### 产品特点 Product features

磁力张力器专用张力杆由过线头、杆子、固定块三部分组成  
1、过线头有：瓷眼，滑轮，防跳线器三种形式；  
2、杆子有优质碳纤维和玻璃纤维两种材质。

The tension arm for the magnetic tensioner consists of a wire head, rod and fixed block.

1. There are three kinds of wire head: Ceramic Eyelet, Wire Rollers and Ceramic pulley.
2. The rod is made of high quality carbon fiber and glass fiber.

规格参数表 Specification parameter table

序号 Part No	张力杆规格 Tension Arm	过线结构 Tension Arm/Head Structure	张力范围(g) Tension Range	参考线径(mm) Wire Range	适用张力器型号 Tensioner Model	张力杆材质 Rod Material	张力杆尺寸 (mm) Rod Size
1	CX-1*	瓷眼(Ceramic Eyelet)	4-100	0.025-0.12	SS	玻纤 Glass fiber	Φ1.0-Φ2-196
	CX-2*	滑轮(Wire Roller)(S)					
2	CX-3*	滑轮(Wire Roller)(M)	14-400	0.06-0.30	300S	玻纤/碳纤 Glass fiber/ carbon fiber	Φ1.5-Φ3-196 Φ240/296
	CX-4*	防跳线器(Ceramic Pulley)(S)					
3	CX-6*	滑轮(Wire Roller)(L)	50-900	0.10-0.50	S		Φ2-Φ3.5-196 Φ46/296
	CX-7*	防跳线器(Ceramic Pulley)(M)			M	碳纤/碳纤维 Carbon fiber	Φ2.3-Φ4-196 Φ48/296
4	CX-8*	防跳线器(Ceramic Pulley)(008*)	300-2000	0.25-1.0	ML	碳纤/碳纤维 Carbon fiber	Φ3.5-Φ4-196



### 磁力张力器附件

Magnetic Tensioner Accessories

#### 羊毛毡 Wool Felt

##### 产品特点 Product features

羊毛毡度大，不易掉毛，  
绕线时起到去污预紧作用。

The wool of high viscosity, not easy to lose hair, polishing the pre-tightening when winding.



规格参数表 Specification parameter table

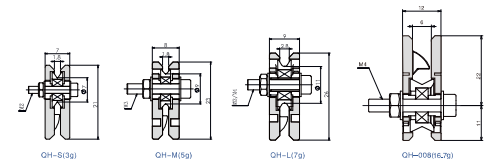
规格 Model	A(Φmm)	B(Φmm)	C(mm)
1"	5	20	3.5
2"	5	20	4
3"	5	20	5
4"	10	20	5
5"	5	25	4
6"	6	25	4
7"	10	28	5
8"	10	28	6
9"	10	30	2

#### 防跳线导轮



##### 产品特点 Product features

- 1、采用进口高速轴承；
- 2、瓷轮采用99%AL<sub>2</sub>O<sub>3</sub>；
1. Adopt imported high speed bearings;
2. Ceramic Eyelets purchase with 99% AL<sub>2</sub>O<sub>3</sub>;





# 张力测量及张力数据智能管理系统

TENSION MEASUREMENT AND TENSION DATA INTELLIGENT MANAGEMENT SYSTEM

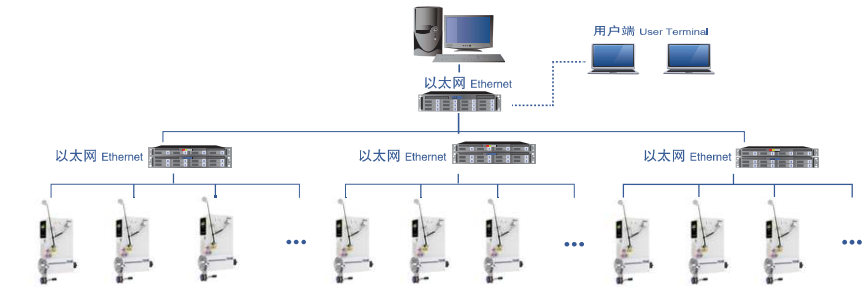


www.china-nhe.com

NEW · HORIZON · EFFICIENCY

## 张力数据智能管理系统 TMS

### 数据采集服务器 Data Collection Server



#### ■ 软件简介 Software Introduction

张力数据智能管理系统（简称TMS）是一款用于张力实时张力监测和性能分析的客户端软件。该软件可作为张力数据可视化系统的上位机软件。实现日常工作过程中对线缆张力实时状态进行监测分析，为产线连续产品的质量追踪提供数据分析依据。系统分为服务端和客户端，服务端负责数据的采集及存储，用户通过客户端进行数据的查看和导出。

#### ■ 硬件要求

处理器：≥2GHz；  
内存：8G；  
硬盘空间：1T

#### ■ 软件要求

操作系统：Windows 7/10；  
开发软件：SQLServer2008；  
Web3.0以上

#### Hardware requirements

Processor: ≥2GHz;  
Memory: 8G;  
Hard disk space: 1T

#### Software requirements

Operating system: Windows 7/10;  
Client software: SQLServer 2008;  
Web3.0 or above

#### ■ 主要功能 Main Function

- 1、张力数据采集模块及导入功能。可根据不同机型采集点配置模块，采用csv文件按指定格式导入，模块绑定网络IP，采用SOCKET方式实现通讯，采用MODBUS-TCP协议实现数据交互；
- 2、用户可以设置报警的阈值以及上下限报警值，保存实时数据和报警数据  
功能：设置实时值(10ms)的数据采样频率并保存。根据报警阈值实时显示报警；
- 3、数据展示功能：可视化图形显示数据，支持实时数据放大、缩小、平移、上下拖动、曲线保存、数据导出等功能。

#### ■ 主要特点 Main Feature

- 1、基于领域逻辑模型进行开发，适用于复杂的数据管理逻辑；
- 2、采用C#语言实现，数据展示图形操作非常，易于数据查询和导出；
- 3、采用多线程技术，同一端口可同时进行254个线程读取，数据展示流畅，用户体验良好。

1、根据不同机型配置采集点采集模块，可根据不同机型采集点配置模块，采用csv文件按指定格式导入，模块绑定网络IP，采用SOCKET方式实现通讯，采用MODBUS-TCP协议实现数据交互；

2、The user can set the wire diameter and upper and lower limit alarm value of each group, save real-time data and alarm data function, and the data sampling frequency of millisecond (10ms) and save. Display alerts in real time according to alarm threshold;

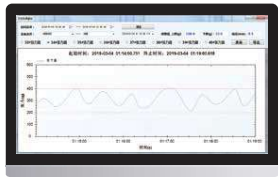
3、Data display function: Visual graphics display data, support real-time data enlargement, reduction, translation, up and down dragging, curve preservation, data export and other functions.

1、Develop based on domain logic model, suitable for complex data management logic;

2、Using C# language to achieve, data display graphical operation is very good, easy to query and export data;

3、Using multi-threading technology, the same network port can simultaneously read 254 threads, the data display is smooth, user experience is good.

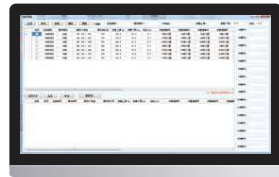
张力数据智能管理系统 TMS



历史曲线  
Historical Curve



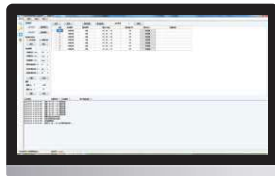
实时曲线  
Real-time Curve



机台配置  
Machine Configuration



客户端配置  
Client Port Configuration



服务器端配置  
Server Port Configuration



历史数据  
Historical Data

张力测控仪 Tension Measuring Instrument

产品特点 Product features

- 1、在线测张力，实时显示测量张力值；
- 2、采用进口天平级测量芯片，及高灵敏度传感器，测量精准、稳定；
- 3、测量值补偿功能；
- 4、通讯功能：上位机通过485MODBUS RTU通讯协议可以对本设备进行上下限报警设定、张力值读取及通讯地址的设定。

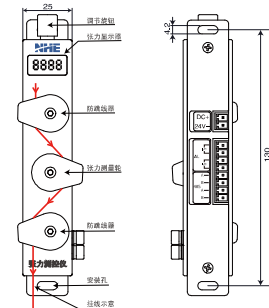


规格参数表 Specification parameter table

型号 Model	张力范围 (gf) Tension Range	过线轮 Crossing Wirewheel	测量精度 Measurement Accuracy	显示精度 Display Accuracy
CKY100	0-100	QH-M	0.1%	1
CKY500	0-500	QH-M	0.1%	1
CKY1000	0-1000	QH-L	0.2%	1
CKY2000	0-2000	QH-L	0.2%	1
CKY3000	0-3000	QH-L	0.3%	1
CKY5000	0-5000	QH-L	0.3%	1

1. Online measurement of tension and real-time display of measured tension values;
2. Using imported balance level measurement chip, and high sensitivity sensor, accurate and stable measurement;
3. Measurement value compensation function;
4. Communication function: the host computer can carry out the device through the 485MODBUS RTU communication protocol Upper and Lower limit alarm setting, tension value reading and communication address setting.

外形及安装尺寸 Dimensions and installation dimensions:



### 指针式张力计 Mechanical Tension Meter

#### 产品特点 Product features

- 1、聘请中国计量学院专家合作开发的张力测量仪；
  - 2、本产品为机械指针结构，精度高，寿命长。
1. Invite the expert from Institute Metrology of China cooperative development this tension measuring instrument;  
2. This product is a mechanical pointer structure, high precision, long service life.



#### 规格参数表 Specification parameter table

型号 Model	测量范围(gf)	最小读数(gf)
QH-TM-05	0-50	1.0
QH-TM-10	0-100	2.0
QH-TM-20	0-200	4.0
QH-TM-50	0-500	10.0
QH-TM-100	0-1000	20.0
QH-TM-200	0-2000	40.0
QH-TM-300	0-3000	50.0

#### 注意事项 Note

- 1、使用前仔细阅读《用户手册》；
  - 2、长时间不用时请将产品放于包装盒内；
  - 3、使用时间两年后应对产品进行校对。
1. Read the <User Manual> carefully before using;  
2. Keep it in the package box if long time no using ;  
3. Proofreading the tension meter after two years of use.

### 电子式张力计

#### 产品特点 Product features

- 1、内置锂电池；电池电量1000ma，电压DC3.7V；
  - 2、选用1.54英寸OLED屏；充电口为Micro USB接口；
1. Built-in lithium battery; battery power 1000ma, voltage DC3.7V;  
2. 1.54-inch OLED screen; Micro USB interface charging port ;



CLY-500-1



CLY-1000-5 / CLY-5000-5

规格型号	测量范围(gf)	测量精度(%)
CLY-500-1	0~500	0.1%
CLY-1000-5	0~1000	0.2%
CLY-5000-5	0~5000	0.3%





  
 NEW · HORIZON · EFFICIENCY  
**气剪治具系列**  
 PNEUMATIC SHEARS CATENA



www.china-nhe.com

**气动剪刀** Air Nipper

■ 产品特点 Product features

- 1、刀头采用进口钨钢焊接，刃口锋利、耐磨，刃口中间部位剪切寿命为100W次以上；
- 2、刀柄基材采用优质合金钢锻打→热处理→精加工→铆接等工艺而成；
- 3、气缸表面经硬质处理，不易划伤；活塞及密封圈采用进口优质材料；
- 4、工作压力：5kg/cm<sup>2</sup>；
- 5、特殊尺寸可根据客户要求定制。

1. The blades made of imported tungsten steel welding, sharp edge in the middle cutting edge the using life is more than 1 million times;
2. The knife handle is made of high quality alloy forged → heat treatment → finish machining → riveting technology etc;
3. The cylinder surface deal with Hardened, not easy to scratch, the piston and the O-Ring are all high quality materials imported from overseas;
4. Working pressure, 5kg/cm<sup>2</sup>;
5. For special requirements it can be customized.

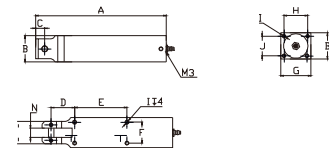


NEW · HORIZON · EFFICIENCY 

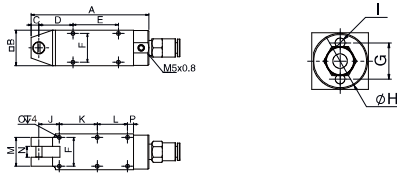
■ 规格参数表 Specification parameter table

气缸型号	适配刀头规格	剪刀开口 (mm)	切断能力(Φmm)	
			铜质线	软质线
CS10	WIS-A, B	2.8-3.2		
C20, C40	WIS-A, B, D, WLS系列	4.8-5.2	0.02-0.6	0.02-2
	WIS-G3	4.2-4.6		
	WCS系列	3.8-4.2		
C30	WIS-C	3.8-4.2		
C25	WIS-E	2.8-3.2		
C30F	WIS-A, B	5.8-6.2	0.02-1.3	
C45	WIB系列	6.2-6.6	0.1-2.0	0.1-3
C50	WIS-E2	3.8-4.2		
手剪气缸	WIS-A, B, D	4.8-5.2	0.02-0.6	0.02-2
CS-5	/	/	0.02-0.5	/

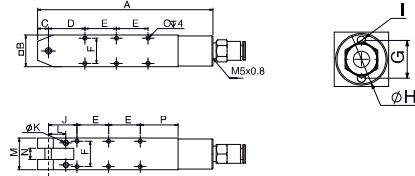
CS10	Size(mm)															Weight (g)	Material
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O		
	100	20	7	18	40	18	23	18	M3	15	-	-	17	7	-	86	Aluminum



气动剪刀 Air Nipper

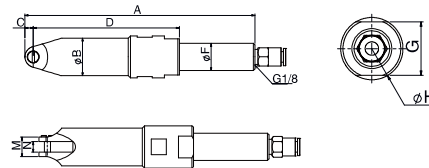


	Size(mm)														Weight (g)	Material		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			O	P
C20	77.5	23.5	5	22.5	30	19	15	23	Φ4	13.5	25	20	19	7	M3	4	76	Aluminum alloy
C30F	92	30	7	25	30	24	-	30	-	17	30	-	16	7	M3	-	133	Aluminum alloy
C45	129	45	9	41	40	36	30	44	M5	36	40	-	26	12	M4	24	412	Aluminum alloy

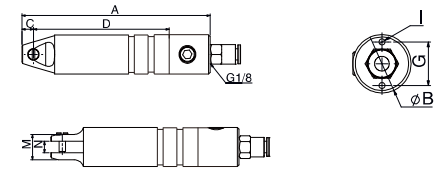


	Size(mm)														Weight (g)	Material		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			O	P
C25	89	20	7	23	20	16	14	19.5	M3	18	3	11	20	7	M3	24	70	Aluminum alloy

气动剪刀 Air Nipper



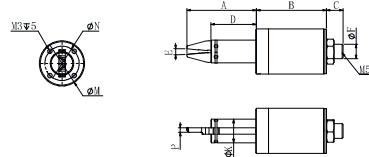
	Size(mm)														Weight (g)	Material		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			O	P
C30	153	25	5.5	97	-	18	24	26	-	-	-	-	13.1	7	-	-	98	Aluminum alloy



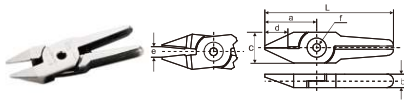
	Size(mm)														Weight (g)	Material	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N			O
C40	115	24	7	89	-	18	-	M3	-	-	-	14.5	7	-	-	76	Aluminum alloy
C50	99	25	7	82	-	14	-	M3	-	-	-	14	7	-	-	48	Aluminum alloy

气动剪刀 Air Nipper

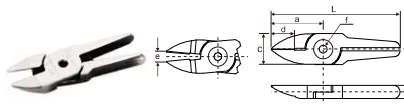
圆气剪 (CS-5)



CS-5	Size(mm)											Weight (g)	Material				
	A	B	C	D	E	F	G	H	J	K	L			M	N	O	P
	38.5	39	9	25	3	8	-	-	-	13	-	25	19	-	2.4	144	Herd alloy steel

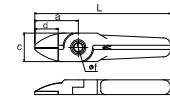


	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			L
WIS-A	27	7	16	12	4.2	4	67	32	Tungsten steel blade
WIS-A2	31	7	16	16	4.8	4	71	38	Tungsten steel blade
WIS-E2	23	7	12	12	-	4	57	30	Tungsten steel blade

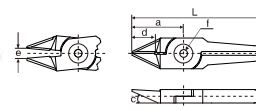


WIS-B	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			L
	27	7	16	12	4.2	4	67	32	Tungsten steel blade

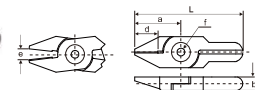
气剪刀头 Air Nipper Blades



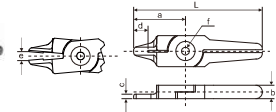
WIS-C3	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			L
	20.5	7	13.5	11	/	4	60.5	26	Tungsten steel blade



	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			L
WIS-D	27	7	24°	12	4.2	4	67	32	Tungsten steel blade
WIS-D2	27	7	18°	12	4.2	4	67	32	Tungsten steel blade
WIS-D3	24	7	24°	12	3.8	4	64	30	Tungsten steel blade
WIS-D4	23	7	13°	12	/	4	63	29.5	Tungsten steel blade

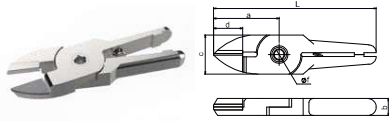


WIS-E	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			L
	24	7	16	12	4.2	4	56	28	Tungsten steel blade

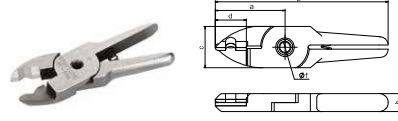


	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			L
WIS-F	27	7	2.4	7.5	4.2	4	67	32	Tungsten steel blade
WIS-F2	24	7	2.1	12	3.8	4	64	30	Tungsten steel blade

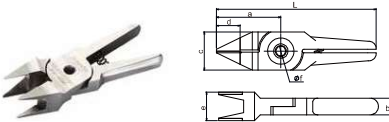
气剪刀头 Air Nipper Blades



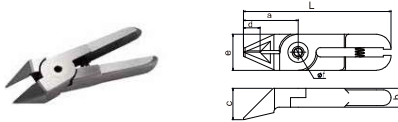
WIS-G3	Size(mm)						Weight (g)	Material
	a	b	c	d	e	f		
	27	7	16	12	4	67	34.5	Tungsten steel blade



WIS-G6	Size(mm)						Weight (g)	Material
	a	b	c	d	e	f		
	27	7	16	12	4	67	34	Tungsten steel blade

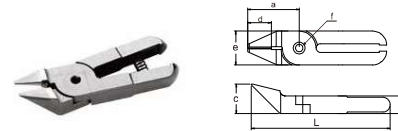


WIS-A4	Size(mm)						Weight (g)	Material
	a	b	c	d	e	f		
	27	7	18	10	4	67	37	Tungsten steel blade

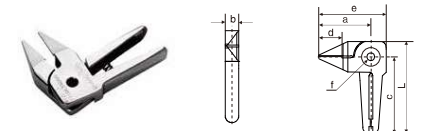


WIB-A	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			
	35	12	20	11	23	5	94.5	142	Tungsten steel blade

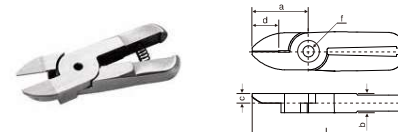
气剪刀头 Air Nipper Blades



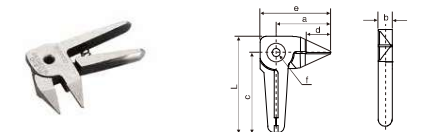
WIB-B	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			
	35	12	20	16	23	5	94.5	142	Tungsten steel blade



WLS-A	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			
	27	7	40	12	35	4	48	32	Tungsten steel blade

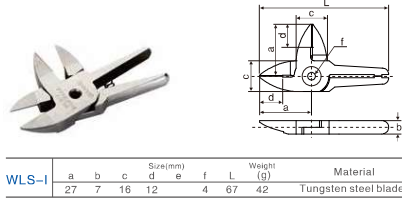
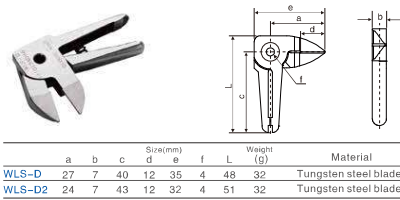
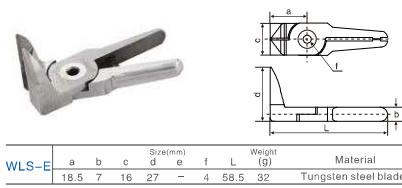
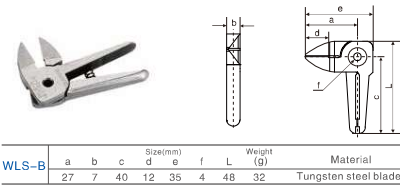


WIB-C	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			
	35	12	6	16.5	23	5	94.5	132	Tungsten steel blade

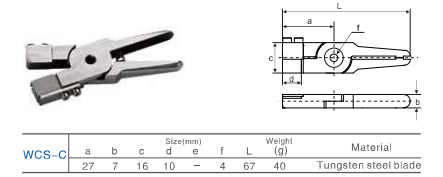
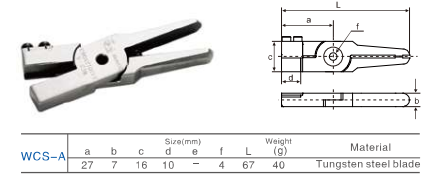


WLS-C	Size(mm)						Weight (g)	Material	
	a	b	c	d	e	f			
	27	7	40	12	35	4	48	32	Tungsten steel blade

气剪刀头 Air Nipper Blades



气剪刀头 Air Nipper Blades



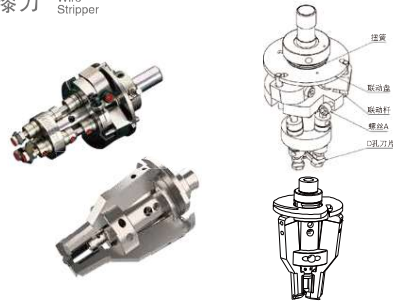
半自动剥漆机 Semi automatic stripping machine

产品特点 Product features

1. 采用伺服电机及驱动，精度可靠；
  2. 配“千和”可调剥漆刀头；转速0~8000转/分可调；
  3. 功率:100W；输入电压: AC220V。
1. The servo motor and drive, reliable accuracy;
  2. Equipped with "Qian He" adjustable paint stripping cutter head; Speed 0~8000 transfer / sub adjustable;
  3. Power: 100W; Input voltage: AC220V.



剥漆刀 Wire Stripper



■ 注意事项 Note

- 1、使用前仔细阅读产品说明书；
- 2、刀片材料为金刚石，易碎须轻拿轻放；
- 3、剥漆刀上红记标示点螺丝禁止扭松。

1. Please reading the product instruction carefully before using;
2. The knife body material is diamond, fragile to handle gently.
3. The red marking point screw on the Wire Stripper is forbidden to loosen.

■ 规格参数表 Specification parameter table

规格	线径范围 (mm)	安装尺寸	外观尺寸(外径×总长)
PPKSS	0.15-0.7	Φ7×13.0	Φ31(Max)×65mm
PPKS	0.7-1.2	Φ7×13.0	Φ31(Max)×65mm
PPKM	1.2-1.8	Φ7×13.0	Φ31(Max)×65mm
PPKL	1.8-2.8	Φ7×13.0	Φ31(Max)×65mm

■ 产品特点 Product features

该剥漆刀刀片材料为耐磨性极高的人造金刚石，且可调，保证剥皮的一致性和均匀性。

The Wire Stripper blades material is artificial diamond with high wear resistance and is adjustable to ensure the consistency and uniformity of stripping.

■ 调节方法 Adjusting method

- 1、调节线范围：  
将所要剥漆铜线塞入导针孔内，旋转刀体使其闭合，旋紧螺丝A。
  - 2、调节线效果：  
剥漆深度与电机转速，走线速度成正比。请适当调整至最佳效果。
1. Adjust the stripping wire range:  
Put the copper wire into the guide pin hole, rotate the cutter body to close it, and tighten the screw A.
  2. Adjust the stripping effect:  
The peeling paint depth is positive ratio to the motor speed and the wire speed. Please adjust it to the best effect.



剥漆效果图

工装治具 Tooling



■ 产品特点 Product features

- 1、夹头采用硬钎焊技术，耐磨寿命长；
  - 2、整套治具同心度在0.1mm以内；
  - 3、可适用线径范围：0.025-0.35mm；
  - 4、工艺：数控车坯→钳工→真空淬火处理→精磨加工→装配调试。
1. Inlaid tungsten steel technology, wear-resisting and long service life;
  2. A complete set of tooling the concentricity within 0.1 mm;
  3. Applied wire diameter: 0.025-0.35mm;
  4. Process: CNC turning billet→bench worker→vacuum hardening treatment →(with slow wire processing)→ fine grinding → assembly debugging.

■ 治具 Tooling

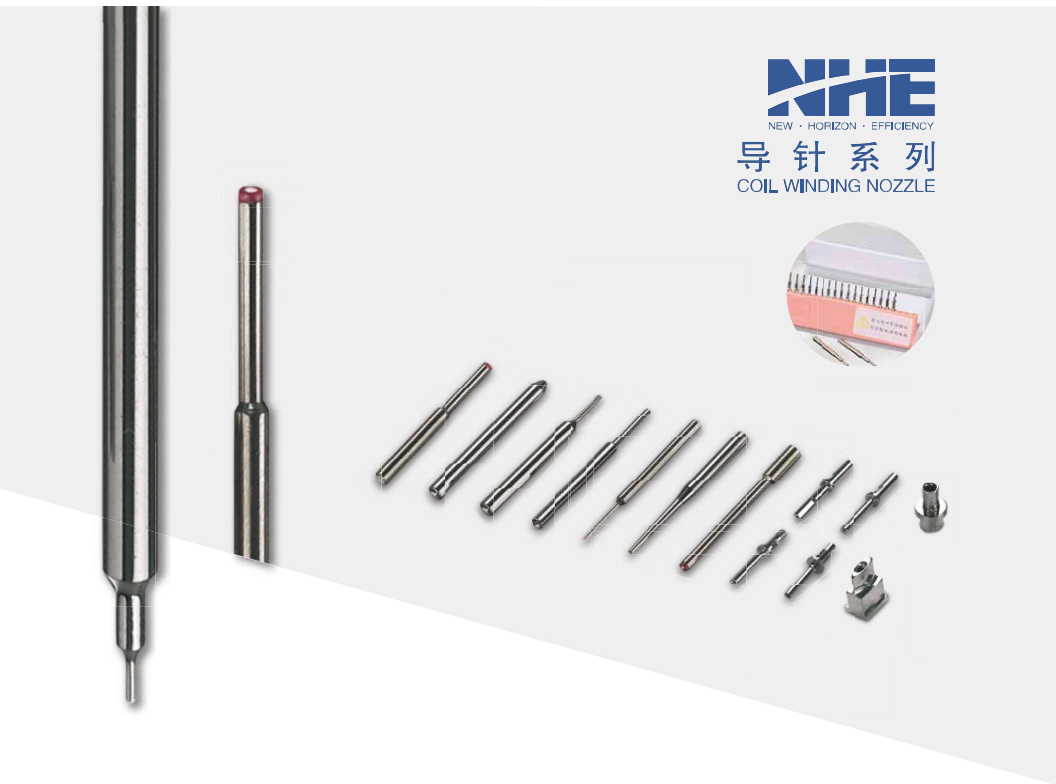


■ 合金刀片/杆 Alloy blade/rod



■ 贴片电感夹头 SMD inductor chuck





**NHE**  
NEW · HORIZON · EFFICIENCY  
**导针系列**  
COIL WINDING NOZZLE

[www.china-nhe.com](http://www.china-nhe.com)

马达出线嘴 Motor Nozzle



■ 产品特点 Product features

1. 该产品有两种材料加工方式：a、超硬质合金，HRC90°。b、优质合金钢经真空热处理HRC60°-62°。经过各种要求的形状磨加工，再经精细研磨抛光处理，按孔的数量分有单孔，双孔及多孔，按出线端外形分有扁形，椭圆形等等。广泛应用于电机定子、转子的全自动绕线过程。
  2. 该产品可根据用户产品情况进行定制加工。
1. There are two different raw materials for Motor Nozzle :  
1. Super hard alloy, HRC90° . 2. High quality alloy steel with vacuum heat treatment HRC60° - 62° . After various requirements of shape grinding, and then fine grinding and polishing, according to the number of holes,the motor nozzle can be divided into single hole, double hole and porous, according to the shape of the outlet end it can be divided into flat shape, oval shape, etc. The nozzle is widely used in the fully automatic winding process of the Stator and Rotor of the motor.
2. The products can be customized according to customer's special requirements.

NEW · HORIZON · EFFICIENCY **NHE**



■ 本公司生产的导针优点

内孔及圆弧部分的研磨抛光是通过粗中细超细研磨，最后经漆包线的仿真绕线工序，以此保证其表面的弧形及粗糙度，最后经过电子显微镜100%全检出厂。

公司理念：用独创的工艺及设备保证我们导针的品质。

Grinding inner hole and the circular arc part is through the fine super fine coarse grinding, simulation of the enameled wire winding process, to ensure that the surface of the arc and the roughness, and finally through 100% electron microscope inspection.

Company philosophy: original technology and equipment to ensure the quality of our nozzle.

超硬质合金导针 Super Hard Alloy Guide Pin

产品特点 Product features

1. 该产品选用优质碳化钨材料精密加工而成。硬度高+HRC90°以上，抗弯强度高，达2300N/mm以上。采用专用的工艺设备对产品的内孔及两端入出线口进行了镜面研磨处理，内孔表面粗糙度为Ra0.1，两端弧度处表面粗糙度高达Ra0.025。我们的工艺保证了内孔与入出线口弧度的自然过渡，根据孔径大小选择了科学合理的弧度，并保持高度一致性，从而保证了过线的通畅。
2. 加工极限：d1≥0.15mm，壁厚≥0.10mm。我公司钨钢导针（线嘴）规格齐全，也可根据用户特殊的要求进行设计定制。

1. The product is made of high and precision quality tungsten carbide materials. High Hardness HRC90°. Bending strength is as high as more than 2300 N/mm. Using a dedicated process equipment at both ends of the hole and the outlet port products into the mirror polished, inner hole surface roughness is Ra0.1, both ends of the curvature of the surface roughness of up Ra0.025 according to the pore size to choose the scientific and rational radian. And maintain a high degree of consistency, thus ensuring the line. Smoothly.
2. Processing limit: D1 ≥ 0.15mm, wall thickness of 0.10mm. Our company tungsten steel needle (nozzle) complete specifications, can also be customized according to the customer's special requirements.



本公司生产的导针优点

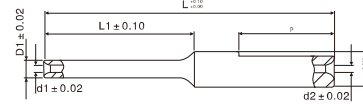
内孔及圆弧部分的研磨抛光是通过粗中细超细研磨，最后经漆包线的仿真绕线工序，以此保证其表面的弧形及粗糙度，最后经过电子显微镜100%全检出厂。公司理念：用独创的工艺及设备保证我们导针的品质。

Grinding inner hole and the circular arc part is through the fine super fine coarse grinding, simulation of the enameled wire winding process, to ensure that the surface of the arc and the roughness, and finally through 100% electron microscope inspection. Company philosophy: original technology and equipment to ensure the quality of our nozzle.

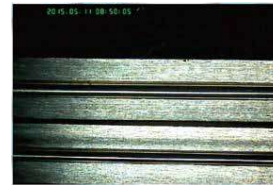
超硬质合金导针 Super Hard Alloy Guide Pin

规格描述 Specifications and description

碳化钨合金导针(W系列)产品编号说明：  
例：W0303-3010-3008  
W表示为碳化钨合金，入线端孔径d2=0.3，出线端孔径d1=0.3，大径D=3.0，小径D1=1.0，总长L=30，小径长L1=8  
安装固定平面P  
Tungsten carbide alloy wire (W Series) product description:  
Example:W0303-3010-3008  
W said carbonized tungsten alloy, into the terminal aperture d2=0.3, outlet diameter d1=0.3, diameter D=3.0, diameter D1=1.0, length L=30, diameter L1=8, fixed plane P



导针内孔研磨效果 Nozzle inner bore with grinding effect



规格参数表 Specification parameter table

序号	规格	ΦD	ΦD1	Φd1/d2	L1	L
1	W0303-2008-3007	2	0.8	0.3	7	30
2	W0404-2010-3510	2	1.0	0.4	10	35
3	W0606-2012-3510	2	1.2	0.6	10	35
4	W0808-2014-3510	2	1.4	0.8	10	35
5	W0202-201206-350506	2	1.2/0.6	0.2	5/6	35
6	W0505-2010-3510锥度	2	1.0	0.5	10	35
7	W0202-3006-3005	3	0.6	0.2	5	30
8	W0303-3006-3007	3	0.6	0.3	7	30
9	W0303-3008-3007	3	0.8	0.3	7	30
10	W0303-3010-3010	3	1.0	0.3	10	30
11	W0303-3012-4506T	3	1.2	0.3	6	45
12	W0404-3010-3009	3	1.0	0.4	9	30
13	W0404-3012-4010T	3	1.2	0.4	10	40
14	W0505-3010-3008	3	1.0	0.5	8	30
15	W0505-3012-4506T	3	1.2	0.5	6	45
16	W0606-3012-4506T	3	1.2	0.6	6	45
17	W0606-3015-1406P	3	1.5	0.6	8	14
18	W0606-3015-3008	3	1.5	0.6	8	30
19	W0606-3016-4010T	3	1.6	0.6	10	40
20	W0808-3015-4506T	3	1.5	0.8	6	45
21	W0808-3018-3010	3	1.8	0.8	10	30
22	W0909-3020-3512	3	2.0	0.9	12	35
23	W1010-3020-3510	3	2.0	1.0	10	30
24	W1212-3020-3013T	3	2.0	1.2	13	30
25	W1515-3000-3500	3	---	1.5	---	35
26	W0404-301810-300803T	3	1.8/1.0	0.4	6/3	30
27	W0505-302010-401010	3	2.0/1.0	0.5	10/10	40
28	W0505-301610-300811G	3	1.6/1.0	0.5	8/11	30
29	W0303-3006-3020锥度	3	0.6	0.3	---	30
30	W0404-3010-3520锥度	3	1.0	0.4	---	35
31	W0404-3012-3520锥度	3	1.2	0.4	---	45
32	W0505-3010-3000锥度	3	1.0	0.5	---	30
33	W0505-3010-3010锥度	3	1.0	0.5	---	30
34	W0505-3010-4015锥度	3	1.0	0.5	---	40
35	W0606-3012-3520锥度	3	1.2	0.6	---	35
36	W0606-3014-4015锥度	3	1.4	0.6	---	40
37	W0707-3013-4520锥度	3	1.3	0.7	---	45
38	W0808-3020-3000锥度	3	2.0	0.8	---	30
39	W0808-3018-3520锥度	3	1.8	0.8	---	35
40	W0808-3018-3010锥度	3	1.8	0.8	---	30
41	W1010-3018-4015锥度	3	1.8	1.0	---	40
42	W1212-3018-3520锥度	3	1.8	1.2	---	35
43	W1414-3024-4020锥度	3	2.4	1.4	---	40
44	W0303-301406-350411锥度	3	1.4/0.6	0.3	---	35

说明：以上是我司部分碳化钨合金导针规格。



红宝石导针 Ruby Tipped Nozzle

产品特点 Product features

1. 适用范围：高速绕制精细线圈及超细漆包线的过线。
2. 加工极限：d1 ≥ 0.3mm。我公司宝石规格齐全，也可根据用户特殊的要求进行设计定制。
3. 该产品由硬度合适的优质不锈钢与超高硬度的晶体宝石精密加工、组装而成。利用红宝石超高的硬度及优越的耐磨性能，采用我公司特有的专业工艺和高精度的装备对其进行研磨抛光处理，使得内孔和外径及R处的粗糙度Ra0.025以上，在使用中对漆包线的损伤概率极低。同时结合了不锈钢良好的韧性的特点，经精细加工镶嵌组合而成，在同等使用环境下具有超过钨钢导针的两倍以上的使用寿命。

1. Application: high-speed winding of fine coils and superfine enameled wires.
2. Processing limit: d1 ≥ 0.3mm Our company has complete specifications of ruby, and can also be customized according to the special requirements of the customers.
3. This products made of high quality stainless steel and super hardness ruby. With the super-high hardness and excellent wear resistance of ruby, we adopt our own professional technology and high-precision equipment for grinding and polishing, which makes the roughness of inner and outer hole and R more than Ra0.025. The damage probability of enameled wire in use is very low. At the same time, it is formed by fine processing and mosaic, and has more than twice the service life of tungsten steel guide needle under the same service environment.



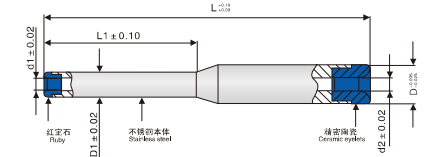
红宝石导针 Ruby Tipped Nozzle

规格描述 Specifications and description

红宝石导针(TB系列)产品编号说明:

例: TB0403-3010-3008  
 T表示精密陶瓷, B表示宝石, 入线端孔径d2=0.4, 出线端孔径d1=0.3, 大径D=3.0, 小径D1=1.0, 总长L=30, 小径长L1=8, 安装固定平面P

TB0403-3010-3008  
 T means precision ceramic, B means ruby, the inlet d2=0.4mm, the outlet d1=0.3mm, outer diameter D=3.0mm, outer diameter D1=1.0mm, total length L=30mm, outer diameter length L1=8, P is the mounting fixed plane.



规格参数表 Specification parameter table

序号	规格	ΦD	ΦD1	Φd1	Φd2	L1	L
1	TB0403-2008-3007	2	0.8	0.3	0.4	7	30
2	TB0403-3008-1106	3	0.8	0.3	0.4	6	11
3	TB0403-3010-1409P	3	1.0	0.3	0.4	9	14
4	TB0605-3010-3008	3	1.0	0.5	0.6	8	30
5	TB0605-3010-3510	3	1.0	0.5	0.6	10	35
6	TB0605-3012-3010	3	1.2	0.5	0.6	10	30
7	TB0605-3012-1407.5P	3	1.2	0.5	0.6	7.5	14
8	BB0606-3012-22.511	3	1.2	0.6	0.6	11	22.5
9	TB0606-3015-3015	3	1.5	0.6	0.6	15	30
10	TB0808-3020-3013.5	3	2.0	0.8	0.8	13.5	30
11	TB1010-3020-3013	3	2.0	1.0	1.0	13	30
12	TB0403-301810-260515P	3	1.8/1.0	0.3	0.4	5/15	26

说明: 以上表格用部分红宝石导针规格。

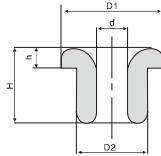
瓷眼 Ceramic Eyelet

产品特点 Product features

- 1. 材质: 99%AL<sub>2</sub>O<sub>3</sub>。
- 2. 硬度: HRC88'以上。
- 3. 密度: 3.85g/cm<sup>3</sup>。
- 4. 颜色: 粉红、象牙白。
- 5. 过线部位粗糙度: 精细研磨Ra0.2以上。
- 1. Material: 99%Al<sub>2</sub>O<sub>3</sub>
- 2. The Hardness: HRC88' or more
- 3. Density: 3.85g/cm<sup>3</sup>.
- 4. Color: pink, ivory white.
- 5. A wire part roughness: fine polishing above Ra0.2.



尺寸示图 Size chart



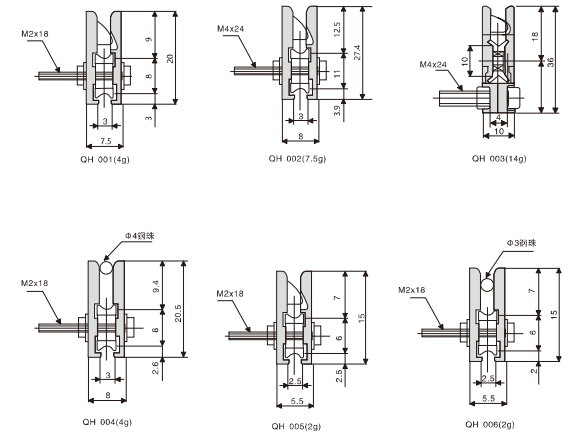
规格说明(Specification)

序号	规格	(公差±0.05MM)				
		D1	D2	d	H	h
1	QH99-1511	4,5	2,7	0,9	3,0	1,0
2	QH99-1277	4,2	3,0	1,0	4,0	1,0
3	QH99-1447	4,2	3,0	2,0	5,0	1,0
4	QH99-1573	5,0	3,5	2,4	3,6	1,0
5	QH99-1496	5,5	4,0	1,9	4,3	1,3
6	QH99-1315	5,9	4,0	2,0	8,0	1,2
7	QH99-1578	6,0	4,2	2,5	4,8	1,2
8	QH99-1410	6,0	4,5	2,1	5,0	1,5
9	QH99-1407	6,7	4,7	2,6	3,2	1,2
10	QH99-1545	7,0	5,0	3,0	6,0	1,4
11	QH99-1497	7,8	5,9	3,4	8,0	1,6
12	QH97-1534	7,7	6,0	3,3	6,0	2,0
13	QH99-1575	10,2	6,2	4,1	10	2,0
14	QH99-1576	10	6,8	4,0	10	2,0
15	QH99-2351	10	7,0	4,5	8,0	2,0
16	QH99-1526	9,6	7,2	4,0	7,5	2,5
17	QH99-1572	11	8,0	3,6	9,0	3,0
18	QH99-1349	13	9,0	4,0	7,0	2,0
19	QH99-1350	11,7	9,5	5,5	8,2	2,4
20	QH99-1558	12	9,8	6	8,0	2,0
21	QH99-1470	14	10	6,5	9,8	3,0
22	QH99-1530	8	5,6	2,5	5,6	1,6
23	QH99-1450	6	3,6	1,7	5	1

防跳线器 Wire Jump Preventer



尺寸示图 Size chart



产品特点 Product features

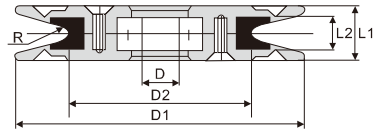
- 1. 材质: 99%AL<sub>2</sub>O<sub>3</sub>。
- 2. 过线轮硬度: HRC88'以上。
- 3. 过线部位粗糙度: 精细研磨Ra0.2以上。
- 4. 颜色: 粉红色。
- 5. 日本原装进口高速轴承。
- 1. Material: 99%AL<sub>2</sub>O<sub>3</sub>
- 2. The hardness: HRC88' or more.
- 3. A wire part roughness: fine polishing above Ra0.2.
- 4. Color: pink.
- 5. Original Japanese high speed bearing.

过线导轮 Combined Wheel

组合导轮 Combined Wheel

产品特点 Product features

- 1、过线槽：材质：99%AL<sub>2</sub>O<sub>3</sub>，硬度：HRC8#以上。过线部位粗糙度：精细研磨Ra0.2以上。
  - 2、日本原装轴承。
  - 3、POM塑料压片。
1. A wire groove: Material: 99%AL<sub>2</sub>O<sub>3</sub>, hardness: HRAB80. A line of site roughness: fine polishing above Ra0.2.
2. The Japanese original bearing.
3. POM plastic sheeting.



规格参数表 Specification parameter table

序号	产品编号	D1	D2	D	L1	L2	R	重量(g)
1	QH001-B03	20	15	3	6	3	1	2.4
2	QH002-B04	29	20	4	6.5	4	1	7
3	QH002-B05	29	20	5	6.5	4	1	7
4	QH005-B05	45	30	5	10	6	2	20
5	QH005-B06	45	30	6	10	6	2	20
6	QH005-B07	45	30	7	10	6	2	20
7	QH005-B08	45	30	8	10	6	2	20
8	QH1006-C08	60	40	8	13	6	2	40
9	QH1008-B10	80	50	10	15	9	3	95

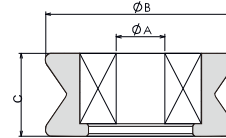


过线导轮 Combined Wheel

陶瓷导轮 Ceramic Wheel

产品特点 Product features

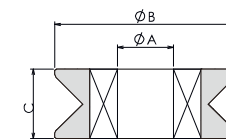
- 采用原装进口高速轴承，过线槽为镜面抛光。  
Using imported with original high-speed bearings, The wire slot do with mirror polishing.



金属导轮 Metal Guide Wheel

产品特点 Product features

- 采用原装进口高速轴承，导轮为优质不锈钢材料。  
Using imported with original high-speed bearings from Japan and the guide wheel materials are high-quality stainless steel.



序号 Number	规格 Specifications	A	B	C
01	11-2-4	2	11	4
02	11-3-4	3	11	4
03	15-3-4	3	15	4

序号 Number	规格 Specifications	A	B	C
01	10-2-4	2	10	4
02	13-4-6	4	13	6

其它陶瓷件 Other Ceramic Pieces

产品特点 Product features

1. 材质: 99%AL<sub>2</sub>O<sub>3</sub>。
2. 硬度: HRC68° 以上。
3. 密度: 3.85g/cm<sup>3</sup>。
4. 颜色: 粉色、象牙白。
5. 过线部位粗糙度: 精细研磨Ra0.2以上。  
其它陶瓷件还有瓷管, 瓷棒, 猪尾圈, 过线环等。

1. Material: AL<sub>2</sub>O<sub>3</sub>99%.
2. The hardness: HRA88°.
3. Density:3.85g/cm<sup>3</sup>.
4. Color: pink, ivory white.
5. A wire part roughness: fine polishing above Ra0.2.  
Other ceramics and ceramic tube, ceramic rods, pigtail ring, thread ring



漆包线卷线安全张力表 Safety Tension Table of Enameled Wirecopper Wire Diameter and Tension

线径 (mm)	安全张力		断线张力	
	(g)	(N)	(g)	(N)
0.020	2.2	0.022	7.9	0.079
0.025	3.4	0.034	12	0.12
0.030	4.9	0.049	18	0.18
0.035	6.6	0.066	24	0.24
0.040	8.6	0.086	31	0.31
0.05	13	0.13	49	0.49
0.06	19	0.19	71	0.71
0.07	26	0.26	96	0.96
0.08	35	0.35	130	1.3
0.09	44	0.44	160	1.6
0.10	54	0.54	200	2.0
0.11	65	0.65	240	2.4
0.12	78	0.78	280	2.8
0.13	91	0.91	330	3.3
0.14	110	1.1	380	3.8
0.15	120	1.2	440	4.4
0.16	140	1.4	500	5.0
0.17	160	1.6	570	5.7
0.18	170	1.7	640	6.4
0.19	190	1.9	710	7.10
0.20	220	2.2	790	7.9
0.21	240	2.4	870	8.7
0.22	260	2.6	950	9.5

线径 (mm)	安全张力		断线张力	
	(g)	(N)	(g)	(N)
0.23	290	2.9	1040	10.4
0.24	310	3.1	1130	11.3
0.25	340	3.4	1230	12.3
0.26	360	3.6	1330	13.3
0.27	390	3.9	1430	14.3
0.28	420	4.2	1540	15.4
0.29	450	4.5	1650	16.5
0.30	490	4.9	1770	17.7
0.32	550	5.5	2010	20.1
0.35	660	6.6	2410	24.1
0.37	740	7.4	2690	26.9
0.40	860	8.6	3140	31.4
0.45	1090	10.9	3980	39.8
0.50	1350	13.5	4910	49.1
0.55	1630	16.3	5940	59.4
0.60	1940	19.4	7070	70.7
0.65	2280	22.8	8300	83.0
0.70	2640	26.4	9620	96.2
0.75	3030	30.3	11000	110
0.80	3450	34.5	12600	126
0.85	3900	39.0	14200	142
0.90	4370	43.7	15900	159
0.95	4870	48.7	17700	177

线径 (mm)	安全张力		断线张力	
	(g)	(N)	(g)	(N)
1.0	5390	53.9	19600	196
1.1	6520	65.2	23800	238
1.2	7760	77.6	28300	283
1.3	9110	91.1	33200	332
1.4	10600	106	38500	385
1.5	12100	121	44200	442
1.6	13800	138	50300	503
1.7	15600	156	56700	567
1.8	17500	175	63600	636
1.9	19500	195	70900	709
2.0	21600	216	78500	785
2.1	23800	238	86600	866
2.2	26100	261	95000	950
2.3	28500	285	103900	1039
2.4	31100	311	113100	1131
2.5	33700	337	122700	1227
2.6	36400	364	132700	1327
2.7	39300	393	143100	1431
2.8	42300	423	153900	1539
2.9	45300	453	165100	1651
3.0	48500	485	176700	1767
3.2	55200	552	201100	2011

仅供参考