

热线: 400-008-3858



# 专注弹簧制造20年

## SPRING MANUFACTURER SINCE 2005



上海敏硕机电科技有限公司  
Shanghai Mascot Industrial Co.,Ltd



## 公司简介 COMPANY PROFILE

敏硕科技是一家中外合资具有研发、生产、销售综合实力于一体的各类精密弹簧、密封产品、制冷配件及单向阀系列等精密五金产品专业制造商。公司拥有四个分厂(江苏、上海、浙江、美国)及天津分公司,二万多平方米的标准厂房。公司创始人及研发技术骨干拥有欧美同行业丰富的管理及领先的技术经验。公司现有员工398名,其中专业工程技术人员、管理人员168名,各种设备1000多台,形成了从产品研发、生产、销售到售后服务的完整现代化企业管理

体系。公司通过IATF16949:2016质量体系等一系列技术认证,获得多项国家实用新型及发明专利。公司始终秉承“客户第一,质量至上”为宗旨,为客户提供全方位综合性弹簧、密封、制冷五金产品解决方案。我们承诺,无论您在何时何地,我们都将为您提供特殊需求的定制服务,专业、优质、安心、快捷、高效是我们十年如一日的服务宗旨。多年来,我们以诚经营,踏实做产品,持续受到国内外客户的认可,业务遍布全球各地。

Mascot industrial group is a Sino foreign joint venture with comprehensive strength of R & D, production and sales. We are a professional manufacturer of all kinds of precision springs and seal ring, refrigeration accessories and check valve series and other precision hardware products. We have four branches (Jiangsu, Shanghai, Zhejiang, Dallas) and Tianjin Branch, more than 20000 square meters of standard workshop. As well as, We have 398 employees, including 168 professional engineering and technical personnel and management personnel, and more than 1000 sets of various equipment. The founder and R & D technical backbone of the company have rich management and technical experience in the same industry in Europe and America. It has formed a complete modern enterprise management system with product development, production, sales to after-sales service. The company has passed a series of quality technology certification such as IATF 16949:2016 quality system, and obtained a number of national utility model and invention patents. The company always adheres to the tenet of "customer first, quality first" to provide customers with comprehensive spring, seal ring, refrigeration hardware products solutions. We promise that no matter when and where you are, we will provide you with customized services with special needs. Our ten-year service tenet is professional, high-quality, reassuring, fast and efficient. Over the years, We focus on making good products for our customers. We are recognized by plenty of customers, and also our business all over the world.

### 弹簧事业部 Spring division

拥有各式压拉扭弹簧机160台和CNC弹簧机60台及检测设备20套;能精密制造各种标准和非标准压簧、拉簧、扭簧、高温弹簧(600°)&低温弹簧(-260°)、碟形弹簧(外径范围:3mm~900mm,厚度范围:0.08~60mm)、波形弹簧(外径范围:1mm~500mm,厚度范围:0.1~10mm)、热卷弹簧(材料直径16~80mm)、冷卷弹簧(材料直径:0.2mm~20mm)、发条、恒力弹簧(厚度范围:0.1mm~10mm)、密封弹簧(外径范围:2mm~500mm;厚度范围:0.1~10mm)螺旋叶片弹簧、阻尼器、气杆、悬架弹簧、涡卷弹簧、模具弹簧、卡簧、蛇形弹簧、异型弹簧、螺旋弹簧加工件、弹簧垫圈、孔用弹性挡圈,轴用弹性挡圈、止动环、缓冲器等精密五金。通过严格的疲劳测试实验,我们的弹簧最高耐疲劳1亿次以上。

**常用材料:**各类碳素钢、合金钢材料、琴钢线、Hastelloy哈氏合金、Elgiloy、SAE6150、SAE9254、50CrV4、60Si2CrA、62Si2MnA、SK4、SK5、CK55、CK67、CK70、CK75、65Mn、SUS301、SUS304、SUS316、SUS631、17-7、InconelX-718、InconelX-750、GH145等。

**表面处理:**发蓝、发黑、磷化、电镀、电泳和喷塑、喷漆、达克罗、焦美特等。

We have all kinds of press-pull torsion spring machine 160 sets and CNC spring machine 60 sets and 20 sets of testing equipment; Precision manufacturing various standard and non-standard high temperature spring (600 °) & low temperature spring (- 260 °) and compression spring, tension spring, torsion spring, disc springs (Outer diameter range:1mm~500mm,thickness range:0.1~10mm), spiral leaf spring, damper, gas pole, suspension spring, hot coil spring, constant force spring( thickness range: 0.1~10mm), Seal Spring( Outer diameter

range:2mm~500mm,thickness range:0.1~10mm), vortex coil spring, die spring, snap ring, serpentine spring, shaped spring, screw, spring washer, hole, Axis with elastic retaining ring, stop ring, buffer and other precision hardware.Through rigorous fatigue testing experiments, our spring can withstand more than 100 million times of maximum fatigue.

**Common materials:** all kinds of carbon steel, alloy steel, piano steel wire, Hastelloy Hastelloy, Elgiloy, sae6150, sae9254, 50CrV4, 60Si2CrA, 62Si2MnA, SK4, SK5, CK55, CK67, CK70, CK75, 65Mn, SUS301, SUS304, SUS316, sus631, 17-7, inconelx-718, inconelx-750, gh145, etc.

**Surface treatment:** bluing, blackening, phosphating, electroplating, electrophoresis and plastic spraying, painting, Dacromet, jiaomeite, etc.

## 密封事业部 Seal Division

面对客户多元化需求,立足公司自有的先进弹簧的制造经验,公司于2016.6成立密封事业部,专门攻克了多家500强企业需要国产化但多年并不成功国产的泛塞封项目,帮助客户节省了大批成本。经过多年的发展,公司密封事业部现能精密制造各种弹簧储能圈,孔用泛塞封,轴用泛塞封,端面内向泛塞封,旋转泛塞封,PTFE翻唇骨架油封、翻唇式油封、格来圈、斯特封、尘封、AQ封、高压旋转油封、挡圈、导向环等各种非标定制密封产品。

本司氟塑密封件,均采用优质PTFE树脂生产,全都具备极低的摩擦阻力、无爬行现象、自润滑性能好、在缺乏润滑的情况下仍可正常工作等出色的优点。材料的化学性能和物理性能非常稳定,耐腐蚀性能优异、不粘性突出。工作温度范围达-60°C~+250°C。同时,具有极佳的动态和静态密封特点,耐磨性好、使用寿命长。产品应用范围广泛,尤其是在高压、高温、高速的工况下,以及强酸、强碱、强腐蚀的环境中,仍能保持良好的密封性能。

Facing the diversified needs of customers and based on the company's own manufacturing experience of advanced springs, We established a seal ring business department in June 2016, which has specially conquered the pan plug sealing projects that many top 500 enterprises need to be localized but have not been successfully localized for many years, we helped them save a large number of costs. After years of development, our seal division is now able to manufacture various kinds of non-standard customized sealing products, such as spring energy storage ring, hole pan plug seal, shaft pan plug seal, end face inward pan plug seal, rotary pan plug seal, PTFE lip framework oil seal, lip type oil seal, grid ring, stern seal, dust seal, AQ seal, high pressure rotary oil seal, retaining ring, guide ring, etc.

Our fluoroplastic seals are all made of high-quality PTFE resin. They all have excellent advantages such as extremely low friction resistance, no crawling phenomenon, good self-lubricating performance, and can still work normally in the absence of lubrication. The chemical and physical properties of the material are very stable, with excellent corrosion resistance and outstanding non stickiness. The working temperature ranges from -60 °C to +250 °C. At the same time, it has excellent dynamic and static sealing characteristics, good wear resistance and long service life. Products are widely used, especially in high pressure, high temperature, high speed conditions, as well as strong acid, strong alkali, strong corrosion environment, still can maintain good sealing performance.

## 五金制冷事业部 Hardware Refrigeration Division

拥有各类先进的精密五金制冷加工设备,主导产品包括过滤器(干燥过滤器,吸气过滤器)单向阀,空调阀,黄铜及紫铜等制冷配件系类产品和精密五金系列配件。

We have all kinds of advanced precision hardware refrigeration processing equipment, leading products include filter (dry filter, suction filter) check valve, air conditioning valve, brass and copper and other refrigeration accessories series products and precision hardware series accessories.



## 发展历程

### DEVELOPMENT HISTORY

**2005**

成立上海工厂  
Set up Shanghai factory



**2009**

成立浙江工厂  
Set up zhejiang factory



**2012**

成立天津办事处  
Set up Tianjin office



**2017**

成立美国工厂  
Set up USA factory



**2019**

成立苏州工厂  
Set up Suzhou factory



**2024**

成立太仓工厂  
Set up Taicang factory





## 企业文化 COMPANY CULTURE



## 质量证书 Quality Certificate



**公司于2024年在苏州购买的20亩工业用地**  
 20 acres of industrial land purchased by the company in Suzhou in 2024

### 20000平方米在建厂房效果图

Rendering of a 20000 square meter factory under construction



## 车间面貌 WORKSHOP APPEARANCE

全面实施ISO9001-ISO/T16949质量管理，按照中华人民共和国铁道部行业标准实施，配置先进设备，热卷弹簧从材料直径Φ16—80mm全自动碾尖—全自动材料回国温—数控卷簧—氮气炉保温—红外线控制温度全自动淬火炉等—整套生产线。冷卷弹簧从线径Φ0.2—20mm生产线齐全，是一家国内先进设备企业之一。

Fully implement iso9001-iso / t16949 quality management, implement in accordance with the industrial standards of the Ministry of Railways of the people's Republic of China, configure advanced equipment, and change the material diameter of hot coil spring  $\phi$  16-80mm full-automatic tip grinding - full-automatic material return temperature - CNC coil spring - nitrogen furnace insulation - infrared temperature controlled full-automatic quenching furnace, etc. - a complete set of production lines. Cold coil spring from wire diameter  $\phi$  With complete production lines of 0.2-20mm, it is one of the domestic advanced equipment enterprises.



# 检测设备

## EQUIPMENT

公司现有弹簧拉压试验机从10N到300万N各种规格配制齐全，弹簧疲劳试验机200N到20万N，成套元素、金相分析仪，不同规格的探伤设备，材料扭转抗试验机等检测设备完善。



At present, the company has spring tension and compression testing machines ranging from 10N to 3 million N, with complete preparation of various specifications, and spring fatigue testing machines ranging from 200N to 200000 N. Complete sets of elements, metallographic analyzers, flaw detection equipment of different specifications, material torsion resistance testing machine and other testing equipment are perfect.



产品服务  
PRODUCT SERVICE

医疗弹簧  
MEDICAL SPRING



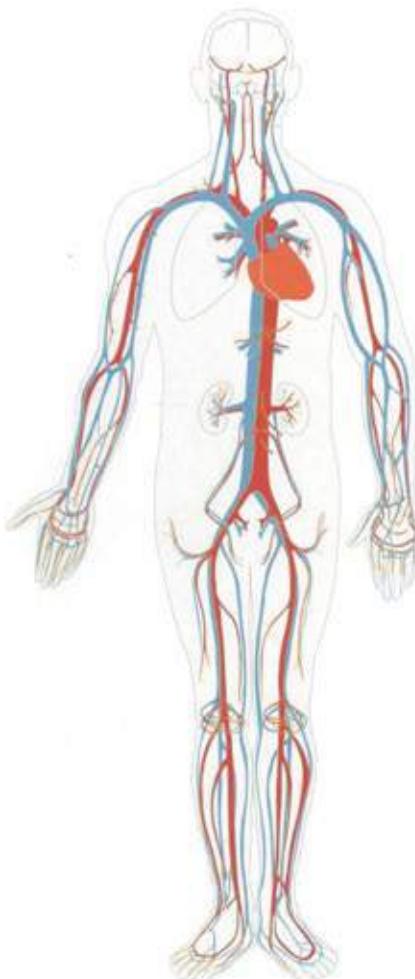
内窥镜弹簧管系列



铂钨显影弹簧圈系列



气管插管弹簧系列



精密导丝弹簧系列



导引导丝弹簧系列



鞘管扁丝弹簧系列

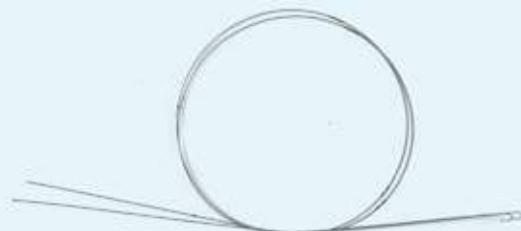
医疗弹簧系列产品介绍：

敏硕是一家从事多年医疗弹簧产品生产专业级厂家，医疗产品多元化，现主要生产各类医疗导丝、医疗导管、方线扁线加工圆管、特殊异型医疗产品的来样来图加工。导丝方面目前加工长度最长可以加工至10米。

**适用于：** 医疗器械、医疗耗材、特殊非指定领域！

**材料选订：** 日本不锈钢、美国医用级304V、韩国不锈钢，也可来料加工订做！

**加工范围：** 加工丝线径0.03mm起 加工成品外径0.20mm起

**医疗弹簧****MEDICAL SPRING****产品服务**  
**PRODUCT SERVICE**

产品服务  
PRODUCT SERVICE

医疗弹簧  
MEDICAL SPRING



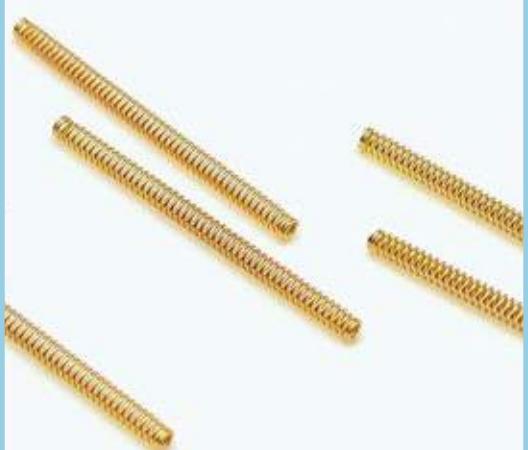
热极导丝弹簧



扁线导丝弹簧

**医疗弹簧**  
MEDICAL SPRING

**产品服务**  
PRODUCT SERVICE



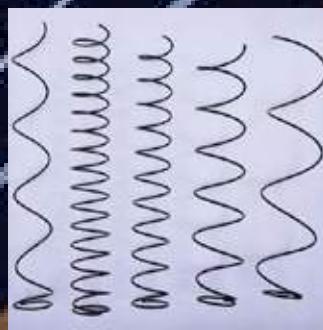
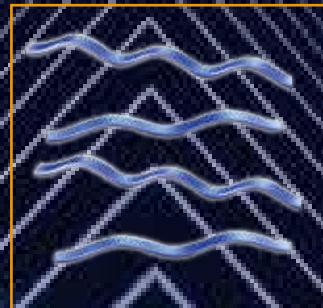
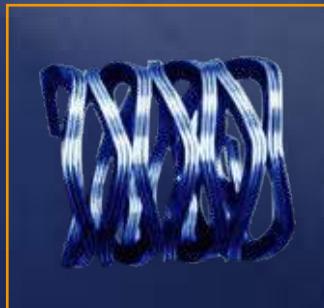
**医疗精密镀金弹簧**



**铂钨系列显影弹簧圈**

## 产品服务 PRODUCT SERVICE





产品服务  
PRODUCT SERVICE

精密弹簧  
PRECISION SPRING



精密弹簧又名小弹簧，因为这种精密弹簧线径很小，线径0.01-5mm。敏硕的精密弹簧生产线，采用当前世界上最先进的自动化设备组合成。

Precision spring is also known as small spring, because the wire diameter of this precision spring is very small, with a wire diameter of 0.01-5mm. Minshuo's precision spring production line is composed of the most advanced automatic equipment in the world.

**常用材料** 各类碳素钢、合金钢材料、琴钢线、Hastelloy 哈氏合金、Elgiloy、SAE6150、SAE9254、50CrV4、60Si2CrA、62Si2MnA、SK4、SK5、CK55、CK67、CK70、CK75、65Mn、SUS301、SUS304、SUS316、SUS631、17-7、InconelX-718、InconelX-750、GH145 等。

**加工范围** 线径 0.01mm-5mm，力值根据客户要求

**表面处理方法** 发蓝、发黑、磷化、电镀、电泳和喷塑、喷漆、达克罗、焦美特等。

**应用行业** 国防、海洋、航天、电子、机械、电气、钟表等领域。

**Common materials:** carbon steel, alloy steel, piano steel wire, Hastelloy, Elgiloy, sae6150, sae9254, 50CrV4, 60si2cra, 62si2mna, SK4, SK5, ck55, ck67, ck70, ck75, 65Mn, SUS301, SUS304, SUS316, sus631, 17-7, inconelx-718, inconelx-750, gh145, etc.

**The processing range:** 0.01mm-5mm, and the force value is according to the customer's requirements

**Surface treatment methods** include bluing, blackening, phosphating, electroplating, electrophoresis and plastic spraying, painting, Dacromet, jomett, etc.

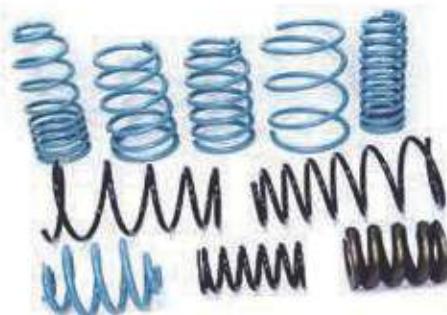
**Application Industry:** national defense, marine, aerospace, electronics, machinery, electrical, clocks and watches and other fields.

## 精密弹簧

### PRECISION SPRING

## 产品服务

### PRODUCT SERVICE



## 产品服务

PRODUCT SERVICE

## 精密弹簧

PRECISION SPRING



## 产品服务

PRODUCT SERVICE

## 热卷弹簧

HOT WOUND COILED SPRING



热卷弹簧又名大弹簧，生产过程采用热卷工艺。用弹性材料制成的零件在外力作用下发生形变，除去外力后又恢复原状。亦作“弹簧”。一般用弹簧钢制成。热卷弹簧形状为右旋和左旋，圆柱形拉（压）力弹簧，扭簧，以及锥形、中凸形、中凹形大弹簧等。

Hot coil spring, also known as large spring, adopts hot coil technology in the production process. The parts made of elastic materials deform under the action of external force, and return to the original state after removing the external force. Also known as "spring". Generally made of spring steel. Hot coil springs are right-handed and left-handed, cylindrical tension (compression) spring, torsion spring, conical, medium convex and medium concave large springs, etc.

**常用材料** 合金弹簧钢：60Si2MnA、50CrVA、4Cr13、60Si2CrA 等

**加工范围** 线径 16mm-80mm，力值根据客户要求

**表面处理方法** 电镀、喷塑、喷漆、达克罗、焦美特等 ...

**应用行业** 国防、海洋、航天、铁路、核电、风电、火电、工程机械、矿山机械、建筑机械、电梯等。

**Common materials:** alloy spring steel: 60Si2MnA, 50CrVA, 4Cr13, 60si2cra, etc

**The processing range :** 16mm-80mm, and the force value is according to the customer's requirements

**Surface treatment methods:** electroplating, plastic spraying, painting, Dacromet, jiaomeite, etc

**Application industries:** national defense, marine, aerospace, railway, nuclear power, wind power, thermal power, engineering machinery, mining machinery, construction machinery, elevator, etc.

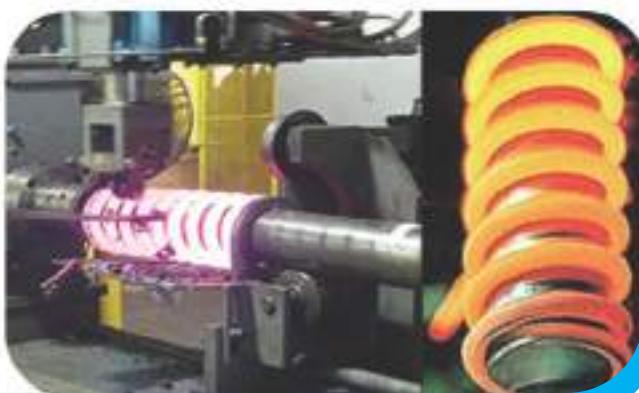


## 热卷弹簧

### HOT WOUND COILED SPRING

## 产品服务

PRODUCT SERVICE



## 产品服务

### PRODUCT SERVICE

## 斜圈弹簧/触指弹簧

### CANTED COIL SPRING

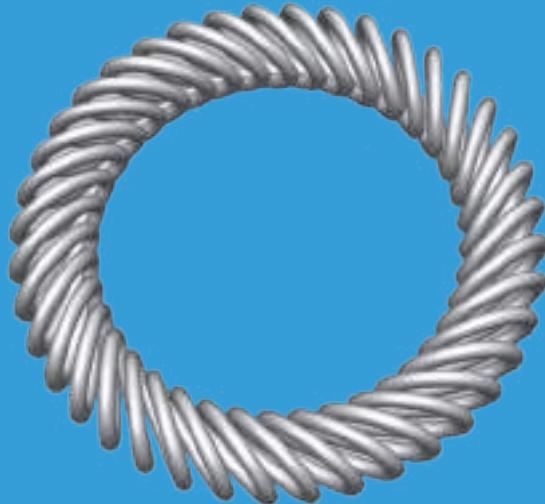
斜圈弹簧由连续的斜面线圈组成，这种设计使得它们能够提供更大的变形范围和更均匀的应力分布。这种特性使得斜圈弹簧在各种应用中都能够提供准确的弹性支撑，并且可以根据具体需求进行定制，以满足不同工程要求。

本公司制作的斜圈指弹簧特点如下：

- 1、结构简单，体积小，用料少，成本低；满足器件设计上空间小尺寸的要求，适用于紧凑型设计；最少的部件数量，简化了连接器件的设计。
- 2、多点接触，高集中力，可实现几乎无损耗接触。保证较大的载流量；导电性好，电动及热稳定性高。
- 3、每个接触点的接触压力不高，有很好的耐磨性。
- 4、独特的结构使其具有宽余的工作范围，允许在接触面存在较大公差；对加工误差和装配误差有较大的适应性，更适合大规模生产。

本公司斜圈弹簧的应用范围：

- 高中压开关 · 母线连接件 · 高电流连接件 · 高压电链尾端件
- 机械电子应用等



The inclined coil spring is composed of continuous inclined coils, which allows them to provide a larger deformation range and a more uniform stress distribution. This characteristic enables the coil spring to provide accurate elastic support in various applications and can be customized according to specific needs to meet different engineering requirements.

The characteristics of the inclined coil spring produced by our company are as follows:

1. Simple structure, small volume, low material consumption, and low cost; Meet the requirements of small space size in device design, suitable for compact design; The minimum number of components simplifies the design of connecting devices. 2. Multi point contact, high concentration force, can achieve almost zero loss contact. Ensure a large current carrying capacity; Good conductivity, high electrical and thermal stability. 3. The contact pressure at each contact point is not high, and it has good wear resistance. 4. The unique structure gives it a wide working range, allowing for significant tolerances on the contact surface; Has greater adaptability to machining and assembly errors, and is more suitable for large-scale production.

The application scope of our company's inclined coil springs includes:

1. High and medium voltage switches
2. Busbar connectors
3. High current connectors
4. High voltage chain end fittings
5. Mechanical and electronic applications, etc.



## 泛塞封弹簧 SEAL SPRING



## 产品服务 PRODUCT SERVICE

### V型弹簧

### V-SHAPED SPRING

是截面呈 V 字形的金属弹性元件，常用不锈钢、钴基合金等材料制成，能提供高刚度支撑或密封力，它具备耐高低温（-150℃至 650℃）、抗高压（静态可达 1000MPa）特性，适配极端工况下的弹性需求，广泛应用于阀门密封、半导体设备、汽车发动机等领域，核心作用是稳定预紧、补偿磨损或吸收高频振动。

It is a metal elastic element with a V-shaped cross-section, commonly made of materials such as stainless steel and cobalt based alloys, which can provide high stiffness support or sealing force. It has the characteristics of high and low temperature resistance (-150 °C to 650 °C) and high pressure resistance (static up to 1000MPa), and is suitable for elastic requirements under extreme working conditions. It is widely used in valve sealing, semiconductor equipment, automotive engines and other fields. Its core function is to stabilize pre tightening, compensate for wear or absorb high-frequency vibration.

材料	规格 (mm)			
SUS301	0.08*1.2*1.2	0.1*2.5*2.5	0.15*3.8*3.8	0.15*4.0*5.0
	0.1*1.2*1.2	0.12*2.5*2.5	0.2*3.8*3.8	0.2*4.0*5.0
	0.1*1.5*1.5	0.15*2.5*2.5	0.15*4.0*4.0	0.2*4.5*4.5
	0.1*1.8*1.8	0.15*2.8*2.8	0.2*4.0*4.0	0.2*5.0*5.0
	0.1*1.9*1.9	0.12*2.88*2.8	0.15*4.2*4.5	0.15*6.0*6.5
	0.12*1.9*1.9	0.1*2.8*2.8	0.15*4.3*4.5	0.2*6.0*6.5
	0.1*2.0*2.0	0.15*3.0*3.0	0.2*4.3*4.5	0.25*6.0*6.5
	0.12*2.0*2.0	0.15*2.85*3.5	0.2*4.1*4.5	
	0.08*2.5*2.5	0.2*3.5*3.5	0.2*4.2*4.5	
SUS316	0.25*7.0*8.0 0.2*4.0*5.0	0.1*2.0*2.0	0.2*4.0*4.0	0.2*4.2*4.5
17-7PH	0.15*2.5*2.5	0.4*4.0*4.0	0.5*5.0*5.0	
304	0.25*2.5*2.5			
Eglioy	0.15*2.4*2.6	0.2*4.0*4.0		



## 产品服务

### PRODUCT SERVICE

## 泛塞封弹簧

### SEAL SPRING

#### O型弹簧

#### O-SHAPED SPRING

是截面呈圆形的金属弹性元件，多由弹簧钢、不锈钢等材料绕制而成，核心功能是提供缓冲、减振或复位力。它结构简单、制造成本低，具备良好的多向形变补偿能力，适配常温常压下的通用弹性需求，如设备部件复位、间隙填充。广泛应用于家电（如洗衣机减振）、汽车（如座椅调节机构）、电子设备（如按键复位）等场景，是工业与民用领域常见的基础弹性元件。

**It is a metal elastic element with a circular cross-section, mostly made of materials such as spring steel and stainless steel, and its core function is to provide buffering, vibration reduction, or restoring force. It has a simple structure, low manufacturing cost, good multi-directional deformation compensation ability, and is suitable for general elastic requirements at room temperature and pressure, such as equipment component reset and gap filling. Widely used in household appliances (such as washing machine vibration reduction), automobiles (such as seat adjustment mechanisms), electronic devices (such as button reset), and other scenarios, it is a common basic elastic component in both industrial and civilian fields.**



#### 规 格

1.0mm	2.0mm	3.8mm	5.0mm	7.0mm	9.0mm
1.2mm	2.5mm	4.0mm	5.5mm	7.5mm	9.5mm
1.5mm	3.0mm	4.5mm	6.0mm	8.0mm	10.0mm
1.7mm	3.5mm	4.7mm	6.5mm	8.5mm	11.0mm

钢带厚: 0.08mm-0.3mm, 钢带宽: 0.5mm-5.5mm,

材料: 301 304 316 316L, HC276 inconel718 inconelX-750

· O型弹簧的独特结构使其在工作过程中具有极高的稳定性。无论是在静态还是动态的应用场景中，它都能保持良好的形状和性能，不易发生变形或损坏。

· 由于采用了高强度的材料和特殊的设计，O型弹簧能够承受较大的重量和压力。这使得它在重型机械、汽车制造、航空航天等领域中得到了广泛的应用。

· The unique structure of the O-ring spring gives it extremely high stability during operation. Whether in static or dynamic application scenarios, it can maintain good shape and performance, and is not easily deformed or damaged.

· Due to the use of high-strength materials and special design, O-ring springs can withstand significant weight and pressure. This has made it widely used in heavy machinery, automobile manufacturing, aerospace and other fields.



## 泛塞封弹簧 SEAL SPRING

## 产品服务 PRODUCT SERVICE



N型弹簧/斜圈弹簧

CANTED COIL SPRING  
N-TYPE SPRING

是一种金属丝绕制而成、圈体呈倾斜角度的螺旋状弹性元件，核心结构特点是圈体非平行排列，可通过倾斜角度设计调整弹性方向与力度。主要用于泛塞密封系统（提供持续密封力）、电子设备触点压力保持、医疗器械精密支撑等领域，相比传统弹簧，其多向变形能力更优，适合复杂工况下的弹性支撑与密封。

It is a spiral elastic element made by winding metal wires with a tilted coil body. The core structural feature is that the coil body is not arranged in parallel, and the elastic direction and force can be adjusted by designing the tilt angle. Mainly used in the fields of pan plug sealing system (providing continuous sealing force), electronic device contact pressure maintenance, medical device precision support, etc. Compared with traditional springs, it has better multi-directional deformation ability and is suitable for elastic support and sealing under complex working conditions.



### 规 格

1.0mm*1.2mm	2.2mm*2.5mm	3.8mm*4.2mm	6.0mm*6.7mm
1.0mm*1.3mm	2.3mm*2.8mm	4.0mm*4.5mm	7.0mm*8.0mm
1.2mm*1.5mm	2.5mm*3.0mm	4.3mm*4.8mm	7.5mm*8.5mm
1.3mm*1.5mm	2.8mm*3.3mm	4.3mm*5.0mm	8.0mm*9.0mm
1.5mm*1.8mm	3.0mm*3.5mm	4.5mm*5.3mm	8.5mm*9.5mm
1.7mm*2.0mm	3.2mm*3.5mm	5.0mm*5.7mm	
1.7mm*2.2mm	3.5mm*4.0mm	5.0mm*6.0mm	
2.0mm*2.5mm	3.5mm*4.2mm	5.5mm*6.5mm	

线径: 0.08mm-2.0mm, 材料: 301 302 304 316 316L, HC276 inconel718 inconelX-750

## 产品服务

### PRODUCT SERVICE

## 泛塞封弹簧

### SEAL SPRING

#### U型弹簧

#### U-SHAPED SPRING

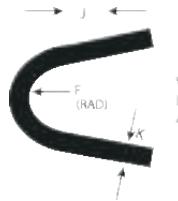
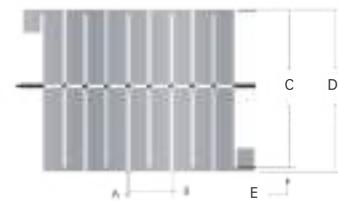
是一端固定、一端自由的 U 型弹性元件，核心通过自身弹性形变实现力的缓冲、复位或夹紧功能。外力作用于其自由端或 U 型段时会发生弯曲形变储存势能，外力移除后便释放势能恢复原状，完成工作循环。它多用于小家电按键、电子连接器等小负载、紧凑空间场景，常用弹簧钢、不锈钢等材料制造。



It is a U-shaped elastic element with one end fixed and the other end free. The core achieves force buffering, resetting, or clamping functions through its own elastic deformation.

When external force is applied to its free end or U-shaped section, it will undergo bending deformation to store potential energy. After the external force is removed, the potential energy will be released to restore its original state, completing the work cycle.

It is commonly used in small load and compact space scenarios such as small home appliance buttons and electronic connectors, and is commonly made of materials such as spring steel and stainless steel.



规 格 (mm)									
A	B	C	D	E	F	J	K	L	
0.19	1.33	4.20	4.70	0.50	0.57	2.02	0.12	1.52	
0.20	1.61	5.50	6.21	0.70	0.70	2.66	0.16	2.14	
0.31	2.60	8.12	9.26	1.14	1.06	4.00	0.21	3.24	
0.31	2.83	10.20	11.47	1.26	1.47	4.82	0.24	4.05	
0.80	5.12	15.43	18.02	2.60	1.78	7.71	0.37	7.08	
1.23	7.76	21.58	26.20	4.63	3.03	11.52	0.63	9.61	

材料：301 302 304 316 316L, HC276 inconel718 inconelX-750



## 泛塞封弹簧 SEAL SPRING



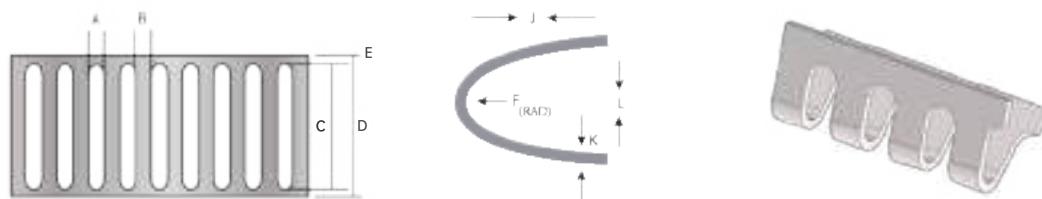
### 全接触弹簧

### 产品服务 PRODUCT SERVICE

#### FULL CONTACT SPRING

全接触弹簧是密封领域的特殊弹簧，通过密封唇圆周的连续接触力，保障低温、高压、真空等极端环境下的可靠密封，常见 V 型、O 型等结构；它广泛用于工业密封（如 LNG、半导体）、汽车航天、医疗及新能源领域，多采用 316 不锈钢等耐腐蚀材料，兼具高密封性、抗疲劳性，是高端制造中的关键元件。

Full contact spring is a special spring in the field of sealing, which ensures reliable sealing in extreme environments such as low temperature, high pressure, and vacuum through the continuous contact force of the sealing lip circumference. Common structures include V-shaped, O-shaped, etc; It is widely used in industrial sealing (such as LNG, semiconductors), automotive aerospace, medical and new energy fields. It is mostly made of corrosion-resistant materials such as 316 stainless steel, and has high sealing and fatigue resistance. It is a key component in high-end manufacturing.



#### 规 格 (mm)

A	B	C	D	E	F	J	K	L
1.26	1.26	5.12	7.10	0.98	0.62	3.44	0.35	3.41
1.26	1.26	7.93	10.60	1.32	0.77	4.84	0.52	4.58
1.26	1.26	9.59	13.19	1.81	1.53	5.88	0.52	6.61
1.27	1.27	12.58	17.92	2.66	3.05	7.25	6.65	10.04

材料：301 302 304 316 316L, HC276 inconel718 inconelX-750



## 产品服务

PRODUCT SERVICE

## 机械/机车弹簧

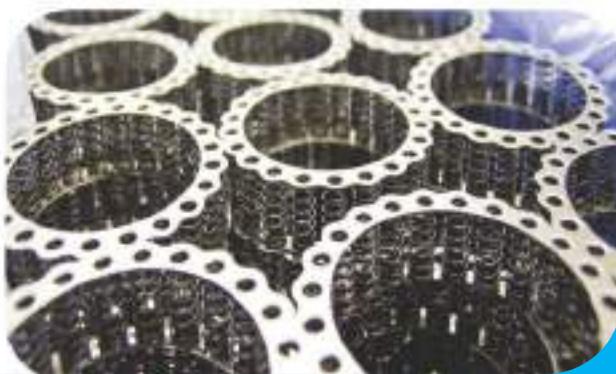
MECHANICAL/MOTOR SPRING



## 离合器/液力变矩器弹簧

CLUTCH/HYDRAULIC TORQUE CONVERTER SPRING

产品服务  
PRODUCT SERVICE



## 产品服务

PRODUCT SERVICE

## 波形弹簧及绕制挡圈

WAVE SPRING &amp; WINDINGRING



### 波形弹簧的种类：单层波形弹簧和多层波形弹簧

单层波形弹簧分为单层圆环型波形弹簧；单层开口型波形弹簧；单层搭口型波形弹簧；单层圆线波形弹簧。

多层波形弹簧分为多层串联式波形弹簧（又分成平端面型和波端面型）；多层叠峰式波形弹簧。

### Types of wave springs: single wave spring and multi-layer wave spring

The single wave spring is divided into single layer ring type wave spring; Single layer open wave spring; Single layer joint type wave spring; Single layer circular wire wave spring. The multi-layer wave spring is divided into multi-layer series wave spring (also divided into flat end type and wave end type); Multi layer stacked wave spring.

### 绕制型挡圈

是用扁丝通过卷绕而加工的挡圈，没有突耳影响装配，易于安装与拆卸。分为定位卡圈和波圈。

### Retaining ring

It is a retaining ring made of flat wire by winding. It has no lug to affect the assembly and is easy to install and disassemble. It is divided into positioning ring and wave ring.

**常用材料** 碳钢：65Mn: ASTM (1074, 1095)-A684; AISI 1070 Carbon Steel; 不锈钢：SUS 304; 17-7-PH/C, SUS631; SUS 302; 高温合金钢：Inconel X-750; GH145; Inconel X-718

**加工范围** 丝宽 0.1mm~20mm, 丝厚 0.1~6mm, 外径 1mm~500mm, 力值根据客户要求

**表面处理方法** 发蓝、发黑、磷化、电镀、电泳和喷塑、达克罗、焦美特等 ...

**应用温度范围** 根据材料的不同，可在常温 -800°C 之间使用。

**应用行业** 电机、轴承、球阀、泄压阀、安全阀、离合器、旋转接头、汽车离合器用分离轴承、齿轮传动和机械密封；重型机械、压缩机、机床和石油机械；液压传动、轴承预压预紧装置、园林工具等场合。

**Common materials:** carbon steel: 65Mn: ASTM (1074, 1095) - a684; AISI 1070 Carbon Steel; Stainless steel: SUS 304; 17-7-PH/C, SUS631; SUS 302; High temperature alloy steel: Inconel X-750; GH145; Inconel X-718

**Processing range:** wire width 0.1 mm ~ 20 mm, wire thickness 0.1 ~ 6 mm, outer diameter 1 mm ~ 500 mm, force value according to customer requirements

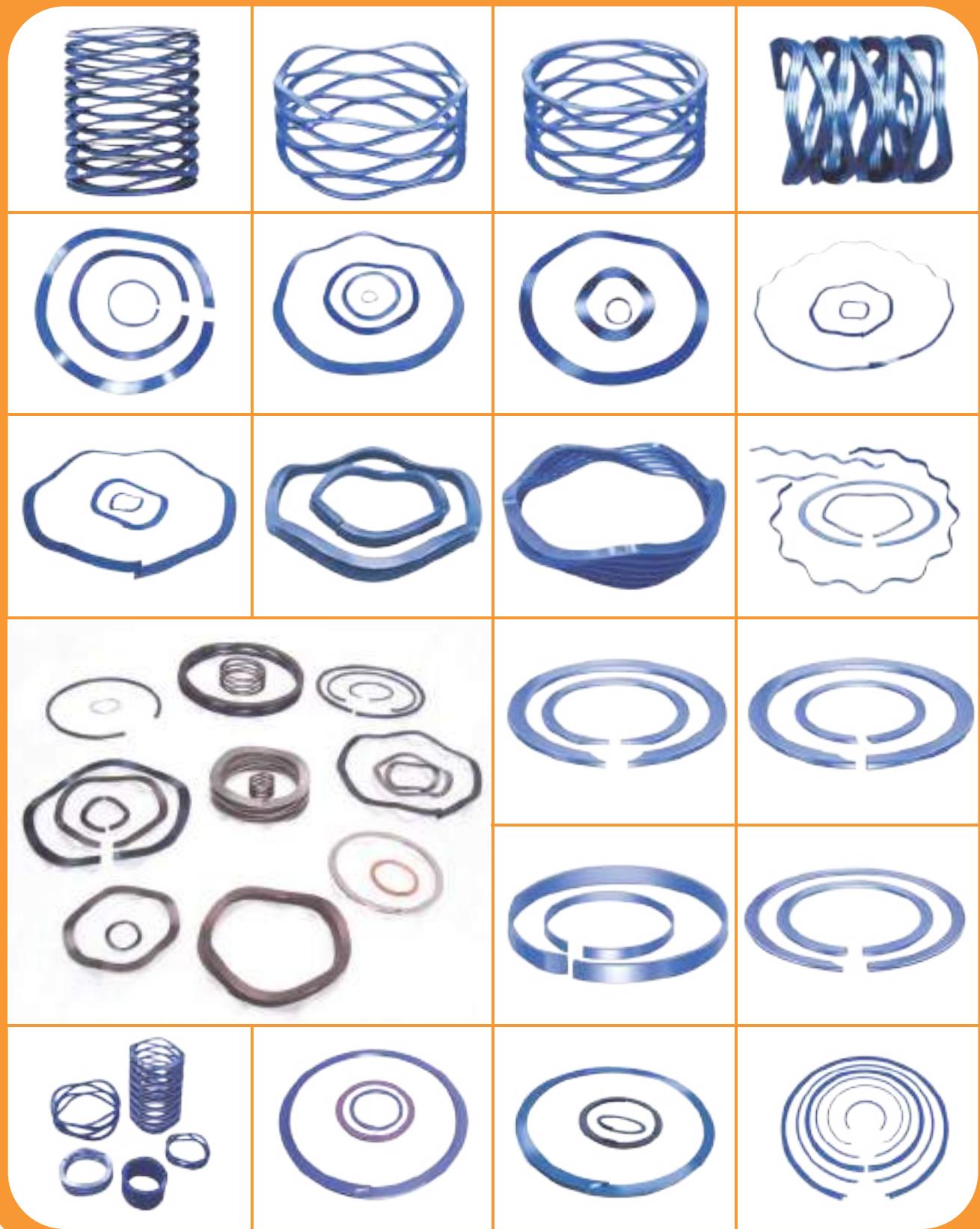
**Surface treatment methods:** bluing, blackening, phosphating, electroplating, electrophoresis and spray, Dacromet, jiaomeite, etc

**The application temperature range** is - 800 °C according to different materials °C.

**Applications:** motor, bearing, ball valve, pressure relief valve, safety valve, clutch, rotary joint, release bearing for automobile clutch, gear transmission and mechanical seal; Heavy machinery, compressors, machine tools and petroleum machinery; Hydraulic transmission, bearing preloading device, garden tools and other occasions.

波形弹簧及绕制挡圈  
WAVE SPRING & WINDING RING

产品服务  
PRODUCT SERVICE



## 产品服务

PRODUCT SERVICE

## 涡卷弹簧及恒力弹簧

**POWER AND CONSTANT FORCE SPRING**

发条弹簧的种类：恒力弹簧、涡卷弹簧、碳刷弹簧、塔形弹簧

用 SUS301 不锈钢和 62Si2MnA、SK4、SK5 碳钢等原材料，厚度 0.10mm-10.0mm，层数为 1-3 层的各种收线类发条、恒力发条、游丝发条，恒力弹簧、涡卷弹簧，发条、定时器发条、升降发条、回卷发条、油锯发条、伸宿发条、玩具发条 卷尺发条、平衡器（机）发条、健身器发条、不锈钢发条、统机走闹条、机械发条、电风扇升降发条、玩具发条、汽车安全带发条、发动机启动发条、电线拉线发条、耳机收线发条、电刷发条、自动售货机发条音乐发条、电话线发条、电熨斗发条、电饭煲发条、吸尘器发条等。

主要应用于各种汽车、电子电器，马达、玩具、仪表仪器、电力机械、环保除尘设备、起动机械设备、压缩机等工业领域。

Types of spring: constant force spring, scroll spring, carbon brush spring, tower spring

Common materials:SUS301 stainless steel, 62Si2MnA, SK4, SK5 carbon steel and other raw materials, thickness 0.10mm-10.0mm, with layers of 1-3 layers, various types of winding, constant force and wandering wire, Constant force spring, scroll spring, hairpin, timer hair strip, lifting strip, rewind strip, oil saw hair strip, extended hair strip, toy hair tape, balancer (machine) hair strip, fitness machine hair strip, noRusty steel hair strip, unified machine running noise strip, mechanical hair strip, electric fan lifting hair strip, toy hair strip, automobile Belt hair, engine start, wire and cable, headset, brush Note, music, telephone line, iron, rice cooker, etc Dust cleaner hair, etc. It is mainly used in various automobiles, electronic appliances, motors, toys, instruments, electric machinery, etc Environmental protection dust removal equipment, starting machinery equipment, compressors and other industrial fields.



涡卷弹簧及恒力弹簧  
POWER AND CONSTANT FORCE SPRING

产品服务  
PRODUCT SERVICE



# 产品服务

## PRODUCT SERVICE

# 模具弹簧

## DIE SPRING

敏硕梯形 / 矩形模具弹簧主要用于冲压模具、汽车模具、铸造模具、陶瓷模具、精密模具、塑料模具、五金模具、注塑模具等模具加工企业或使用模具公司以及结构精密的机械设备等。它还可作为离合器、制动器、农业机械和航空装置使用。在高应力和重负荷的工作环境中，他们是模具弹簧或重负荷压缩弹簧的理想选择。它具有安装体积小、弹性好、刚度大、精密度高、制作材料呈矩形及表面分色喷涂（镀），外表美观等特点。

MASCOT trapezoidal / rectangular die spring is mainly used in stamping mold, automobile mold, casting mold, ceramic mold, precision mold, plastic mold, hardware mold, injection mold, mold processing enterprises or using mold companies, as well as mechanical equipment with precision structure. It can also be used as clutch, brake, agricultural machinery and aviation devices. They are ideal for die springs or heavy-duty compression springs in high stress and heavy-duty working environments. It has the characteristics of small installation volume, good elasticity, large rigidity, high precision, rectangular material, color separation spraying (plating) on the surface, and beautiful appearance.

### 敏硕模具弹簧目前标准化产品主要参照：

The standardized products of MASCOT die spring mainly refer to the followings:

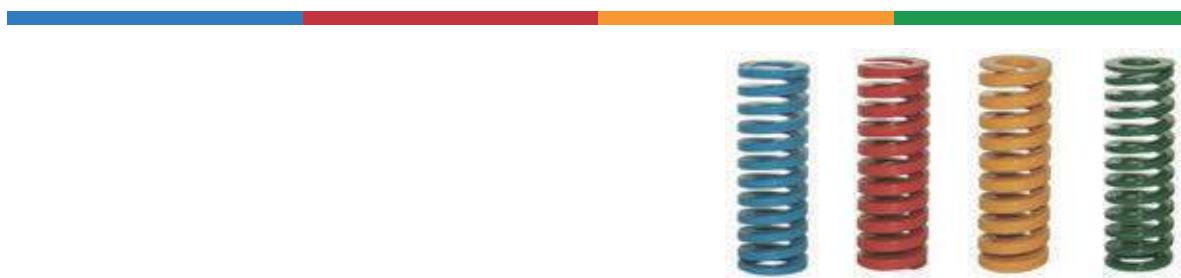
#### 日标 JIS (6 种色彩：银色、黄色、蓝色、红色、绿色、茶色)

JIS (7 colors: silver, yellow, blue, red, green, Tan)



#### 美标 US (4 种色彩：蓝色、红色、金色、绿色)

US (4 colors: blue, red, gold and green)



#### 国际标准 ISO (4 种色彩：绿色、蓝色、红色、黄色)

ISO (4 colors: green, blue, red, yellow)



模具弹簧  
DIE SPRING

产品服务  
PRODUCT SERVICE



## 产品服务

### PRODUCT SERVICE

## 碟形弹簧

### DISC SPRING

敏硕采用欧美的钢材生产各类标准和非标的减震碟形弹簧、防松碟形弹簧垫圈、盘簧、碟形垫圈、碟形弹簧、膜片弹簧、开槽型碟形弹簧、V型碟形弹簧、弹簧垫圈、贝勒维尔弹簧垫圈 (Belleville washer)。从原材料源头上已经保证了产品的优质性，再加上我们独特的热处理工艺，使我们生产的各类减震弹簧都能达到 200 万次以上的疲劳寿命。

按用途分类：高温碟簧（最高耐 1000 摄氏度）、低温碟簧（最低抗零下 200 摄氏度）、常温碟簧；法兰预警碟簧、阀门预警碟簧、无磁预紧碟簧、缓冲拉伸碟簧、震动防松碟簧、液压用碟簧、风力发电碟簧、特种设备碟簧等。）

按标准分类 DIN2093 碟形弹簧、DIN9250 防松垫圈、DIN6796 碟形垫圈、美标 20813 高扭矩碟形垫圈、美标 693F 碟形垫圈碟簧。

常用材料有：SAE6150、SAE9254、50CrV4、60Si2CrA、CK55、CK67、CK70、CK75、17/7Ph、SUS301、SUS304、INCONEL718、INCONEL750 和各种防腐、耐高（低）温不锈钢材料。

表面处理：发蓝、发黑、磷化、电镀、电泳和喷塑、达克罗、焦美特。

外径范围：3mm-900mm

厚度范围：0.08mm-60mm

MASCOT use European and American steel to produce all kinds of standard and non-standard damping disc springs, locking disc spring washer, disc spring, disc washer, disc spring, diaphragm spring, slotted disc spring, V disc spring, spring washer and Belleville washer. The high quality of the products has been guaranteed from the source of raw materials. With our unique heat treatment process, the fatigue life of all kinds of shock absorption springs can reach more than 2 million times.

Classification by purpose: high temperature disc spring (maximum resistance to 1000 °C), low temperature disc spring (200 °C below minimum resistance), normal temperature disc spring; flange warning disc spring, valve warning disc spring, magnetic free pre tightening disc spring, buffer tensile disc spring, vibration and anti loose disc spring, hydraulic disc spring, wind power dish spring, special equipment disc spring, etc.)

According to the standard classification: din2093 disc spring, din9250 lock washer, din6796 disc washer, American Standard 20813 high torque disc washer, American Standard 693f disc washer disc spring.

Commonly used materials are: SAE6150, SAE9254, 50CrV4, 60Si2CRA, CK55, CK67, CK70, CK75, 17 / 7PH, SUS301, SUS304, INCONEL718, INCONEL750 and various anti-corrosion and high (low) temperature resistant stainless steel materials.

Surface treatment: bluing, blackening, phosphating, electroplating, electrophoresis and plastic spraying, Dacromet, jiaomeite.

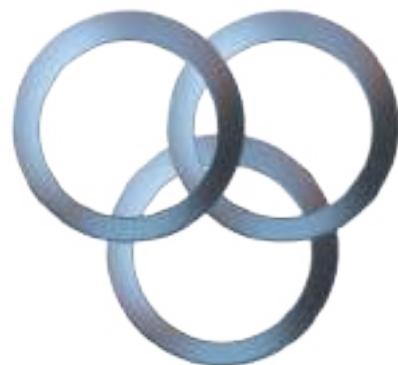
Outer diameter range: Φ 3mm-900mm

Thickness range: 0.08mm-60mm



碟形弹簧  
DISC SPRING

产品服务  
PRODUCT SERVICE



气弹簧: 又称支撑杆、调角器、气压棒、阻尼器、气杆、气动杆、氮气弹簧、气压杆等。敏硕现有产品可以提供所有种类的气弹簧, 包括自由型气弹簧、自锁型气弹簧、随意停气弹簧、阻尼器、座椅用气弹簧、牵引式气弹簧 (拉式气弹簧) 等, 公司具有自主研发能力, 能够满足用户的各种需求, 客户只要提供联结形式, 安装距离及使用气弹簧所支撑物的重量及支撑位置即可。产品广泛应用在汽车、机械、医疗、家具、建筑、冷柜冷机等行业。

Gas spring: also known as support rod, angle adjuster, air rod, damper, air rod, pneumatic rod, nitrogen spring, gas rod, etc. Mascot's existing products can provide all kinds of gas springs, including free gas spring, self-locking gas spring, random stop gas spring, damper, seat gas spring, traction gas spring (pull gas spring), etc. Mascot has independent research and development ability and can meet various needs of users. As long as customers provide connection form, The installation distance and the weight and support position of the support supported by the gas spring. The products are widely used in automobile, machinery, medical treatment, furniture, construction, freezer, refrigerator and other industries.

载荷范围：4N-5000N

行程范围：7mm-1100mm

气缸 / 活塞杆直径范围: 3/6-22/45

最大疲劳寿命：200000 次

材质：普通碳钢以及不锈钢等

### 表面处理·渗碳·镀锌等

连接部件范围：客户标准或企业标准

Load range: 4n-5000n

Travel range: 7mm-1100mm

Cylinder / piston rod diameter range: 3 / 6-22 / 45

Maximum fatigue life: 200000 times

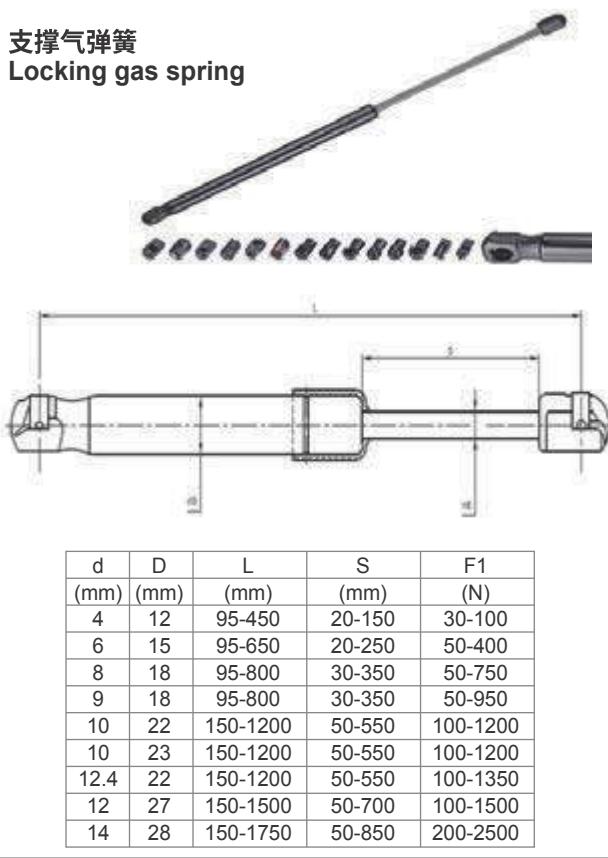
Material: ordinary carbon steel and stainless steel, etc.

#### Surface treatment: carburizing, galvanizing, etc.

### Scope of connecting parts: customer standard or enterprise standard



支撑气弹簧  
Locking gas spring



机械气弹簧  
Mechanical gas spring



不锈钢气弹簧  
Stainless steel gas spring



护套气弹簧  
Protection gas spring



d (mm)	D (mm)	L (mm)	S (mm)	F1 (N)
6	15	95-600	20-250	50-400
8	18	95-800	30-350	50-750
10	22	150-1200	50-550	100-1200
14	28	150-1750	50-850	200-2500

d (mm)	D (mm)	L (mm)	S (mm)	F1 (N)
6	15	95-600	20-250	50-400
8	18	95-800	30-350	50-750
9	18	95-800	30-350	50-950
10	22	150-1200	50-550	100-1200
14	28	150-1750	50-850	200-2500

**尾门气弹簧**  
Tailgate gas spring

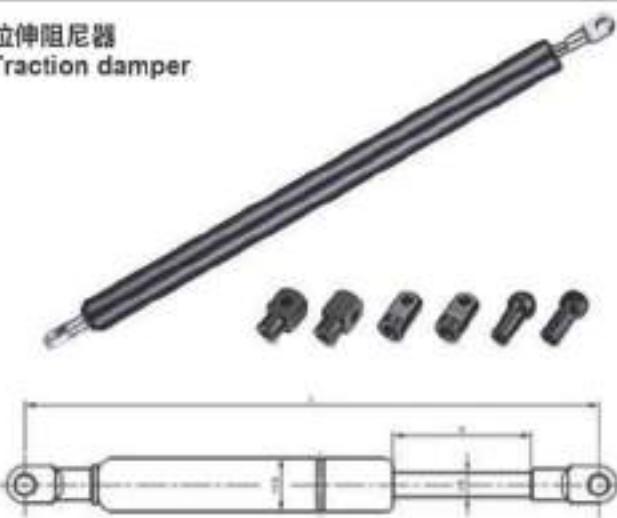

d	D	L	S	F1
(mm)	(mm)	(mm)	(mm)	(N)
6	15	95-600	20-250	50-400
8	18	95-800	30-350	50-750
9	18	95-800	30-350	50-950
10	22	150-1200	50-550	100-1200
10	23	150-1200	50-550	100-1200
12.4	22	150-1200	50-550	100-1350
12	27	150-1500	50-700	100-1500
14	28	150-1750	50-850	200-2500

**双缸气弹簧**  
Double-cylinder lock gas spring


d	D	L	D	F1
(mm)	(mm)	(mm)	(mm)	(N)
10	27	150-1200	25-550	100-800

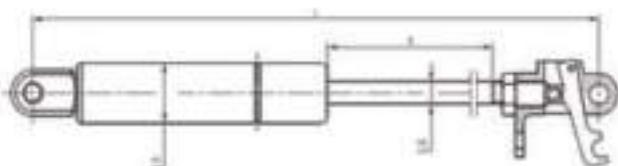
**压缩阻尼器**  
Compression damper


d	D	L	S	F1
(mm)	(mm)	(mm)	(mm)	(N)
6	15	95-500	20-230	根据延伸速度测试标准
8	16	95-700	30-300	
8	24	95-700	30-300	
10	22	95-1200	50-550	
10	24	95-1200	50-550	
14	28	95-1200	50-550	

**拉伸阻尼器**  
Traction damper


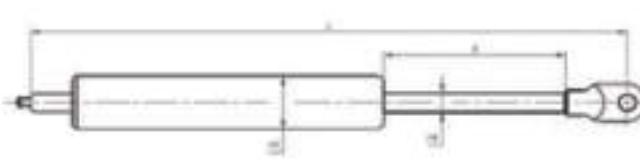
d	D	L	S	F1
(mm)	(mm)	(mm)	(mm)	(N)
6	15	95-500	20-230	根据延伸速度测试标准
8	18	95-700	30-300	
8	24	95-700	30-300	
10	22	95-1200	50-550	
10	24	95-1200	50-550	
14	28	95-1200	50-550	

锁定气弹簧  
Locking gas spring



d	D	L	S	F1
(mm)	(mm)	(mm)	(mm)	(N)
10	22	150-1000	25-500	80-1000
10	26	150-1000	25-500	100-1000
10	27	150-1000	25-500	100-1000
10	28	150-1000	25-500	100-1000

后开启锁定气弹簧  
Back-lockable gas spring



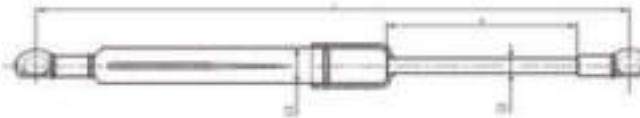
d	D	L	S	F1
(mm)	(mm)	(mm)	(mm)	(N)
10	22	150-1000	25-500	80-1000
10	26	150-1000	25-500	100-1000
10	27	150-1000	25-500	100-1000
10	28	150-1000	25-500	100-1000

拉伸气弹簧  
Traction gas spring



d	D	L	S	F1
(mm)	(mm)	(mm)	(mm)	(N)
8	18	150-500	50-250	30-100
8	22	150-600	50-250	100-450
10	28	200-1350	50-600	150-1150

拉槽气弹簧  
Pull groove/Dynamic gas spring



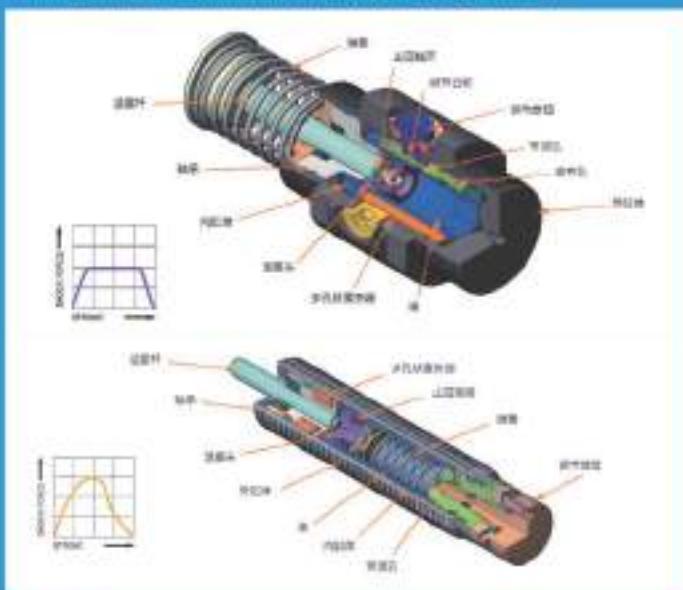
d	D	L	D	F1
(mm)	(mm)	(mm)	(mm)	(N)
6	15	95-600	20-250	50-400
6	18	95-800	30-350	50-750
9	18	95-800	30-350	50-950
10	22	150-1200	50-550	100-1200
12.4	22	150-1200	50-550	100-1350
12	27	150-1500	50-700	100-1500
14	28	150-1750	50-850	200-2500

## 可调型液压缓冲器

### ADJUSTABLE HYDRAULIC BUFFER

可调型缓冲器具备动态调节能力，能够针对不同的冲击速度、冲击力及工况需求进行灵活调整。通过旋转调节旋钮，即可快速改变阻尼力大小，确保在各种应用条件下均能实现最优缓冲效果。该装置适用于吸收精密机械部件的有害冲击能量，可有效应对气缸驱动、电机驱动、惯性负载等多种动力系统产生的冲击，提升设备运行的稳定性和可靠性。

Adjustable buffers have dynamic adjustment capabilities and can be flexibly adjusted for different impact speeds, impact forces, and operating conditions. By rotating the adjustment knob, the damping force can be quickly changed to ensure optimal buffering effect under various application conditions. This device is suitable for absorbing harmful impact energy from precision mechanical components, and can effectively cope with impacts generated by various power systems such as cylinder drive, motor drive, and inertial loads, improving the stability and reliability of equipment operation.



### 性能特点 Performance characteristics

- 可调阻尼设计——支持精准调节并锁定阻尼值，确保最佳缓冲效果。·高效能量吸收——优化内孔结构，提供优异的减速性能与能量转化效率。
- 低反弹特性——行业领先的缓冲控制技术，显著降低回弹冲击。
- 增强散热设计——外螺纹缸体结构，增大散热面积，提升安装灵活性。
- 宽温域适应——专用密封装置和特种液体油的结合，可以提高标准的工作温度范围：(-10°C~80°C) 扩大到 (-40°C~100°C)
- 持久耐用——符合ISO认证标准，高精度加工，镀镍防腐处理，延长使用寿命。
- 广泛通用性——可调式设计适配多种工况，涵盖低速至高冲击应用需求。
- 定制化选项——提供304、316、316L全不锈钢材质版本，满足严苛环境需求。
- Adjustable damping design - supports precise adjustment and locking of damping values to ensure optimal buffering effect. ·Efficient energy absorption - optimizing the internal pore structure to provide excellent deceleration performance and energy conversion efficiency. ·Low rebound characteristic - industry-leading buffering control technology significantly reduces rebound impact. ·Enhance heat dissipation design - external threaded cylinder structure, increase heat dissipation area, and improve installation flexibility. ·Wide temperature range adaptation - the combination of specialized sealing devices and special liquid oils can increase the standard operating temperature range from (-10 °C~80 °C) to (-40 °C~100 °C). ·Durable and long-lasting - compliant with ISO certification standards, high-precision processing, nickel plating and anti-corrosion treatment, extending service life. ·Wide applicability - the adjustable design is suitable for various working conditions, covering the requirements of low-speed to high impact applications. ·Customized options - available in 304, 316, 316L all stainless steel versions to meet harsh environmental requirements.

产品服务  
PRODUCT SERVICE

蛇形弹簧  
SERPENTINE SPRING

蛇形弹簧(Serpentine Spring)又名联轴器弹簧。在机械传动系统中,这种弹簧担负着传递扭矩和缓冲的作用,该结构通常由两根带有若干个齿的半轴和一个或数个联轴器弹簧组成联轴器弹簧的扭矩范围在26N·M~800000N·M之间,两半轴允许相对径向位移量在0.5mm~3mm之间,轴向位移量在4mm~20mm之间,角位移量是±15°。蛇形弹簧以组(1圈为1组,有1片为1组,2片为1组,4片为1组和6片为1组等)供货,使用材质主要是50CrVA;60Si2MnA;60Si2CrVA;SAE6150;SAE9254。蛇形弹簧最常见产品型号为JS系列蛇形弹簧,主要适用于JS系列蛇形弹簧联轴器(JB/T8869-2000)。

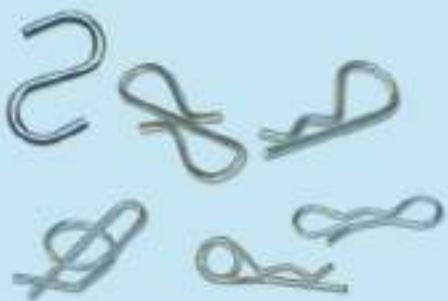
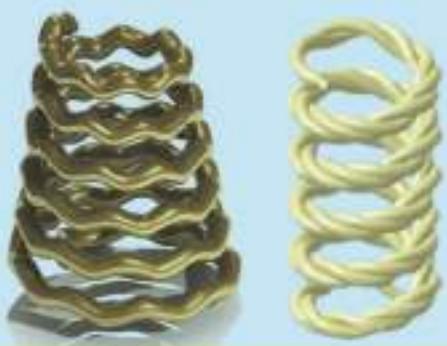
Serpentine spring is also known as coupling spring. In the mechanical transmission system, this spring is responsible for transmitting torque and buffering. The structure is usually composed of two half shafts with several teeth and one or more coupling springs. The torque range of the coupling spring is 26N·M ~ 800000N·M, the allowable relative radial displacement of the two half shafts is 0.5mm ~ 3mm, the axial displacement is 4mm ~ 20mm, and the angular displacement is ±15°. Serpentine springs are supplied in groups (one coil is one group, one piece is one group: two pieces are one group, four pieces are one group and six pieces are one group, etc.). The main material used is 50CrVA; 60Si2MnA; 60Si2CrVA; SAE6150; SAE9254. The most common product model of serpentine spring is JS series serpentine spring, which is mainly applicable to JS series serpentine spring coupling (JB/T8869-2000).

规 格	公 称 扭 矩 Tn(N·M)	上 厚* 下 厚	宽*高 度*外 径 (MM)
JS101	45	2.4*1.0	6*45*62
JS102	140	2.6*1.4	6*45*73
JS103	224	2.1*1.2	6*45*75
JS104	400	3.0*1.8	6*55*90
JS105	630	4.0*2.3	8*58*105
JS106	900	3.8*2.0	10*64*121
JS107	1800	4.5*2.6	10*90*142
JS108	3150	4.8*2.6	12*90*159
JS109	5600	5.3*2.7	15*110*188
JS110	8000	5.3*2.7	15*110*206
JS111	12500	7.0*4.0	19*135*235
JS112	18000	6.6*4.4	19*135*279
JS113	25000	6.6*4.4	19*135*311
JS114	35500	6.9*4.1	25*165*369
JS115	50000	6.9*4.1	25*165*407
JS116	63000	8.0*5.0	30*200*450
JS117	90000	9.0*6.0	30*200*492
JS118	125000	9.0*6.0	35*210*560
JS119	160000	9.0*6.0	35*220*608
JS120	224000	10.7*7.3	40*260*703
JS121	315000	11.0*7.0	40*300*700
JS122	400000		
JS123	500000	12*8.6	48*940*236
JS124	630000		
JS125	800000		
JS126		12.6*16.0	54*533*1360



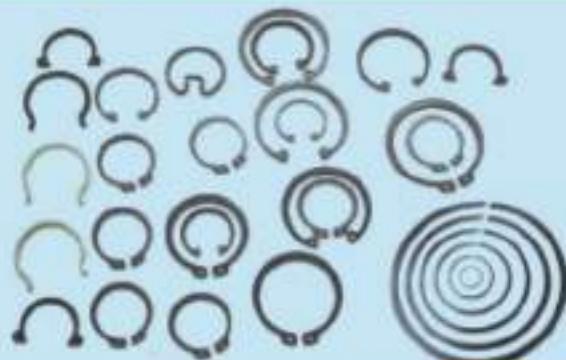
**异形弹簧/板弹簧**  
WIRE FORMING/LEAF SPRING

**产品服务**  
PRODUCT SERVICE



产品服务  
PRODUCT SERVICE

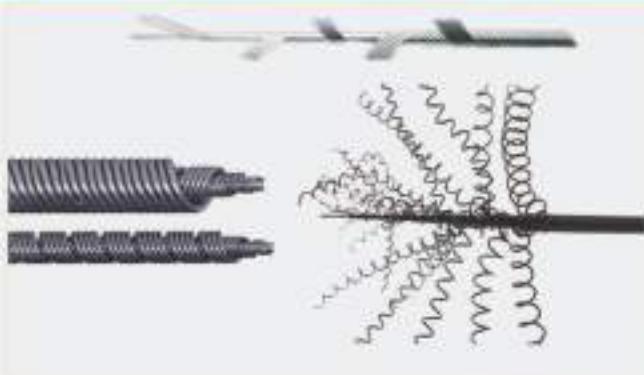
卡箍/弹性垫圈  
HOSE CLAMP/SPRING RING



## 螺旋叶片弹簧

SPIRAL LEAF BLADE SPRING

产品服务  
PRODUCT SERVICE



敏硕弹簧钢丝软轴芯及各种机械钢丝软轴总成；

材质：70号、65锰高碳弹簧钢丝；304、316不锈钢丝 结构：由2-12层素丝，每层3-10根高强钢丝组成。  
捻向：S（左旋），Z（右旋）。 颜色：金黄色，黑色，白色。

适用范围：汽车，摩托车，运动车，速率计，计数器，转数表，电动工具割草机及各种机械转动。

性能：平滑，柔韧，高弹性，低振动。

Mascot spring steel wire flexible shaft core and various mechanical steel wire flexible shaft assemblies;

Material: 70, 65 manganese high carbon spring steel wire; 304, 316 stainless steel wire

Structure: it is composed of 2-12 layers of plain wire and 3-10 high-strength steel wires in each layer.

Twist direction: a (left rotation), Z (right rotation). Color: golden yellow, black, white.

Scope of application: automobile, motorcycle, sports car, speedometer, counter, tachometer, electric tools, lawn mower and various Mechanical rotation.

Performance: smooth, flexible, high elasticity, low vibration.

## 新能源汽车核心部位-电机铜线成型

Core part of new energy vehicle - motor copper wire forming



敏硕科技是一家具有研发、生产、销售综合实力于一体的汽车零部件专业制造商。公司创始人及研发技术骨干拥有欧美同行业丰富的管理及领先的技术经验。敏硕科技与时俱进,生产技术不断创新,能根据客户的需求定制新能源汽车电机铜线成型产品,并能大批量生产。

Mascot technology is a professional manufacturer of auto parts with comprehensive strength of R & D, production and sales. The founder and R & D technical backbone of the company have rich management and leading technical experience in the same industry in Europe and America. Minshuo technology keeps pace with the times, and the production technology is constantly innovated. It can customize the copper wire forming products of new energy automobile motors according to the needs of customers, and can produce in large quantities.



新能源汽车铜铝排  
Copper aluminum busbar  
for new energy vehicles

新能源汽车用铜铝排是电动车动力系统中用于导电和散热的重要材料。铜铝排的优良导电性和散热性，使其成为电池组与电动机之间的理想连接材料。铜铝排的应用不仅提高了电动汽车的性能，还在一定程度上降低了制造成本。

Copper aluminum bars for new energy vehicles are important materials used for conductivity and heat dissipation in electric vehicle power systems. The excellent conductivity and heat dissipation of copper aluminum bars make them an ideal connecting material between battery packs and electric motors. The application of copper aluminum bars not only improves the performance of electric vehicles, but also reduces manufacturing costs to a certain extent.



## 产品服务 PRODUCT SERVICE

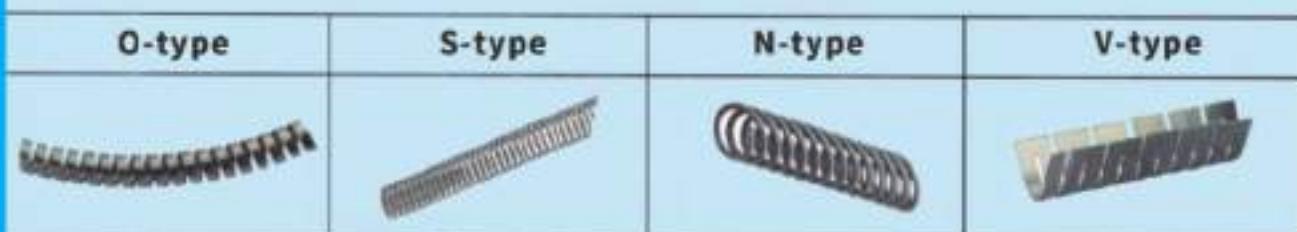
### 弹簧蓄能密封圈(泛塞封) SPRING ENERGIZED SEAL/VARISEAL



特殊弹簧蓄能圈  
SPRING ENERGIZED SEAL/VARISEAL

产品服务  
PRODUCT SERVICE

弹簧类型 Spring type



产品类型 Product type

	<p><b>双唇泛塞封</b> Double lip pan plug seal</p> <p>特点：形成压力缓冲，有更好的密封效果 Form pressure buffer, which has better effect</p>		<p><b>双向泛塞封</b> Two way flooding seal</p> <p>特点：适用于直线双向密封 Suitable for linear two-way sealing</p>
	<p><b>防尘泛塞封</b> Dust proof flood plug seal</p> <p>特点：带防尘唇泛塞封 Pan plug seal with dust lip</p>		<p><b>高压泛塞封</b> High pressure flooding seal</p> <p>特点：密封唇更短，提供高压力和滑动密封效果 The sealing lip is shorter, providing high pressure and sliding sealing effect</p>
	<p><b>旋转泛塞封</b> Rotary plug seal</p> <p>特点：在旋转的情况下有很好的密封效果 It has a good sealing effect when rotating</p>		<p><b>端面泛塞封</b> End face flooding seal</p> <p>特点：非常好的高压静密封效果 Very good high pressure static sealing effect</p>
	<p><b>深沟泛塞封</b> Deep trench flooding seal</p> <p>特点：适用于沟槽较深的情况 It is suitable for deep trenches</p>		<p><b>防挤出泛塞封</b> Anti-extrusion flooding seal</p> <p>特点：密封圈设有挡圈，有更好的防挤出性能 The sealing ring is provided with a retaining ring, which has better anti extrusion performance</p>

# 专利证书

## PATENT CERTIFICATE



# 专利证书

## PATENT CERTIFICATE





公司公众号  
WeChat Subscription



公司微信  
WeChat



公司网站  
Website



密封制品抖音号



精密弹簧抖音号

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达拉斯(DALLAS)

