



苏州航大

HANGDA

您的永磁技术伙伴

Your Technology Partner for Permanent Magnets

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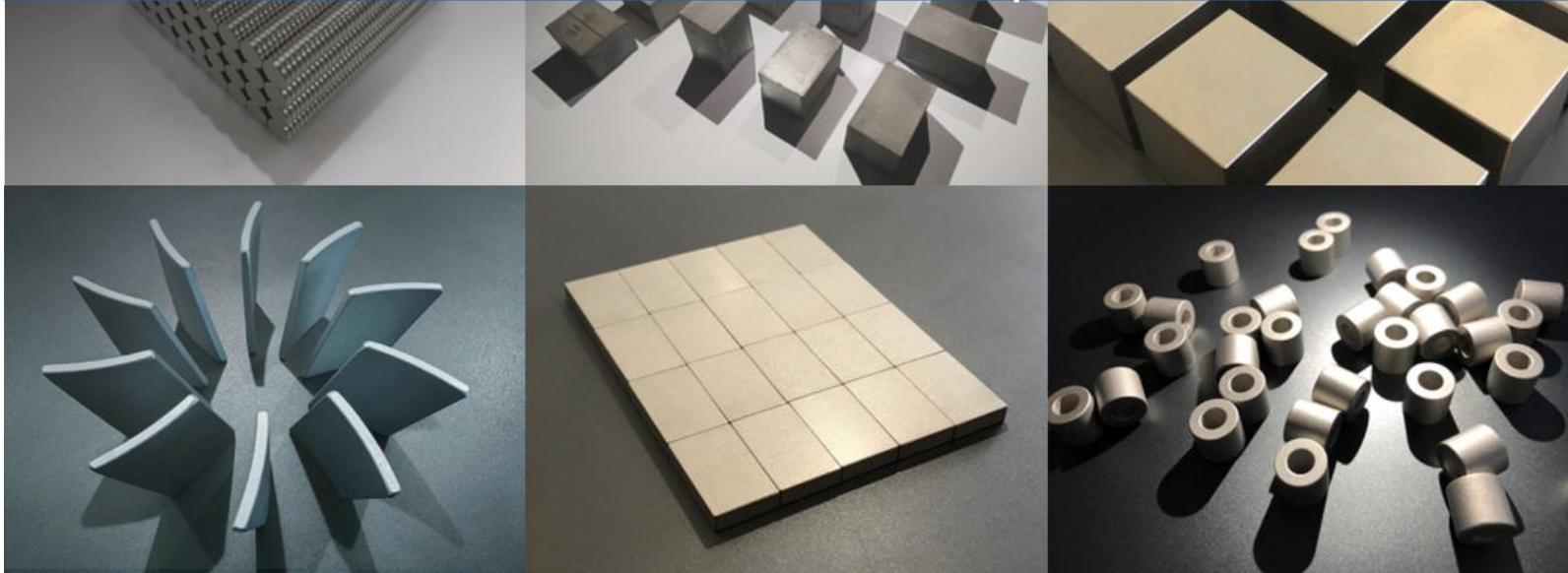
苏州航大新材料科技有限公司
Suzhou Hangda Advanced Materials Technology Co., Ltd.



苏州航大 Hangda

—— 钕钴产品的最佳选择

The Optimal Source for Samarium Cobalt



苏州航大 Hangda

您的需求，我的使命

What You Need, We Provide

技术领先的钕钴供应商，值得信赖的战略伙伴

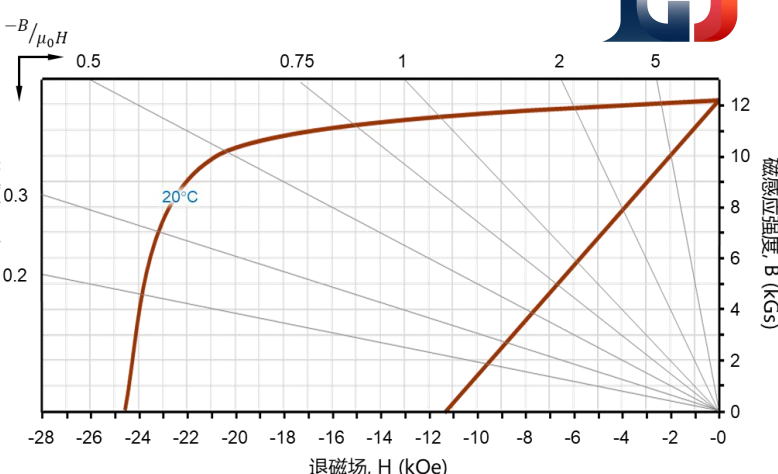
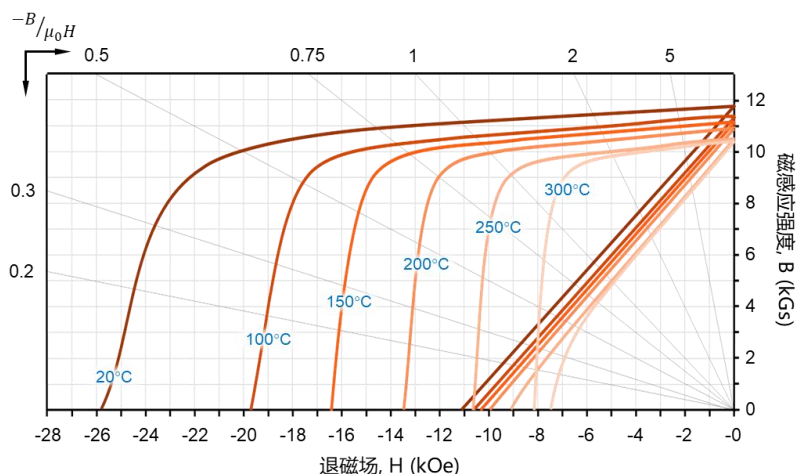
苏州航大公司是钕钴永磁产品和磁性组件的专业开发商和领先生产商，产品适用于多种领域，包括航空航天、轨道交通、通讯、医疗、国防、石油天然气、发电和汽车电子。自2001年以来，苏州航大始终致力于生产高性能磁体，为这些行业提供最大性能。我们推出的荣誉产品，**XGS 35H** 和 **XGS 26-T550**，代表着当前市场的最高水平。

我们的定位并不仅仅是材料供应者，我们还拥有与客户紧密配合的中国科学院院士团队，能提供全面的磁性解决方案及优化设计。从构思设计到实际产品，我们迅速而准确的服务能帮助您克服新的挑战与难题。在苏州航大，科技点燃梦想，创新引领未来，我们致力于与您共创辉煌。

An expert samarium cobalt supplier, a strategic ally

Suzhou Hangda Advanced Materials Company is an expert developer and leading producer of Samarium Cobalt permanent magnets and related bespoke products for a variety of markets, including aerospace, rail, telecommunications, medicine, defense, oil, gas, power generation and automotive electronics. Since 2001, Suzhou Hangda has produced high-energy magnets to provide maximum performance for these industries. Our star products, **XGS 35H** and **XGS 26-T550**, are top performers in the market.

We are more than a material supplier. Our research team from the Chinese Academy of Sciences work closely with customers to provide magnetic solutions and optimized designs. From the concept to the product, our responsive and bespoke service will help customers to overcome new challenges and obstacles. In Hangda, technology fuels dreams, innovation leads the future. We are committed to creating glory together with you.



35.3

BHmax (MGOe)

12.08

Br (kGs)

11.4

Hc (kOe)

300°C

Max. Operating Temp.

XGS 35H

性能优异 品质可靠
Excellent Performance and Stability

高性能，轻量化 Higher Performance, Lighter Weight

XGS 35H 钐钴磁体 (SmCo) 是我们推出的荣誉产品，具有更高的能量密度，为设计提供了新的可能性，尤其是为性能、重量和尺寸关注度极高的应用设计带来巨大的优化空间。

Hangda Advanced Materials Company's XGS 35H Samarium Cobalt (SmCo) is one of our star products and a market leader. Its high energy density provides new opportunities for designs and optimization, especially for applications where the performance, weight and size are primary concerns.

XGS 35H 的性能代表着当前市场的最高水平，能在高温工况下提升性能的同时缩小组件尺寸，是优化器件体积的理想选择，可产生巨大影响：

XGS 35H is one of the top performing SmCo magnets in the market. It is ideal for maximizing performance while minimizing the size of magnetic products that are used in higher temperature environments:

• 小型化、轻量化与高可靠性

Smaller and lighter design, higher reliability.

• 小型化精密设计兼顾优异的温度稳定性

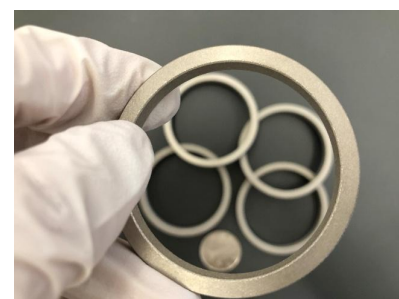
Minimalist and precise design with excellent temperature stability.

• 无水冷条件下极大增强扭矩与功率上限

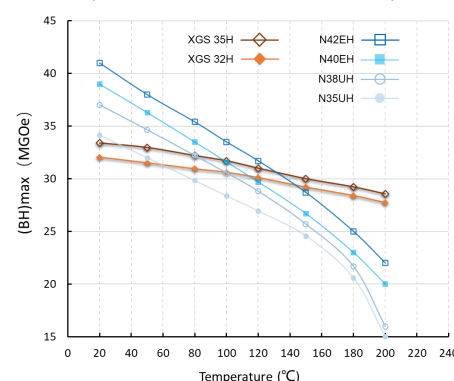
Maximizing torque and power even without water cooling.

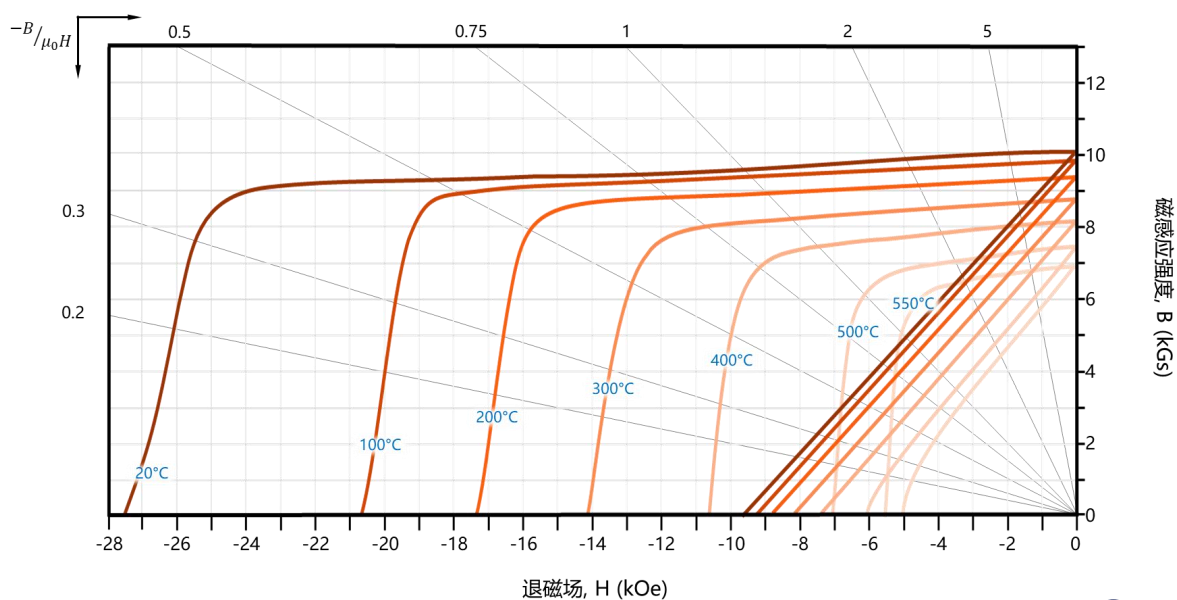
• 温度系数低、耐腐蚀能力好、抗退磁能力强

Small reversible temperature coefficient, outstanding corrosion and demagnetization resistance.



Comparison of SmCo & NdFeB as a function of temperature





10.5_(550°C)
BHmax (MGOe)

10.2
Br (kGs)

9.6
Hc (kOe)

550°C
Max. Operating Temp.

XGS T550

高温应用 杜绝退磁

Ultra-high temperature & No demagnetization

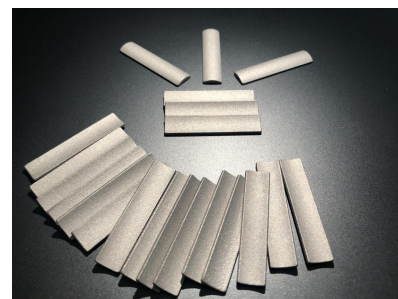
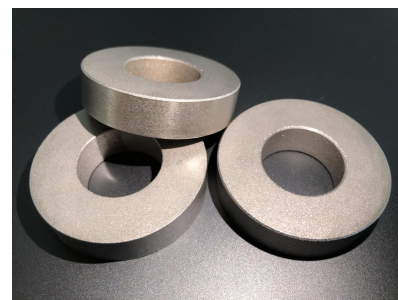
超高耐温，极端应用 Applications in Ultra-high temperature and extreme environments

XGS T550 钕钴磁体 (SmCo) 是我们推出的荣誉产品，具有更高的耐温等级，可保证超高温下磁体不产生不可逆退磁。

Hangda Company's XGS T550 Samarium Cobalt (SmCo) is one of our star products. Its high heat resistance ensures that our SmCo does not produce irreversible demagnetization at ultra-high temperatures.

航大技术团队基于对钕钴磁材的深度研究，可根据客户需求对磁性能进行有针对性的调整，提供磁性能的定制化服务。若需要更多其他牌号的信息可联系航大，我们的专业团队将随时为您提供相关内容。

The Hangda engineering team has a deep understanding of the sciences behind SmCo magnets. Therefore, the magnetic performance and thermal stabilization of magnets can be customized to satisfy customer's requirements. Please contact Hangda engineers for more options and further information. Our professional team is at your service.



航大钕钴物理性能 Physical properties

Thermal Properties

Characteristic		Units	Value
Reversible Temp. Coefficients	$\alpha(B_r)$	%/°C	-0.03
	$\beta(H_{c2})$	%/°C	-0.2
Coefficient of Thermal Expansion	// C	10 ⁻⁶ /K	11
	⊥ C	10 ⁻⁶ /K	13
Thermal Conductivity		W/(m·°C)	10
Max. Recommended Use Temp		°C	550
Curie Temperature, T _c		°C	810

Other Properties

Characteristic		Units	Value
Flexural Strength	// C	MPa	110
	⊥ C	MPa	120
Compressive Strength		MPa	800
Young's Modulus		GPa	140
Density		g/cm ³	8.4
Electrical Resistivity, ρ		μΩ · cm	90

一、高端钕钴稀土永磁元件及磁组件(可定制) High-end SmCo & bespoke products (Customizable)

高性能系列元件

- 磁能积高达**35.3MGOe**
- 工作温度高
- 耐腐蚀性能好
- 抗退磁能力强

Superior Performance SmCo

High energy product 35.3MGOe
High operating temperature
Outstanding corrosion resistance
High demagnetization resistance

超高温系列元件

- 工作温度可达**550°C**
- 耐腐蚀性能好
- 抗退磁能力极强

Ultra-High Heat Resistance SmCo

Operating temperature up to 550°C
Outstanding corrosion resistance
Superior demagnetization resistance

低温度系数系列元件

- 性能随温度变化极小
-0.01%/°C
- 耐腐蚀性能好
- 抗退磁能力强

Temperature Compensated SmCo

Small reversible temperature coefficient
-0.01%/°C
Outstanding corrosion resistance
High demagnetization resistance

磁性组件

- 为客户提供基于高性能新材料特性的下游应用设计服务
- 开发多品类高性能磁组件产品

Bespoke Products

Provide bespoke application design services based on high-performance and advanced material for customers
Develop high-performance magnetic assemblies across multiple categories

二、核心技术CORE TECHNOLOGY

01

成分设计

公司技术团队具备强大的基础理论能力并拥有多年积累数据库，可以从零设计原始成分；

01 Material Design

Our technical team boasts a robust foundation in theoretical expertise and has amassed a wealth of experience through years of database accumulation. Their profound capabilities extend to crafting innovative compositions from scratch, exhibiting an innate talent for originality.

02 Hangda Oxygen-Free Technology

Our research and development in comprehensive oxygen-free technology is the first to achieve mass production of SmCo products while fundamentally ensuring material purity.

02

航大无氧技术

航大研发的整体无氧技术，率先实现钕钴产品产业化，根本性保障材料纯度；

03

双相调控技术

精确调控高剩磁相和高矫顽力相，形成高度完整致密的纳米双相结构，大幅提升磁体性能；

03 Biphasic Regulation Technology

With precise control over the high remanent phase and high coercivity phase, a highly intact and dense nanoscale biphasic structure is formed, substantially enhancing the performance of the magnet.

04 Magnetic Assemblies Research and Development

The technical team possesses a profound understanding of the underlying logic of materials science and electromagnetics. By seamlessly integrating the magnetic material properties with application requirements, they have successfully developed a wide range of high-performance magnetic assemblies products across multiple categories.

04

磁组件设计开发能力

公司技术团队深刻了解材料学-电磁学的底层逻辑，将磁材特性与磁组件功能深度结合，开发多品类高性能磁组件产品。

荣誉证书

QUALIFICATION HONOR

10+项发明专利，30+项实用新型专利

10+ invention patents and
30+ utility model patents

高新技术企业 证书

企业名称：苏州航大新材料科技有限公司

证书编号：GR202332004479

发证时间：2023年11月6日

有效期：三年

批准机关：



专利技术

Innovation Patents

航大拥有多名材料科学与工程领域博士，并由中国科学院院士团队提供技术支持，技术国际领先，拥有多项核心专利。

We have a team of multiple Ph.D. experts in the field of materials science and engineering, supported by our academican team from the Chinese Academy of Sciences, a leading institution in China. Our technology is at the forefront of the international scene, reflected in our possession of numerous core patents.

技术服务

Technology Services

航大团队深刻理解材料学、电磁学及终端产品的底层关联逻辑，可从客户角度提供磁材和磁性器件解决方案，切实提升客户的产品竞争力。

Our team possesses a profound understanding of the underlying logical connections between materials science, electromagnetics, and end-products. We are capable of providing magnetic materials and bespoke solutions from the perspective of our customers, effectively enhancing their product competitiveness.

品质一致性

Conformance Quality

航大具有完整的磁材生产线、机加工线及检测平台，可为客户提供多样化定制产品，产品批次稳定性优，性价比更优。

We have a complete production line for magnetic materials, machining processes, and testing platforms, enabling us to provide customers with diversified customized products. With direct factory sales, we guarantee both the quality and competitive pricing advantage.

区域时效

location advantage

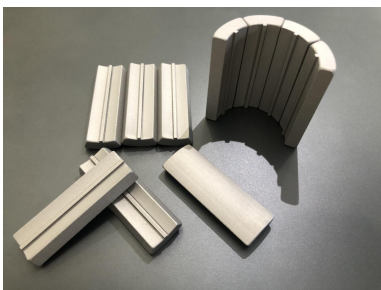
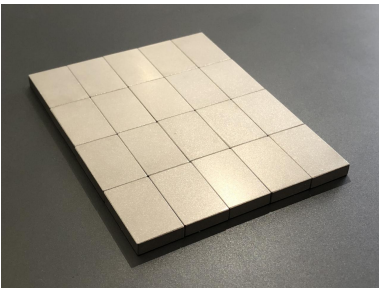
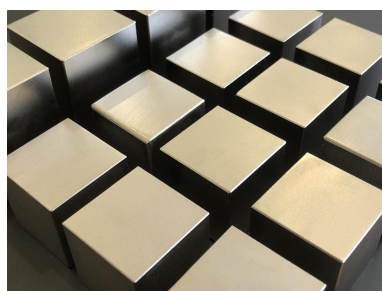
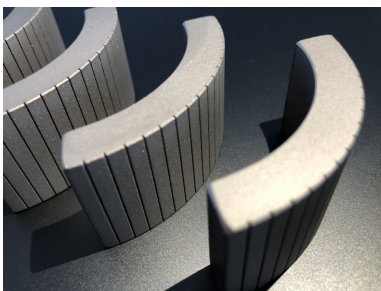
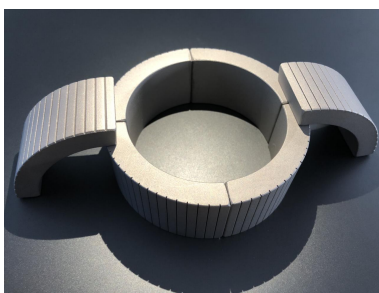
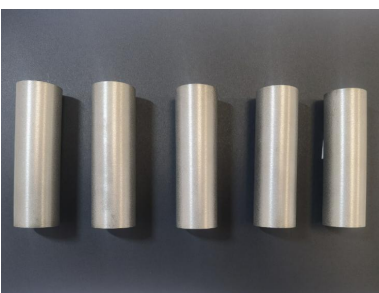
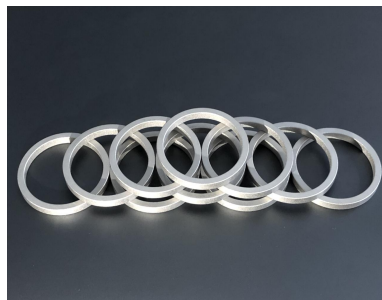
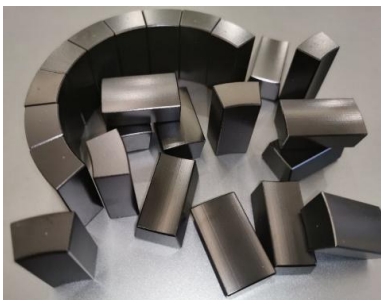
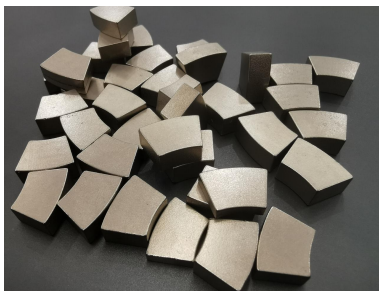
航大位于苏州市高新区，地处长三角核心区域，可快速辐射至全国各地，产品运输便捷，服务响应迅速。

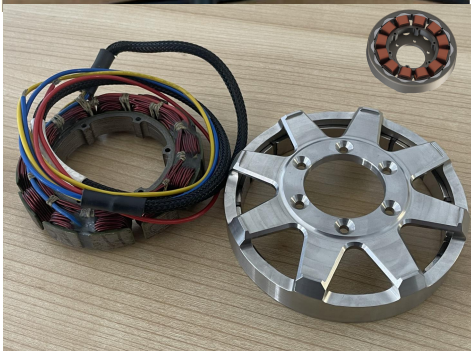
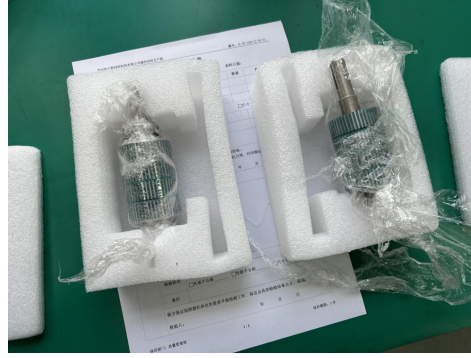
Hangda is located in the High-tech Zone of Suzhou city, positioned in the core area of the Yangtze River Delta. This strategic location enables us to quickly reach various regions across the country, ensuring convenient product transportation and prompt service response.

钕钴产品选型表 PRODUCT TYPE

产品牌号	测试温度	剩磁 B _r		磁感矫顽力 H _{cb}		内禀矫顽力 H _{ci}		最大磁能积 (BH) _{max}		剩磁温度系数	内禀矫顽力温度系数	居里温度	最大工作温度
	℃	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m³	MGOe	-%/℃	-%/℃	℃	℃
高性能系列													
XGS 35H	20	1.18-1.21	11.8-12.1	870-918	10.9-11.5	≥1990	≥25	263~279	33~35	0.03	0.20	>810	350
XGS 34H	20	1.16-1.20	11.6-12.0	855-910	10.7-11.4	≥1990	≥25	255~271	32~34	0.03	0.20	>810	
XGS 33HB	20	1.14-1.16	11.4-11.6	833-884	10.5-11.1	≥1990	≥25	247~263	31~33	0.03	0.20	>810	
XGS 33HA	20	1.13-1.15	11.3-11.5	833-884	10.5-11.1	≥1990	≥25	243~255	30.5~32	0.03	0.20	>810	
XGS 32H	20	1.11-1.145	11.1-11.45	818-868	10.3-10.9	≥1990	≥25	239~255	30~32	0.03	0.20	>810	
XGS 30H	20	1.08-1.12	10.8-11.2	796-849	10.0-10.7	≥1990	≥25	223~239	28~30	0.03	0.20	>810	
XGS 28H	20	1.04-1.09	10.4-10.9	767-827	9.6-10.4	≥1990	≥25	207~223	26~28	0.03	0.20	>810	
XGS 26H	20	1.00-1.05	10.0-10.5	737-796	9.3-10.0	≥1990	≥25	191~207	24~26	0.03	0.20	>810	
XGS 24H	20	0.95-1.01	9.5-10.1	700-766	8.8-9.6	≥1990	≥25	175~191	22~24	0.03	0.20	>810	
XGS 35	20	1.18-1.21	11.8-12.1	870-918	10.9-11.5	≥1433	≥18	263~279	33~35	0.03	0.20	>810	300
XGS 34	20	1.16-1.20	11.6-12.0	855-910	10.7-11.4	≥1433	≥18	255~271	32~34	0.03	0.20	>810	
XGS 33	20	1.13-1.16	11.3-11.6	833-884	10.5-11.1	≥1433	≥18	239~255	30~32	0.03	0.20	>810	
XGS 32	20	1.11-1.145	11.1-11.45	818-868	10.3-10.9	≥1433	≥18	239~255	30~32	0.03	0.20	>810	
XGS 30	20	1.08-1.12	10.8-11.2	796-849	10.0-10.7	≥1433	≥18	223~239	28~30	0.03	0.20	>810	
XGS 28	20	1.04-1.09	10.4-10.9	767-827	9.6-10.4	≥1433	≥18	207~223	26~28	0.03	0.20	>810	
XGS 26	20	1.00-1.05	10.0-10.5	737-796	9.3-10.0	≥1433	≥18	191~207	24~26	0.03	0.20	>810	
XGS 24	20	0.95-1.01	9.5-10.1	700-766	8.8-9.6	≥1433	≥18	175~191	22~24	0.03	0.20	>810	
XGS 35M	20	1.18-1.21	11.8-12.1	854-918	10.7-11.5	≥955	≥12	263~279	33~35	0.03	0.20	>810	250
XGS 34M	20	1.16-1.20	11.6-12.0	840-910	10.5-11.4	≥955	≥12	255~271	32~34	0.03	0.20	>810	
XGS 33M	20	1.13-1.16	11.3-11.6	833-884	10.3-11.1	≥955	≥12	239~255	30~32	0.03	0.20	>810	
XGS 32M	20	1.11-1.17	11.1-11.7	803-887	10.1-10.9	≥955	≥12	239~255	30~32	0.03	0.20	>810	
XGS 30M	20	1.08-1.12	10.8-11.2	782-849	9.8-10.7	≥955	≥12	223~239	28~30	0.03	0.20	>810	
XGS 28M	20	1.04-1.09	10.4-10.9	753-827	9.5-10.4	≥955	≥12	207~223	26~28	0.03	0.20	>810	
XGS 26M	20	1.00-1.05	10.0-10.5	724-796	9.1-10.0	≥955	≥12	191~207	24~26	0.03	0.20	>810	
XGS 24M	20	0.95-1.01	9.5-10.1	688-766	8.6-9.6	≥955	≥12	175~191	22~24	0.03	0.20	>810	
超高温系列													
XGS 26-T550	20	0.93-1.02	9.3-10.2	677-796	8.5-10.0	≥1990	≥25	183~207	23~26	0.03	0.15	>820	550
	550	0.65-0.76	6.5-7.6	358-510	4.5-6.4	398-637	5.0-8.0	72~88	9~11	-		-	
XGS 25-T500	20	0.95-1.03	9.5-10.3	725-764	9.1-9.6	≥1990	≥25	175~199	22~25	0.03	0.15	>820	500
	500	0.65-0.80	6.5-8.0	446-518	5.6-6.5	525-717	6.6-9.0	79~103	10~13	-		-	
XGS 31-T350	20	1.08-1.13	10.8-11.3	796-876	10.0-11.0	≥1990	≥25	223~247	28~31	0.03	0.20	>810	350
	350	0.85-1.00	8.5-10.0	557-637	7.0-8.0	637-796	8.0-10.0	151~175	19~22	-		-	
低温温度系数系列													
XGS 22-TC-T350	20	0.91-0.96	9.1-9.6	685-732	8.6-9.2	≥1433	≥18	151~175	19~22	0.01	0.20	>810	350
XGS 18-TC-T500	20	0.85-0.91	8.5-9.1	597-709	7.5-8.9	≥1433	≥18	127~143	16~18	0.01	0.15	>820	500

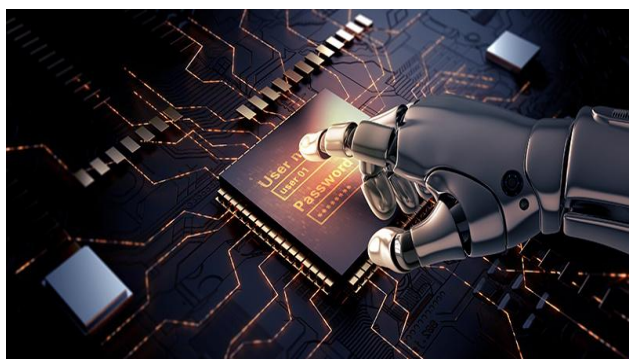
温馨提示 Tips : 1 T = 10 kGs = 10000 Gs; 1 kA/m = 0.01256 kOe = 12.56Oe; 1 MGOe = 7.96 kJ/m³.





公司产品在航空航天、轨道交通、通信、医疗、国防、石油、天然气、发电和汽车电子等领域中得到越来越广泛的应用，尤其在航空航天、舰艇船舶、雷达通信等国防领域具有不可替代的战略价值。

Hangda product are seeing increasingly widespread applications in fields such as aerospace, rail, telecommunications, medicine, defense, oil, gas, power generation and automotive electronics. Notably, they possess irreplaceable strategic value in the defense sectors, including aerospace, naval vessels, and radar communications.





加磁工业 洁净地球

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