

FAIZEAL



宁波风正磁应用科技有限公司
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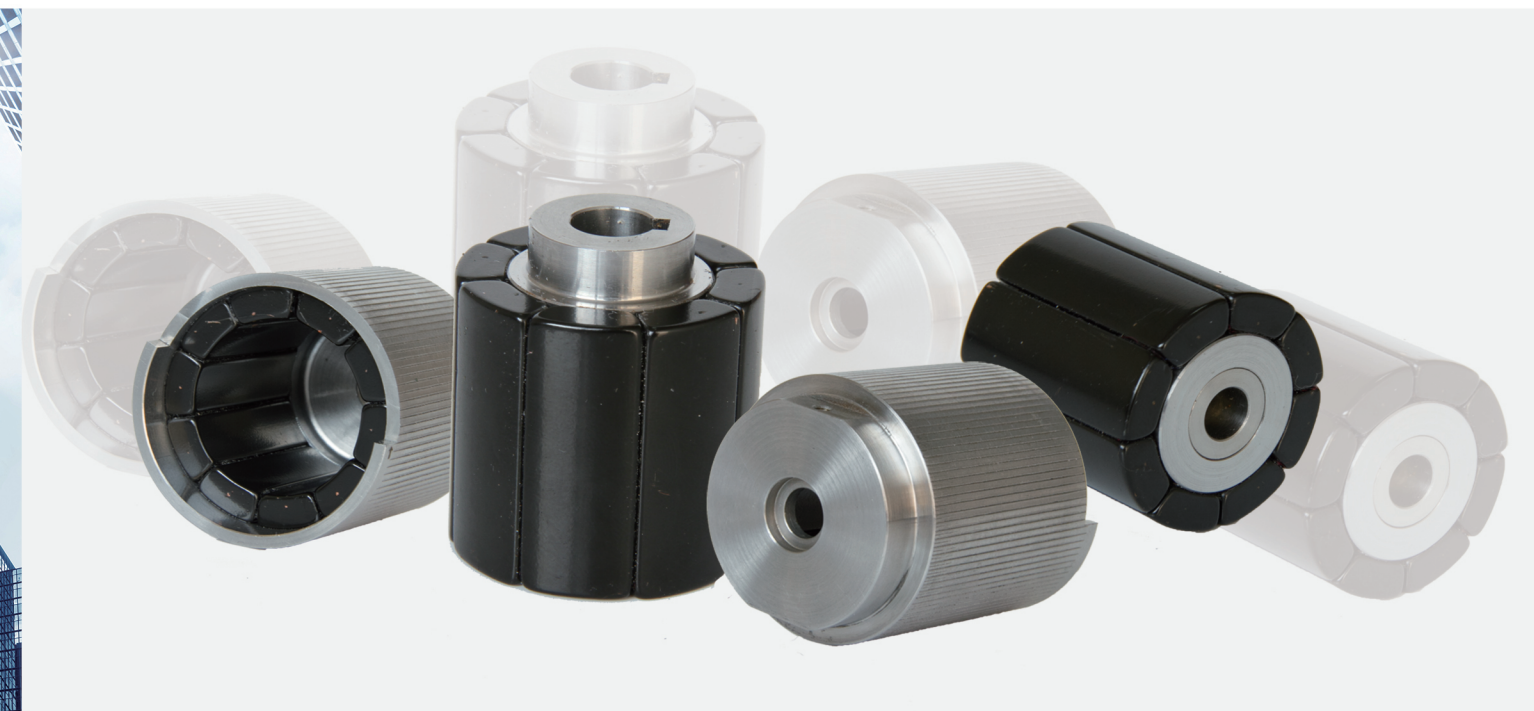
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FAIZEAL



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公司简介

Company Profile

宁波风正磁应用科技有限公司, 成立于2017年, 主要经营各类磁性制品。公司有专业的磁性技术人员, 提供专业的磁组件服务。

公司的主要创建人员都是在磁性材料领域有着十几年的工作经验, 如今想要在磁应用领域中走出一条与众不同的发展道路。在此之前, 公司主要人员就职于不同的工作岗位, 有精品生产的, 也有技术研发的。现在, 我们有着同一个目标: 利用原有的技术经验, 加上我们的研发和生产团队, 为客户打造磁应用的定制化服务。将客户的想法在可行的范围内变成现实, 并且赋予产品应有的商业价值。无论是已有产品的生产和改进, 还是全新的设计与研发, 我们都会尽最大的努力, 帮助客户完成。我们相信, 通过我们不断地努力和发展, 我们一定可以和客户一起突破难关, 互利共赢!



Ningbo Faizeal Magnetic Technology Co., Ltd, founded in 2017, mainly engaged in various types of magnetic goods. Our Company has professional magnetic technicians, providing professional service for magnetic components.

Our main founders have more than 10 years' work experience in the field of magnetic materials, we have a common goal: Using our original technical experience, plus our R & D and professional production team, to create customized services for customers. Turning client's ideas into reality and giving the product the business value which it deserves.



- 1 永磁联轴器
Permanent Magnetic Coupling
- 2 直线电机磁钢组件
Linear Motor Assembly
- 3 永磁转子组件
Magnet Rotor Assembly
- 4 海尔贝克阵列
Halbach Array
- 5 叠片磁钢组件
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- 6 牛磁
Cow Magnet
- 7 磁棒/磁性过滤器
Magnetic Rod/ Magnetic Filter

PART /01

永磁联轴器

Permanent Magnetic Coupling

永磁联轴器-简介Summary

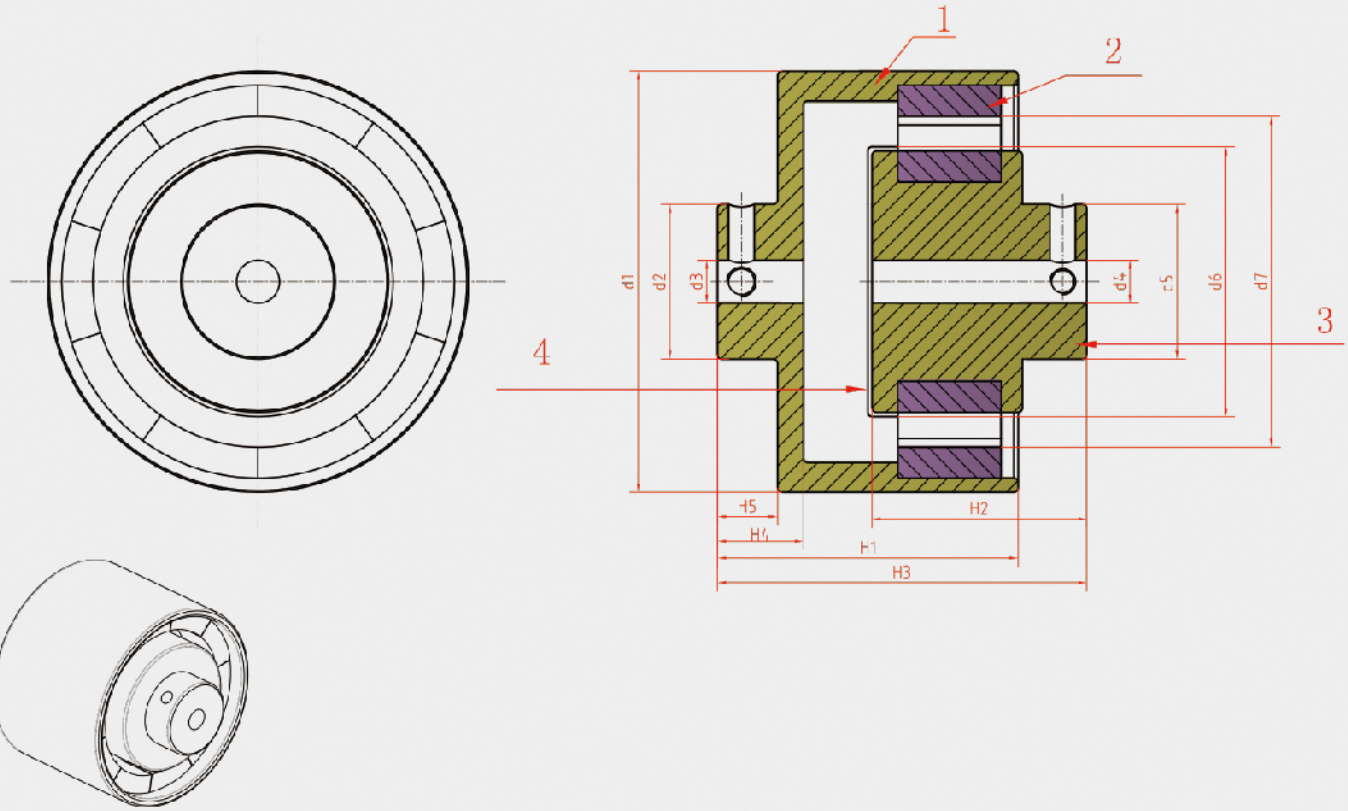
磁力传动联轴器属非接触式联轴器,它一般由内外2个磁体组成,中间由隔离罩将2个磁体分开,内磁体与被传动件相连,外磁体与动力件相连。磁力传动联轴器除了具有弹性联轴器缓冲吸振的功能外,其最大的特点在于它打破传统联轴器的结构形式,采用全新的磁耦合原理,实现主动轴与从动轴之间不通过直接接触便能进行力与力矩的传递,并可将动密封化为静密封,实现零泄漏。因此它广泛应用于对泄漏有特殊要求的场合。

Magnetic couplings are employed in seal-less, leak-free magnetic drive pumps used to handle volatile, flammable, corrosive, abrasive, toxic or foul smelling liquids. The inner and outer magnet rings are fitted with permanent magnets, hermetically sealed from the liquids, in a multipole arrangement.

The inner and outer magnetic rotors are locked together by magnetic forces and work as a synchronous coupling. The permanent-permanent magnetic couplings create neither slippage nor induction current during rotation. When excessive torque is applied, the magnets will decouple, they will not recouple unless the pump is stopped.

Permanent magnetic couplings offer an efficient, leak-proof, cost effective, and more reliable alternative to various conventional sealing methods.

永磁联轴器-简图Diagram



1. Outer Rotor

2. Magnet

3. Inner Rotor

4. Spacer Sleeve

永磁联轴器-产品图 Product Pictures



永磁联轴器-应用 Application

动车组, 数控机床、电梯, 半导体设备、电子制造、视觉系统, 和许多其他的工业自动化应用。

Bullet Train



Elevator



Numerical control machine



PART /02

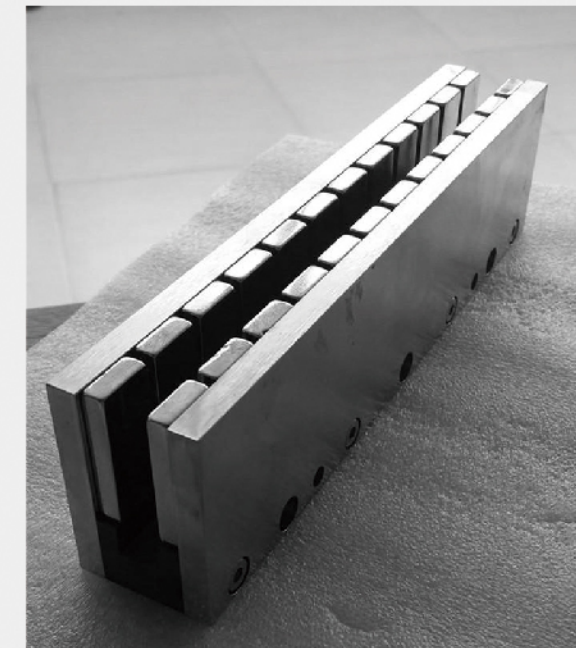
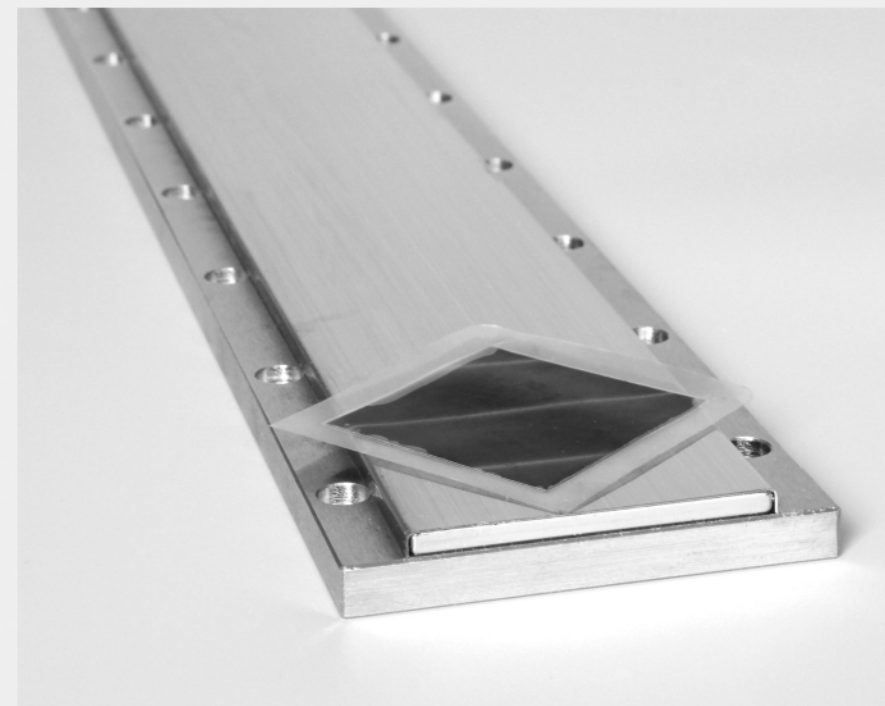
直线电机磁钢组件

Linear Motor Magnet Assembly

永磁直线电机磁钢组件

永磁同步直线电机以其优异的性能在精密传动系统中的应用很是广泛。直线电机的永磁铁通常为模块化设计,每个模块均可按所需的数目增加到不同的长度。

我们可以提供从1' 到30' 的不同规格直线电机磁钢组件,我们主要生产的是U型直线电机组件和平板型直线电机组件。



Permanent magnet synchronous linear motor (PMSM) is widely used in precision drive system because of its excellent performance.

We can provide different specifications of linear motor magnetic steel components from 1 'to 30'. According to the shape of the motor, it can be divided into U-type linear motor, flat-type linear motor and axial linear motor. We mainly produce U-type linear motor and flat plate linear motor.

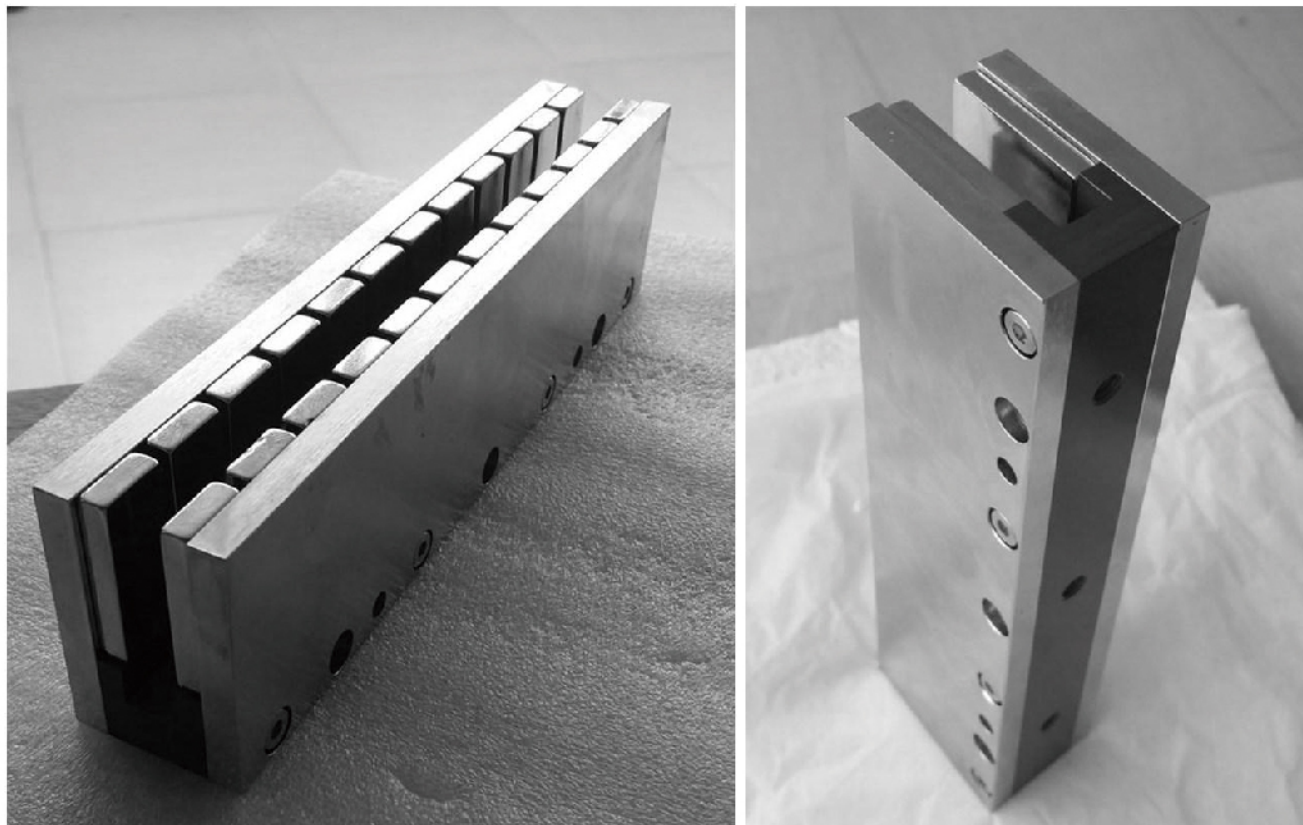
永磁直线电机-类型Types

平板型直线电机



flat-type linear motor

U 型直线电机组件



U-type linear motor

永磁直线电机的特性 Why choose Linear Motor?

高刚度
Dynamic performance

易于集成
Easy integration

高速度
Wide force-speed range

定位准确度高
High positioning accuracy

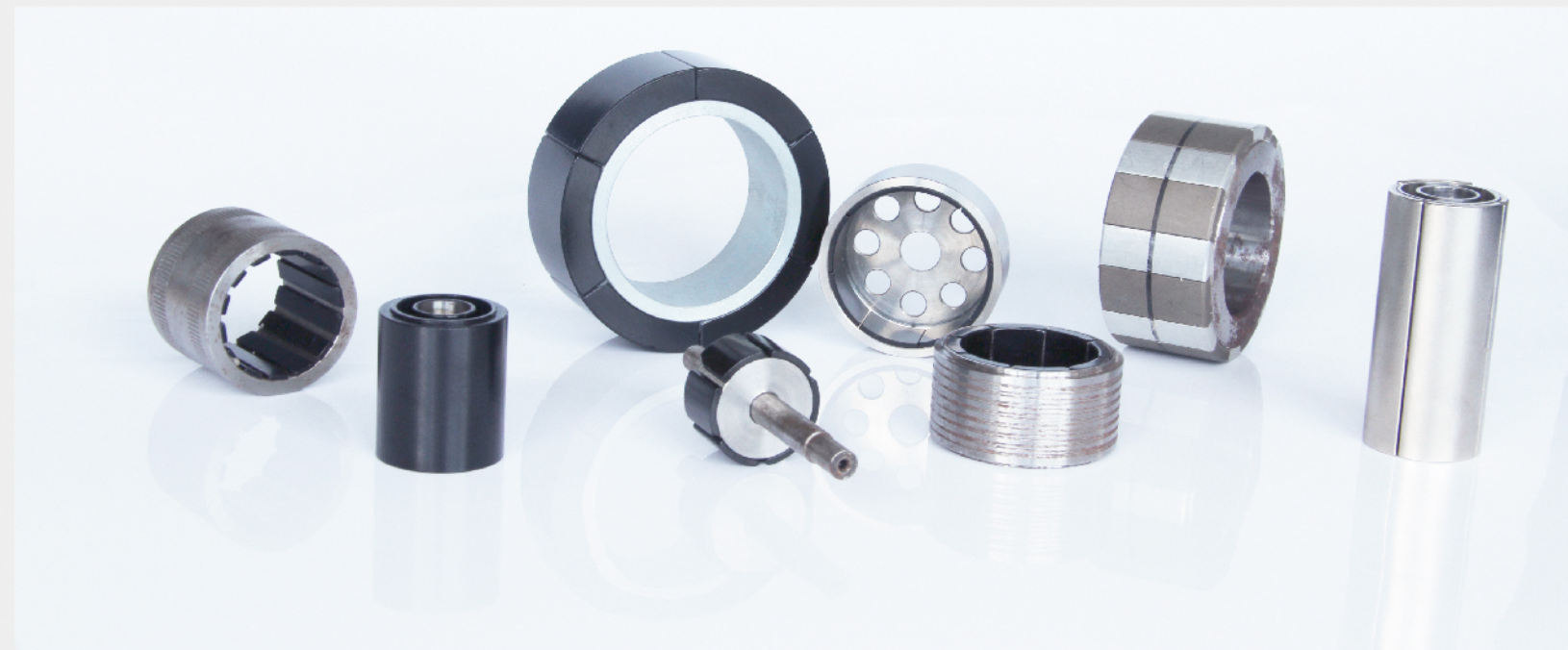


PART /03

永磁转子组件

Magnet Rotor Assembly

永磁转子组件 Magnet Rotor Assembly



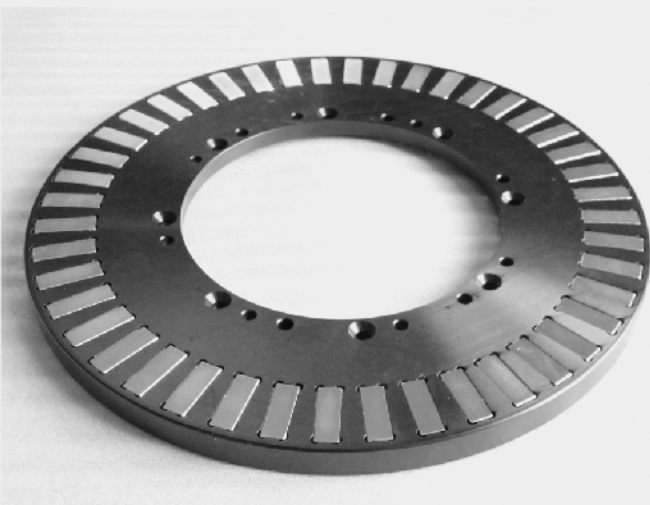
由于稀土永磁材料的磁性能优异,它经过充磁后不再需要外加能量就能建立很强的永久磁场,用来替代传统电机的电励磁场所制成的稀土永磁电机不仅效率高,而且结构简单、运行可靠,还可做到体积小、重量轻。既可达到传统电励磁电机所无法比拟的高性能(如特高效、特高速、特高响应速度),又可以制成能满足特定运行要求的特种电机,如电梯曳引电机、汽车专用电机等。稀土永磁电机与电力电子技术和微机控制技术相结合,更使电机及传动系统的性能提高到一个崭新的水平。从而提高所配套的技术装备的性能和水平,是电机行业调整产业结构的重要发展方向。我们公司主要生产永磁电机中的永磁组件,以钕铁硼永磁电机配件为主,配套各类中小型的永磁电机。

We are mainly produce magnetic components in permanent magnet motor field, especially NdFeB permanent magnet motor accessories which can match all kinds of medium and small permanent magnet motor. The rare-earth permanent magnet motor can not only achieve high performance (such as high efficiency, special high speed, special high response speed) which the traditional electric excitation motor can't compare, but also can be made into special motor which can meet the requirements of specific operation, such as elevator traction motor, automobile special motor and so on.

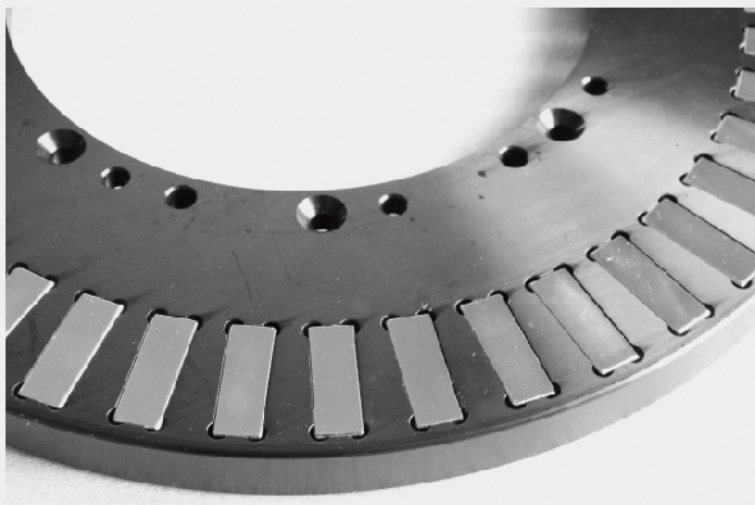
平面转子组件 Flat rotor assembly



主要应用于航空航天领域, 汽车
传动系统



The planar rotor components are
mainly used in the aerospace field, auto-
motive transmission systems.



高速精密转子组件 High speed precision rotor assembly



高速精密转子组件一般使用整体辐射型圆环磁体。用于对精度要求较大的电机上, 如: 高精度伺服电机, 医疗设备电机。

High speed precision rotor assembly usually make by radial ring magnet. It is used for motor with high accuracy, such as high precision servo motor and medical equipment motor.

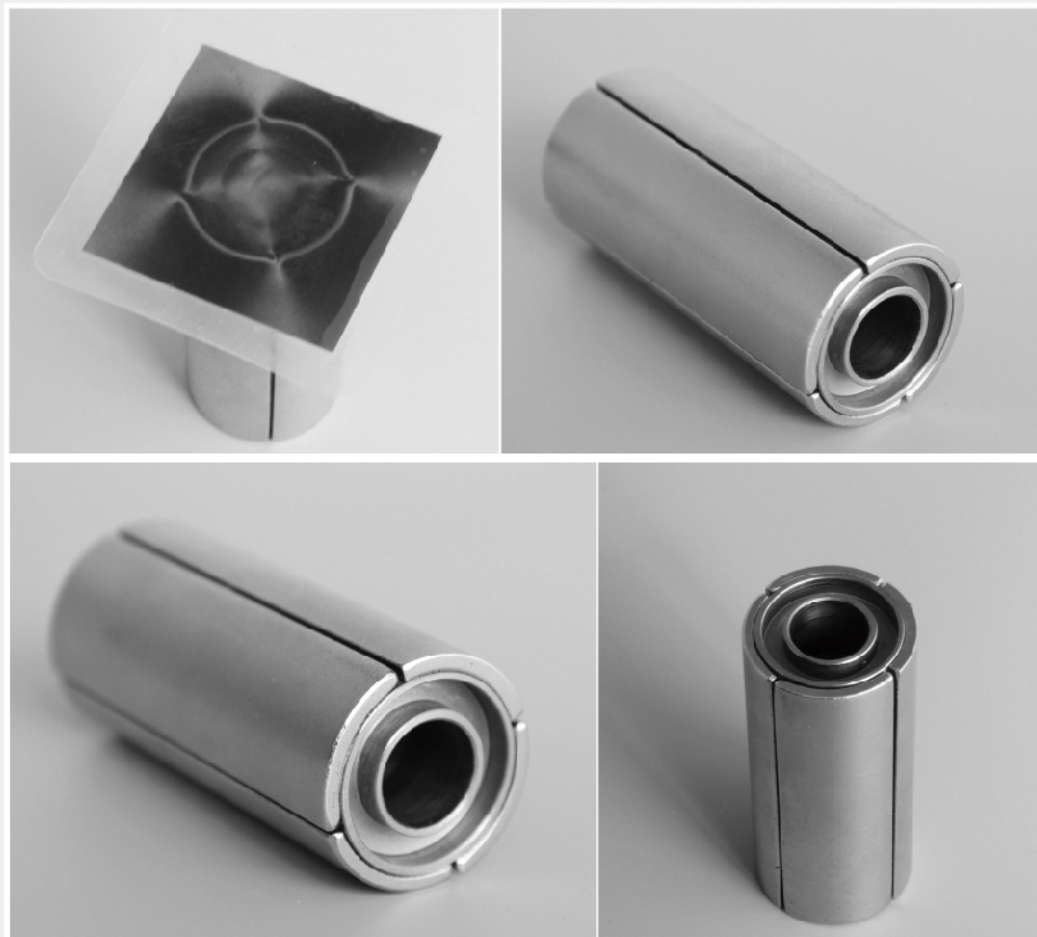
主要工作特点: 转速高, 反应快, 噪音小。

Main characteristics: high speed, quick response and low noise.

伺服电机用永磁转子组件 Permanent magnet rotor assemblies for servo motors

主要应用于大功率(超高速),高功能(高温),高精度伺服电机。

It is mainly applied to high power (ultra high speed), high function (high temperature) and high precision servo motors.



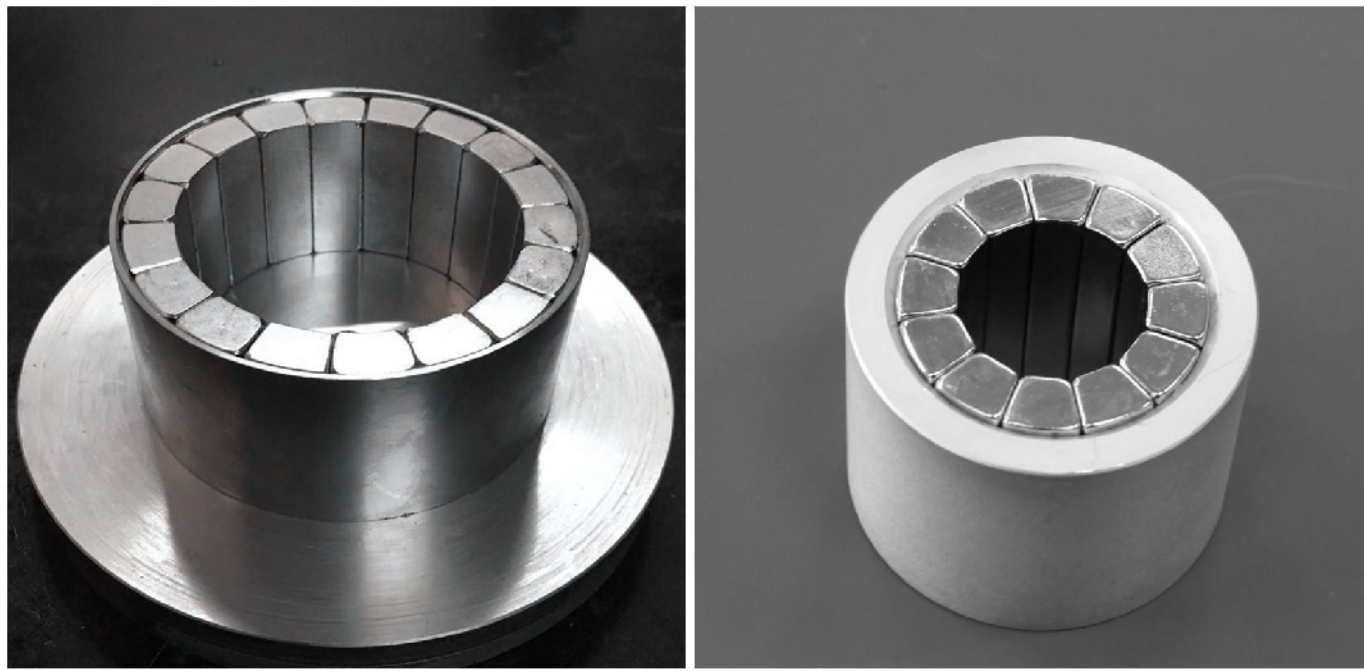
PART /04

海尔贝克阵列

Halbach Array



Halbach Array



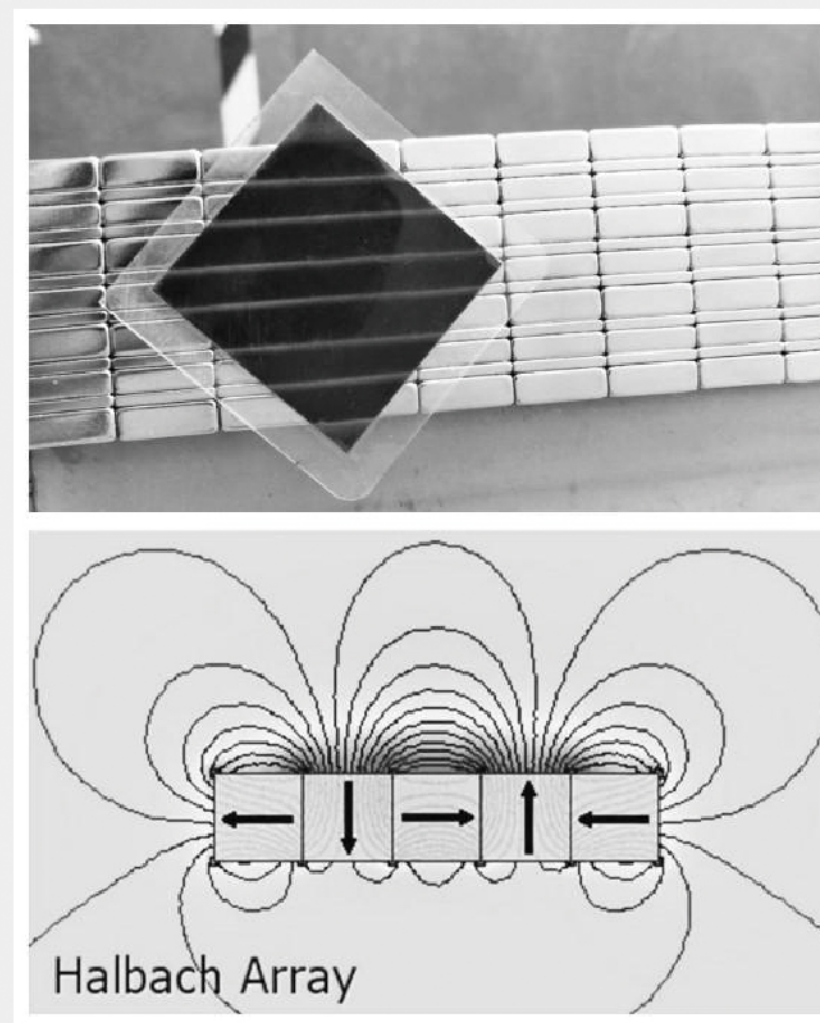
海尔贝克阵列 (Halbach Array) 是一种新型的永磁体排列方式。不同磁化方向的永磁体按照一定的顺序排列, 从而使得阵列一边的磁场显著增强, 而另一边显著减弱。主要形式有直线阵列和圆环阵列。

A Halbach array is a special arrangement of permanent magnets that augments the magnetic field on one side of the array while cancelling the field to near zero on the other side. We mainly make Linear Halbach Arrays and Halbach Cylinder.

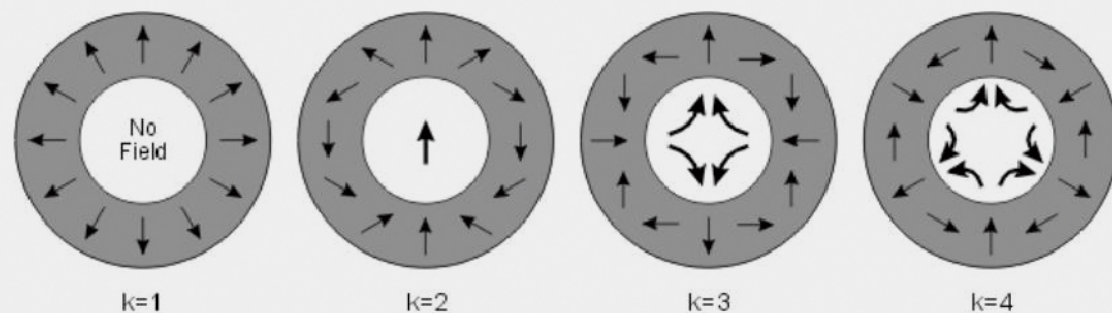
Halbach直线阵列

Halbach直线阵列是将磁铁径向式与平行式排列结合在一起, 近似形成单边磁场 (one-sided field), 这就是Halbach一个显着的特点。这一特点表示Halbach磁铁在线性电机(直线电机)中有很好的应用价值。

Halbach linear array combines the radial and parallel arrangement of magnets to form one-sided field), which is an obvious characteristic of Halbach. This feature indicates that Halbach magnet has very good application value in linear motor (linear motor).



Halbach圆环阵列



Halbach圆环阵列一般应用于无刷交流电机、磁力联轴器,用于增强单向上的磁力,并且可以得到近乎完美的正弦曲线磁力发布。因为是单向的磁力发布,可以使用非铁磁性的材料作为中心轴(比如铝),这样可以大大减少整体的重量,从而提高效率。

A Halbach cylinder is a magnetized cylinder composed of ferromagnetic material producing (in the idealized case) an intense magnetic field confined entirely within the cylinder with zero field outside. The cylinders can also be magnetized such that the magnetic field is entirely outside the cylinder, with zero field inside.

These cylindrical structures are used in devices such as brushless AC motors, magnetic couplings and high field cylinders.

PART /05

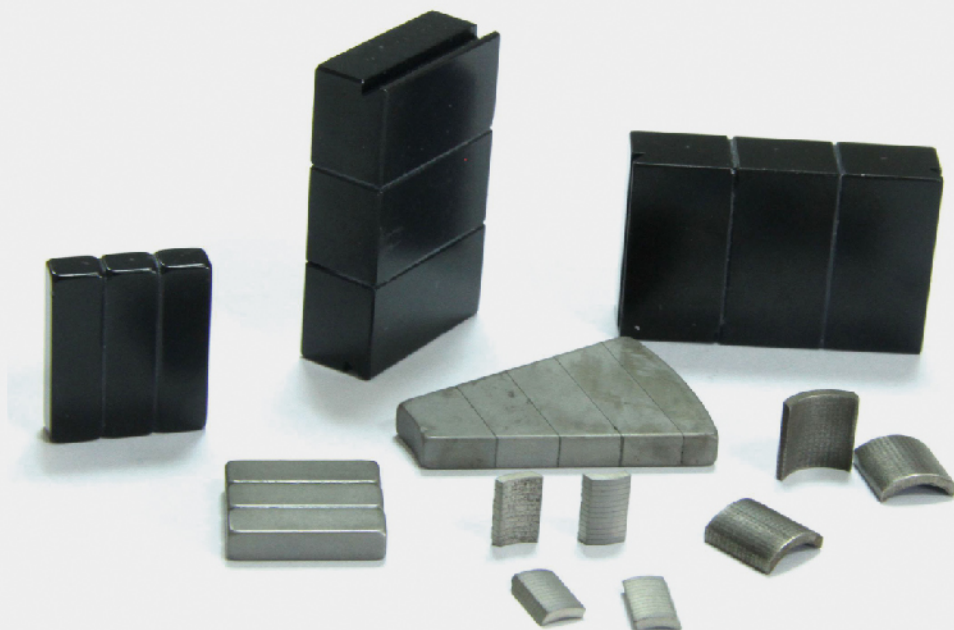
叠片磁钢组件

Laminated Magnet Assembly

叠片磁钢组件

由于烧结钕铁硼的最高工作温度是220℃ (N35AH), 温度越高钕铁硼的磁性会下降, 导致电机的转化率和功率都会降低。这个称为热损耗! 热损耗主要来自于电机工作中的电磁涡流, 这些涡流损耗可能会引起很高的温升, 导致永磁体局部退磁, 在一些高速或高频永磁同步电机中尤为严重。故此, 我们采用多片叠加的方式 (小磁片与小磁片片之间绝缘) 来降低这个热损耗。

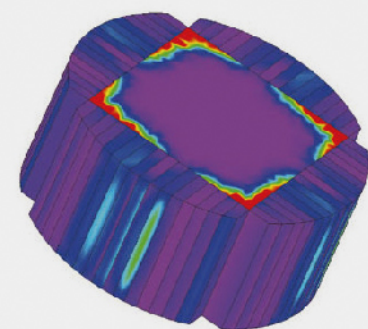
Due to the max working temperature of NdFeB is 220 (N35AH), more higher the temperature, the magnetic properties of Nd-Fe-B will decrease, and the conversion rate and power of the motor will be reduced. This is called heat loss! The heat loss mainly comes from the electromagnetic eddy current in the motor work. These eddy current losses may cause a high temperature rise, resulting in local demagnetization of permanent magnets, especially in some high speed or high frequency permanent magnet synchronous motors. Therefore, we need to reduce the heat loss by means of laminated magnets method (the insulation between small magnet piece and small magnet piece).



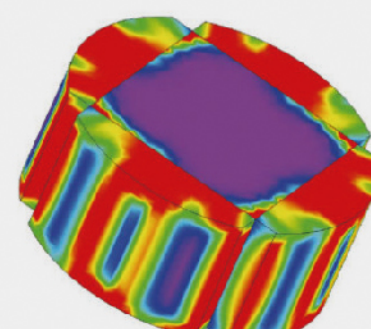
Laminated Magnet Assembly

下面是叠片磁钢组件与整体磁钢组件的涡流损耗对比图, 如下:

Calculation of eddy current losses with and without lamination are shown below:



With Lamination



Without Lamination

叠片磁钢组件涡流小, 同时性能和整体磁钢组件一样甚至更为优越, 电机尤为电动汽车上所使用的绝大多数转子磁钢均可以进行这样的设计, 所以绝缘拼接磁钢组件的应用也越来越多。

Laminated magnet assembly has small vortex, while remain the same performance with overall magnet assembly or even superior. Most of the rotor magnet in motor and electric car can use such a design, so to increase the application of insulated stitching magnet components.

技术要求:

Technical requirement:

1.最薄的绝缘层(胶水层)可<20 um

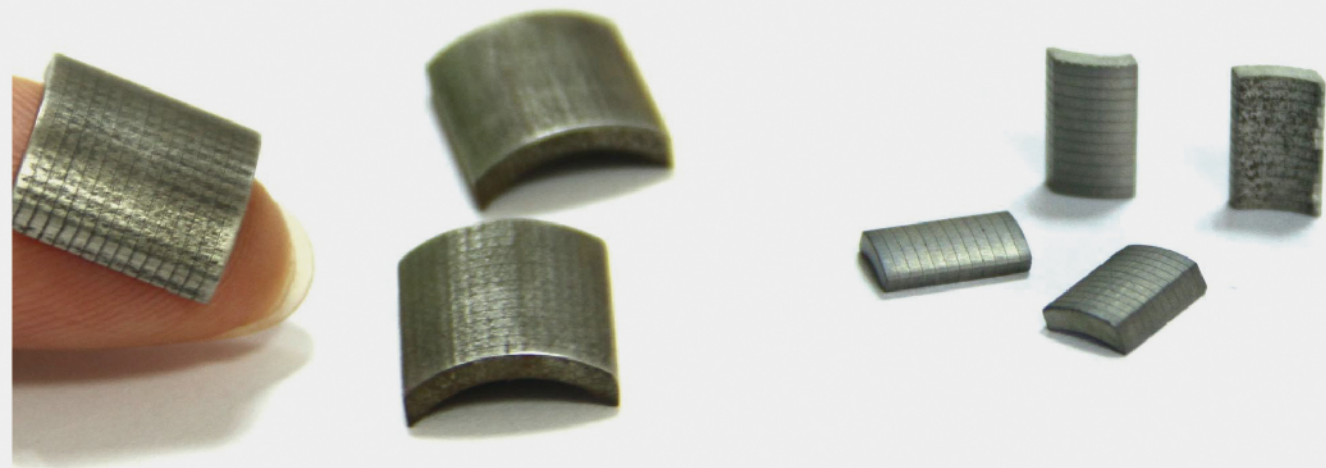
The thinnest available insulating layers, <20 um;

2.最高耐温可达220°C

Performance at temperatures up to 220 C;

3.磁钢叠片可从0.5mm做到任意尺寸。

Magnet layers from 0.5 mm and up custom shapes and sizes in neodymium magnets.



PART /06

牛磁

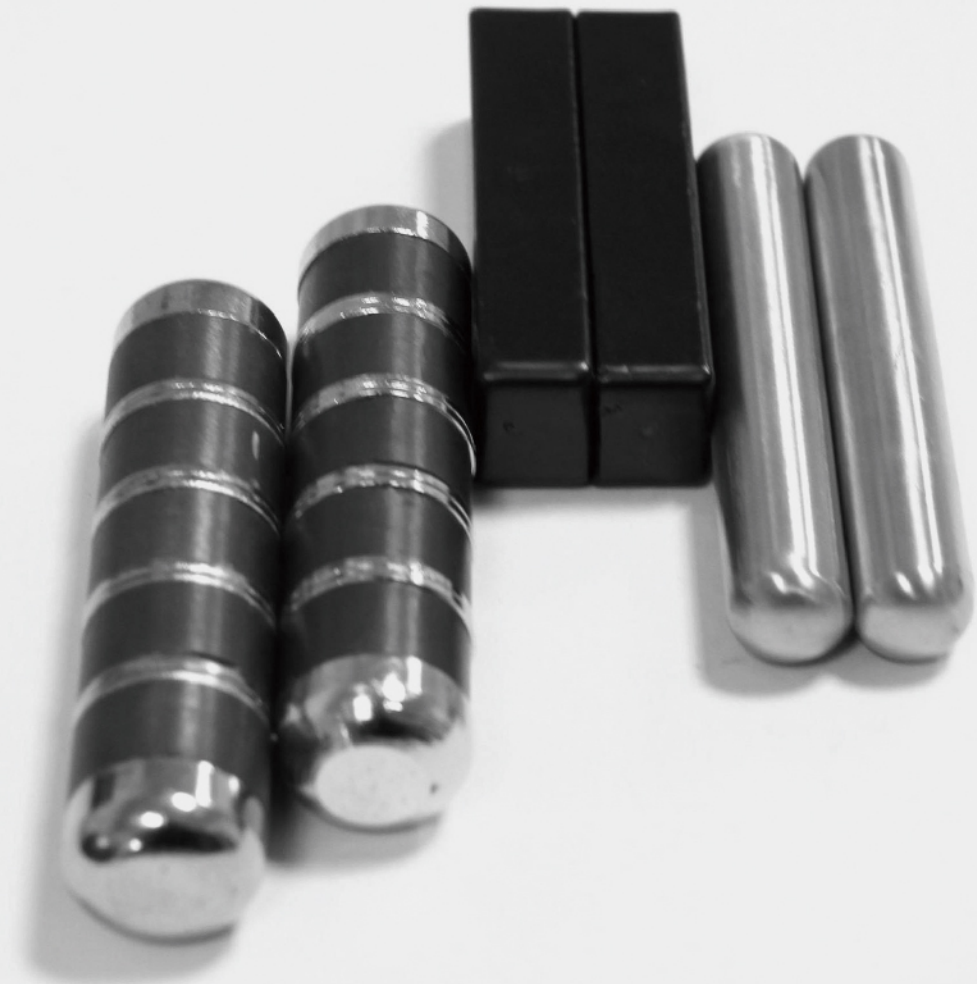
Cow Magnet



牛胃磁钢主要用于奶牛场, 它的原理是当牛误食入铁钉、铁渣等物质, 会对牛的生命造成巨大的威胁, 如果给牛食此类产品, 会把铁钉、铁渣等物质吸住, 从而起到保护牛胃的作用。而且此产品在牛食用后, 无任何副作用。且一头牛只需一个产品, 就可起到终身保护的作用。

Cow magnets are popular with dairy farmers and veterinarians to help prevent Hardware Disease in cattle. While grazing, cows eat everything from grass and dirt to nails, staples and bits of bailing wire (referred to as tramp iron). Tramp iron tends to lodge in the honeycombed walls of the reticulum, threatening the surrounding vital organs and causing irritation and inflammation, known as Hardware Disease.

The cow loses her appetite and decreases milk output (dairy cows), or her ability to gain weight (feeder stock). Cow magnets help prevent this disease by attracting stray metal from the folds and crevices of the rumen and reticulum. One magnet works for the life of the cow!



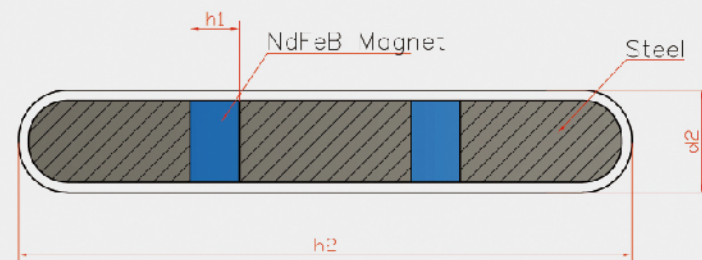
牛磁 FZCM-001

Stainless Steel Neodymium Cow Magnet FZCM-001

1. 每个重量 Unit Weight(KG): 0.063Kgs
2. 规格 Specification: D12.7X76.2mm
3. 包装类型 Packaging Type: 12pcs pack inner white box with foam and 12 boxes with one carton.
12片/小白盒, 12小盒/箱。

4. 内盒尺寸 (小白盒) Inner box size: 8.2X5.6X4.4cm

5. 纸箱尺寸 Master carton size: 30.7X16.7X12.2cm



牛磁 FZCM-002

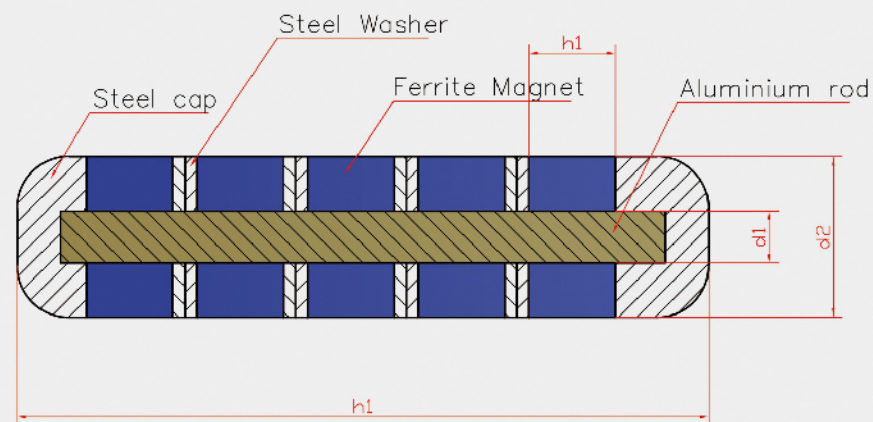
Ferrite Cow Magnet FZCM-002

1. 每个重量 Unit Weight(KG): 0.115Kgs
2. 规格 Specification: D12.7X76.2mm
3. 包装类型 Packaging Type: 12pcs pack inner white box with foam and 12 boxes with one carton.

12片/小白盒, 12小盒/箱。

4. 内盒尺寸 (小白盒) Inner box size: 8.4X8.2X6.3cm

5. 纸箱尺寸 Master carton size: 31.3X21.9X16cm



牛磁 FZCM-003

Block Ferrite Cow Magnet FZCM-003

1. 每个重量 Unit Weight(KG): 0.065Kgs
2. 规格 Specification: 65X16X13mm
3. 包装类型 Packaging Type: 12pcs pack inner white box with foam and 12 boxes with one carton.

12片/小白盒, 12小盒/箱。

4. 内盒尺寸 (小白盒) Inner box size: 8.4X8.2X6.3cm

5. 纸箱尺寸 Master carton size: 38.3X11.8X17.6cm



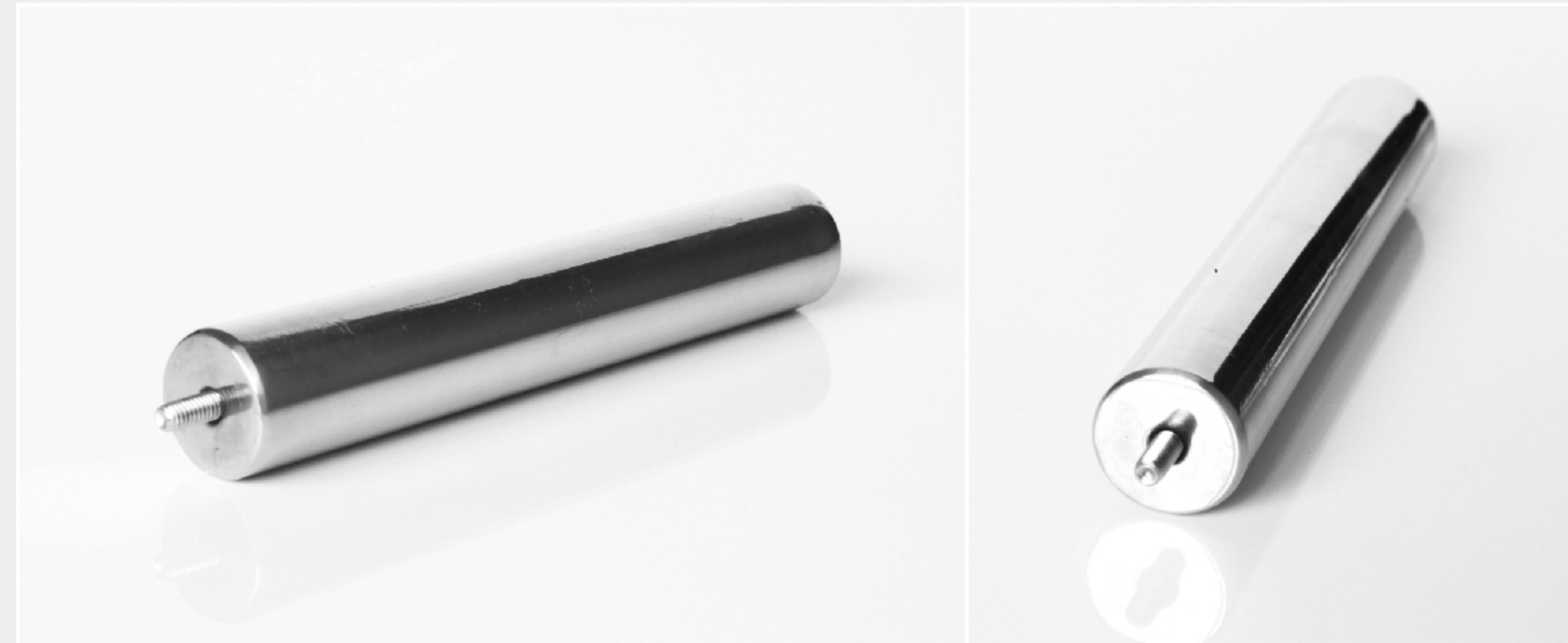
PART /07

磁棒/磁性过滤器

Magnetic Rod/ Magnetic Filter

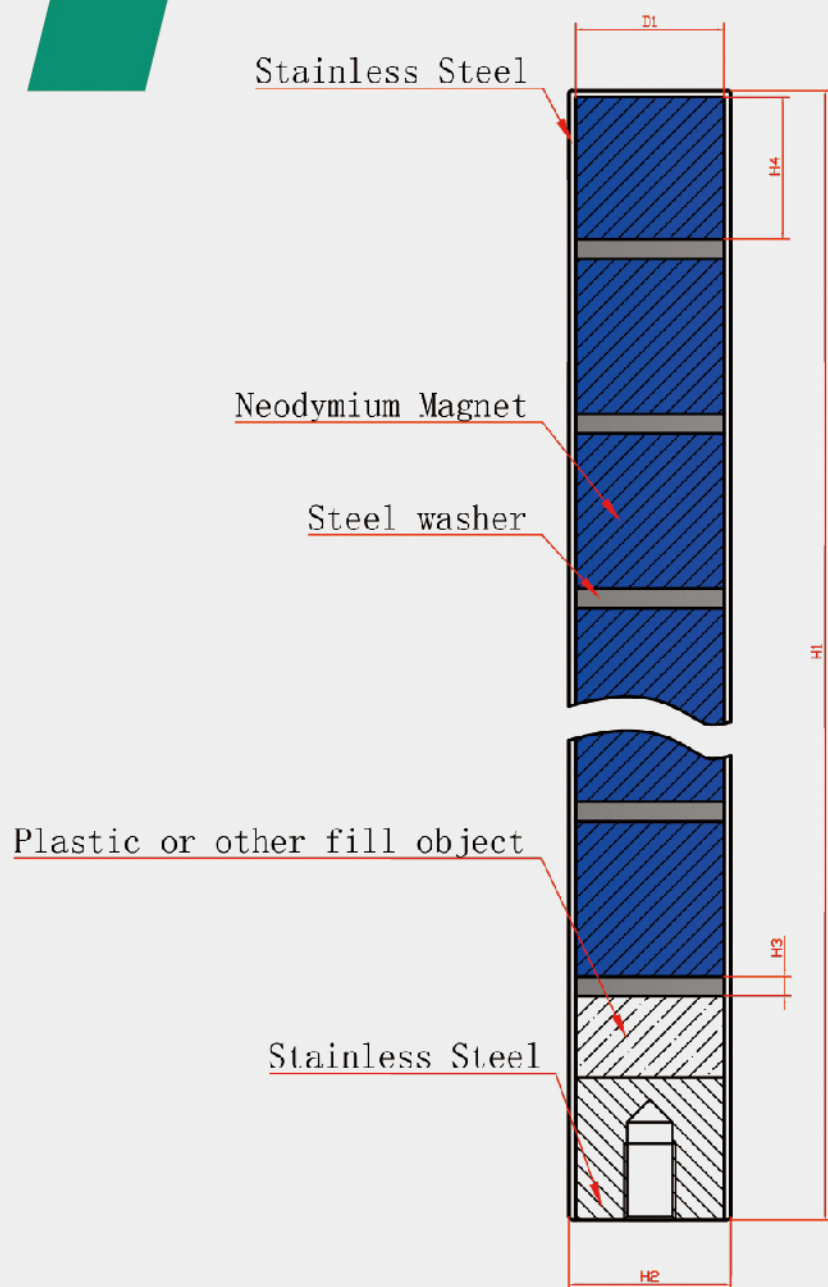
磁棒

Magnetic Rods



磁棒主要是用来过滤各种细小粉末和液体, 半液体中的含铁杂质和其他带能带磁性的物质, 目前广泛应用于化工、食品、废品回收、炭黑等领域。

Magnetic rods are mainly used to filter a variety of fine powder and liquid, iron impurities in semi liquid and other magnetic materials, and currently are widely used in the fields of chemical, food, waste recycling, carbon black and so on.



技术要求:

Technical Specifications:

1.产品尺寸:直径可做D6-D50.8mm, 长度可达到3600mm.

标准尺寸:D25.4*L100-1000mm.

Product Dimension: Diameter from D6-D50.8mm,

Length can reach 3600mm.

Standard size: D25.4*L100-1000mm.

2.螺纹尺寸:M4, M6, M8, M12.

Thread Sizes: M4, M6, M8, M12.

3.磁性能:最大磁性能可达到12000-13000Gs.

Magnetic Performance: Max magnetic energy reaches 12000 - 13000Gs.

4.处理方式:高度抛光, 完全密封, 防水。

Finish: Highly polished, completely sealed and watertight.

5.工作温度:-40°C to 200°C.

Working temperature: -40°C to 200°C.

磁性过滤器

Magnetic Filter

