科田磁业

NINGBO KETIAN MAGNET CO., LTD.

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Homepage of Ketian

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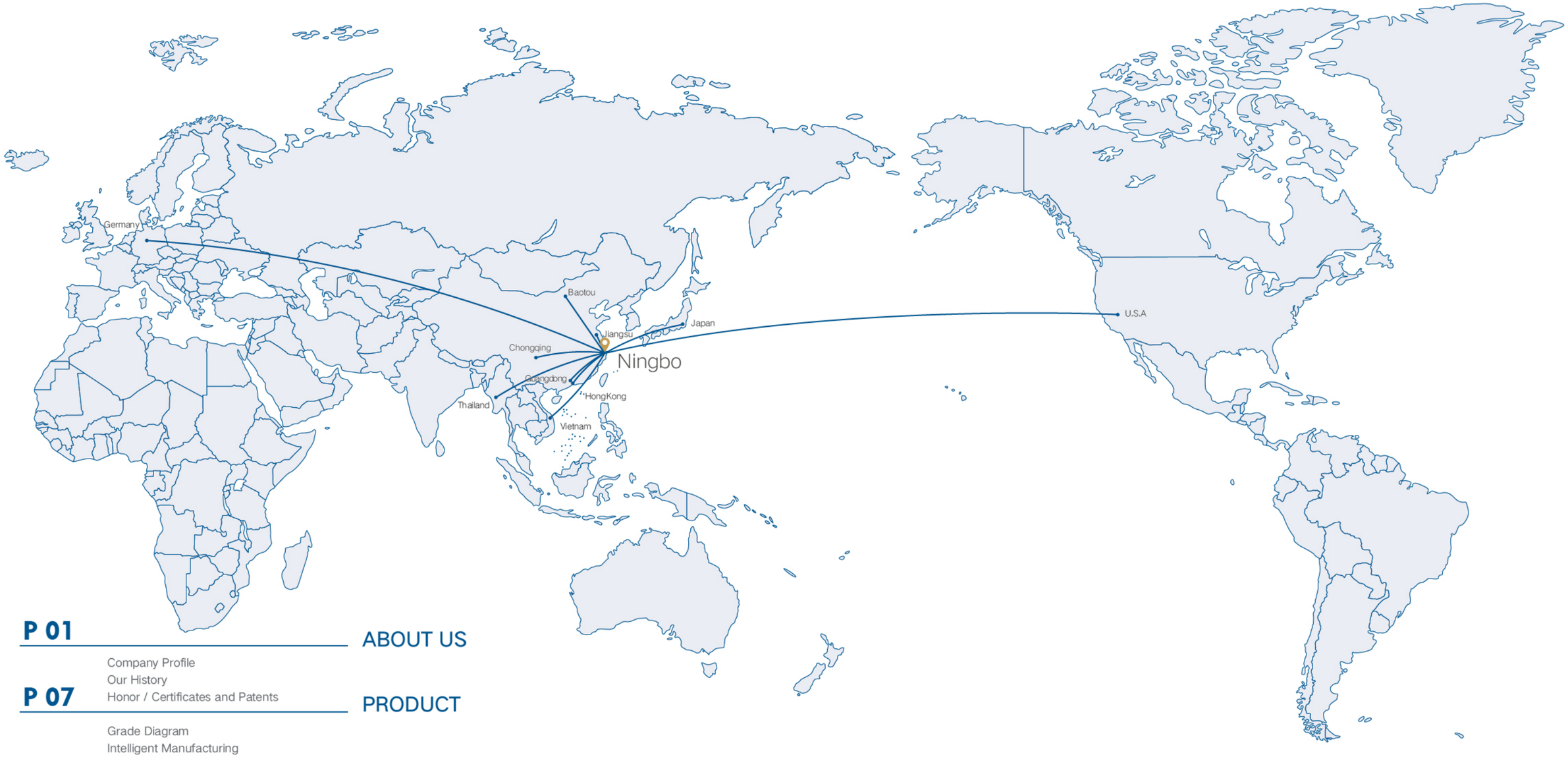
KETIAN MAGNET

NINGBO KETIAN MAGNET CO., LTD.



Driven by Magnetic Power
Motivated by Endogenous Force

STAYING AHEAD OF THE MAGNET INDUSTRY

NINGBO KETIAN MAGNET CO., LTD.

Ningbo Ketian Magnet Co., Ltd., founded in 2001, is ranked as a National High-tech Enterprise in China devoted to the development and production of high grade sintered NdFeB magnet. The company has the capability to produce NdFeB magnet in serial covering various grades from N55, 55H, 52SH, 50UH, 48EH to 45AH.

The company has also received various honors and awards from government authorities for its prominent contributions to the technical innovation and patented technology. To create values to customer by continuously improving the quality level and keeping consistency of the product, the company has put great efforts in creating effective technical innovation system and external ties with universities and institutions, introducing new equipment, developing new technology such as GBD processes, and implementing the lean production and intelligent manufacturing.

Our products are widely applied in the areas of electrical cars, automotive industry, home appliances, industrial automation, acoustic components, IT products, medical devices, wind turbine etc. Being highly acknowledged and trusted by our customers, our products are exported to dozens of countries or regions crossing Europe, America, Asia, and also sold to domestic customers in China.

The company is certified by ISO9001, ISO14001, IATF16949, ISO45001 and ISO27001.

The well-established system, highly qualified employees, and well-organized team lead the company to generate high quality products and services.

The parent company of Ketian Magnet is Ningbo Jintian Copper (Group) Co., Ltd. Jintian Copper, established in 1986, is a large-scale Chinese copper processing enterprise. The Group company mainly produces copper tubes, bars, wires, strips, magnetic wires, valves, magnets, as well as various high-end alloy material like brass, bronze, copper, nickel silver strip etc.

The Group company is based in Ningbo, and set up 7 major production bases worldwide, 46 subsidiaries with more than 8000 employees. The business of Group company covers more than 100 countries and regions, and you may find our branches or offices in US, Germany, Thailand, Japan, and Korea etc. The Group has created long-term partnership with a number of world well-known enterprises.

Copper Production

- Jintian Copper Rod
- Jintian Copper Strip & Roll
- Jintian Copper Plate & Sheet
- Jintian Copper Busbar
- Jintian Precious Alloy rod and wire
- Ningbo Jintian Copper Tube Co., Ltd.
- Ningbo Jintian Copper Electric Wire Co., Ltd.
- Jiangsu Xingrong Copper Co., Ltd.
- Chongqing Jintian Copper Co., Ltd.
- Guangdong Jintian Copper Co., Ltd.

Overseas Layout

- Ningbo Jintian Import & Export Co., Ltd.
- Maytime International industry Co., Ltd.
- Jintian Copper (Japan) Co., Ltd.
- Jintian Copper (Germany) Co., Ltd.
- Jintian Copper (Vietnam) Co., Ltd.
- Jintgian Copper (USA) Co., Ltd.

New Material Industry

- **Ningbo Ketian Magnet Co., Ltd.**
- Ningbo Jintian New Material Co., Ltd.

Construction Material

- Ningbo JK Long Precision Co., Ltd.

Company Milestones

2001
- Company establishment

2005
- ISO /TS 16949 Certified
- ERP Implemented

2007
- Participant in Torch Program of Ministry of Science and Technology for magnet development and application in MW level wind generators

2009
- In-house coating lines built-up

2012
- Participant in Torch Program of Ministry of Science and Technology for high grade magnet development and application in servo motors
- Strategic cooperation with Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences

2014
- Upgraded to the state-of-the-art equipments
- New 3000 tons capacity production plant launched

2015
- "HRE Free and High Hcj Magnet research and industrialization", key technological project recognized by municipal government of Ningbo
- Participant in Torch Program of Ministry of Science and Technology for HEV magnet development

2017
- SAP & MES2.0 Implemented
- Awarded by Ningbo Municipal Government as "Major Technical Project" for Research & Industrialization for Super-high Grade NdFeB Magnet with High-temperature Stability for EV application
- Grain Boundary Diffusion Line released to serial production

2020
- New 2000 tons production line launched

2022
- New 3000T GBD production

2023
- Production starts in Baotou plant – (Phase 1, 4000T)

KEEP IMPROVING

Honors and Patents

Honors

- High-tech Enterprise certificate
- Certificate of Technical Achievement for PVD coating on NdFeB magnet
- Torch Program Certificate for Magnet used in HEV
- Certificate of Research & Industrialization for Super-high Grade NdFeB Magnet with High-temperature Stability for EV application
- Municipal Award for Development of High Grade NdFeB Magnet with High Service Performance in Motor Application
- Intellectual Property Management System Certification (for Development, Manufacturing and Sales of NdFeB Magnet)
- IATF 16949:2016 GB/T22080:2016 ISO/IEC27001:2013

Patents

- A Production Method to produce Rare Earth Magnet
- A Production Method to produce high intrinsic coercivity magnet and high resistivity magnet
- A Method and Device to improve the De-mag Squareness and Corrosion Resistance Performance of Sintered NdFeB Magnet
- A Device to Prepare & Convey Magnet to Sintering Furnace for NdFeB Magnet Production
- A Low Oxygen Spinning Discharging Device for Hydrogen Decrepitation Process of NdFeB Magnet Production
- A Production Device to Automatically Align-Convey Magnet
- A Production Method to produce NdFeB magnet using powder tailings from Jet-milling process
- A Production Method to produce high intrinsic coercivity NdFeB magnet

Honors and Patents

National Torch Program

MW Level Wind Generators

National Torch Program

Servo Motor

National Torch Program

HEV

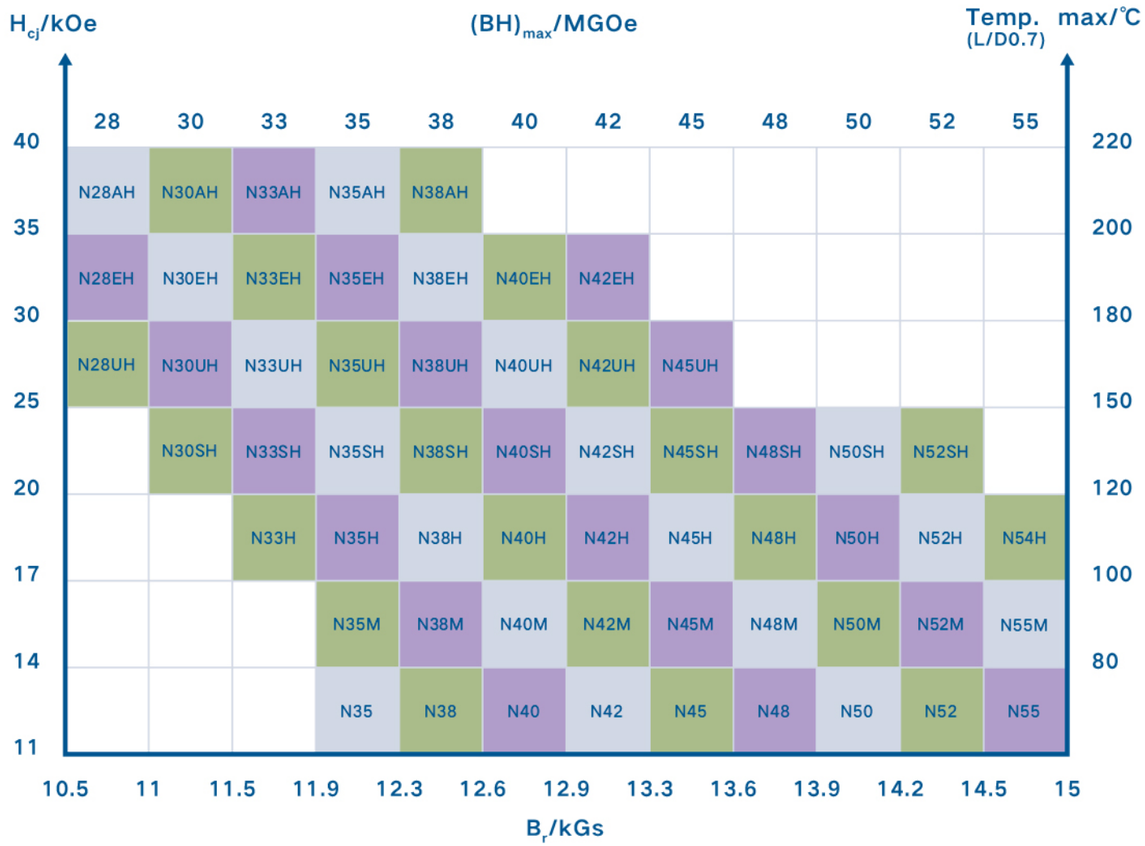
HONOR WALL

Honors

Patents

Production Information - Magnetic Grade Diagram

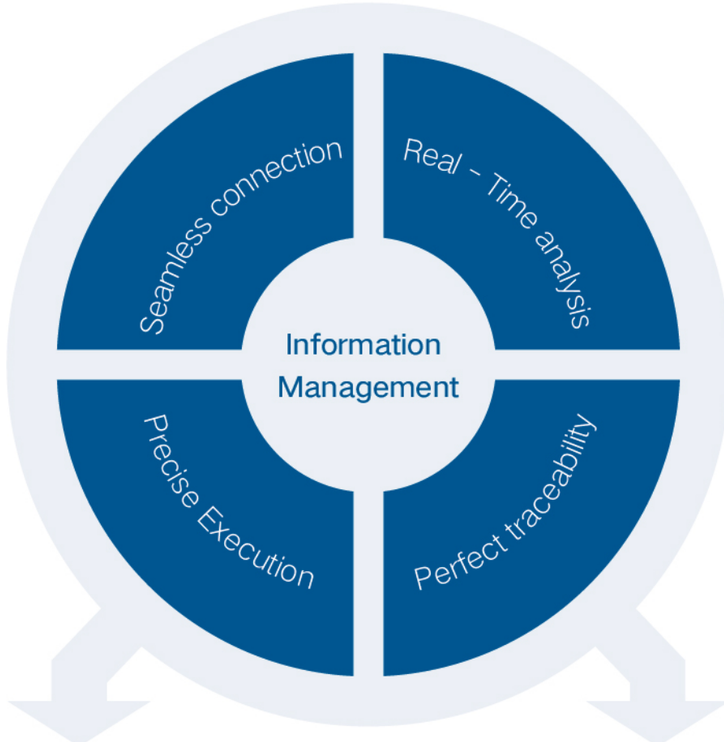
Magnetic Property - Traditional Production Process



Traditional Process

Grain Boundary Diffusion

Product Information - Intelligent Manufacturing



MES

Manufacturing Execution System
First magnet manufacturer implemented in China

Material Traceability

Full process tracking by Q-code from raw material to finished products

Order Management

SAP+MES
Seamless connection between customer order and job order

Process Management

Process data management

Quality Data Traceability

Testing device linked with MES

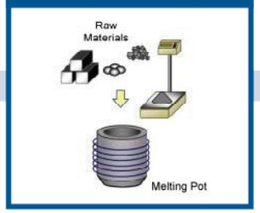
SCADA

Real-time Monitoring of Critical Process Parameters

Production Information – Manufacturing Process

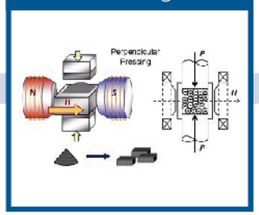
Production Flow Chart

Proportioning

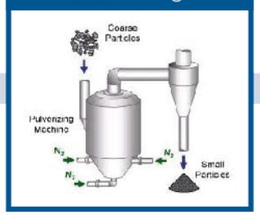


Strip Casting

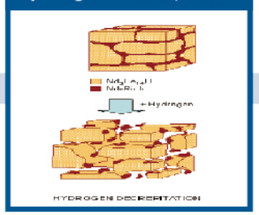
Molding



Jet Milling



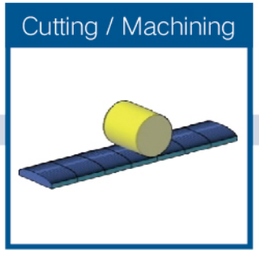
Hydrogen Decrepitation



Sintering & Annealing

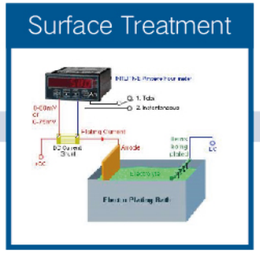
Inspection

Cutting / Machining

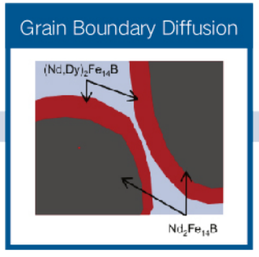


Inspection

Surface Treatment



Grain Boundary Diffusion



Packing

Delivery

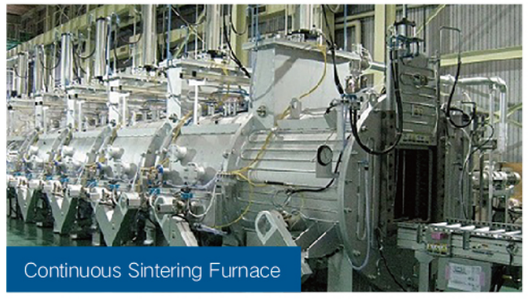
Production Information – Manufacturing Process

Major Production Equipments


Strip Casting Furnace


Hydrogen Decrepitation Furnace


Jet Milling


Continuous Sintering Furnace


Wire Sawing


Automatic Spraying Coating Line

Production Information - Property Parameters

Magnetic Properties of N-series Magnet

NO	Grade	Magnet Property				Max Working Temp T_w (°C)
		Remanence,Br mT or kGs	Coercivity,H_{cb} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product, $(BH)_{max}$ kJ/m³ or MGOe	
1	N55	1470-1530 (14.7-15.3)	⩾ 860 (⩾ 10.8)	⩾ 876 (⩾ 11)	414-438 (52-56)	70
2	N52	1430-1480 (14.3-14.8)	⩾ 860 (⩾ 10.8)	⩾ 876 (⩾ 11)	398-422 (50-53)	70
3	N50	1400-1450 (14.0-14.5)	⩾ 860 (⩾ 10.8)	⩾ 960 (⩾ 12)	382-406 (48-51)	70
4	N48	1380-1420 (13.8-14.2)	⩾ 836 (⩾ 10.5)	⩾ 900 (⩾ 11)	366-390 (46-49)	80
5	N45	1320-1380 (13.2-13.8)	⩾ 876 (⩾ 11.0)	⩾ 960 (⩾ 12)	342-366 (43-46)	80
6	N42	1280-1320 (12.8-13.2)	⩾ 923 (⩾ 11.6)	⩾ 960 (⩾ 12)	318-342 (40-43)	80
7	N40	1250-1280 (12.5-12.8)	⩾ 923 (⩾ 11.6)	⩾ 960 (⩾ 12)	302-326 (38-41)	80
8	N38	1220-1250 (12.2-12.5)	⩾ 899 (⩾ 11.3)	⩾ 960 (⩾ 12)	287-310 (36-39)	80
9	N35	1180-1220 (11.8-12.2)	⩾ 868 (⩾ 10.9)	⩾ 960 (⩾ 12)	263-287 (33-36)	80
10	N33	1130-1180 (11.3-11.8)	⩾ 836 (⩾ 10.5)	⩾ 960 (⩾ 12)	247-270 (31-34)	80
11	N30	1080-1130 (10.8-11.3)	⩾ 796 (⩾ 10)	⩾ 960 (⩾ 12)	223-247 (28-31)	80

Magnetic Properties of M-series Magnet

NO	Grade	Magnet Property				Max Working Temp T_w (°C)
		Remanence,Br mT or kGs	Coercivity,H_{cb} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product, $(BH)_{max}$ kJ/m³ or MGOe	
1	N55M	1470-1530 (14.7-15.3)	⩾ 1035 (⩾ 13.0)	⩾ 1114 (⩾ 14)	414-438 (52-56)	100
2	N52M	1430-1480 (14.3-14.8)	⩾ 1035 (⩾ 13.0)	⩾ 1114 (⩾ 14)	398-414 (50-52)	100
3	N50M	1400-1450 (14.0-14.5)	⩾ 1035 (⩾ 13.0)	⩾ 1114 (⩾ 14)	382-406 (48-51)	100
4	N48M	1380-1430 (13.7-14.3)	⩾ 1027 (⩾ 12.9)	⩾ 1114 (⩾ 14)	366-390 (46-49)	100
5	N45M	1330-1380 (13.2-13.8)	⩾ 995 (⩾ 12.5)	⩾ 1114 (⩾ 14)	342-366 (43-46)	100
6	N42M	1280-1330 (12.8-13.2)	⩾ 955 (⩾ 12.0)	⩾ 1114 (⩾ 14)	318-342 (40-43)	100
7	N40M	1250-1280 (12.5-12.8)	⩾ 923 (⩾ 11.6)	⩾ 1114 (⩾ 14)	302-326 (38-41)	100
8	N38M	1220-1250 (12.2-12.5)	⩾ 899 (⩾ 11.3)	⩾ 1114 (⩾ 14)	287-310 (36-39)	100
9	N35M	1180-1220 (11.8-12.2)	⩾ 868 (⩾ 10.9)	⩾ 1114 (⩾ 14)	263-287 (33-36)	100
10	N33M	1130-1180 (11.3-11.8)	⩾ 836 (⩾ 10.5)	⩾ 1114 (⩾ 14)	247-270 (31-34)	100
11	N30M	1080-1130 (10.8-11.3)	⩾ 796 (⩾ 10.0)	⩾ 1114 (⩾ 14)	223-247 (28-31)	100

Magnetic Properties of H-series Magnet

NO	Grade	Magnet Property				Max Working Temp T_w (°C)
		Remanence,Br mT or kGs	Coercivity,H_{cb} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product, $(BH)_{max}$ kJ/m³ or MGOe	
1	N54H	1450-1530 (14.5-15.3)	⩾ 1035 (⩾ 13.0)	⩾ 1274 (⩾ 16)	414-438 (52-55)	120
2	N52H	1430-1480 (14.3-14.8)	⩾ 1035 (⩾ 13.0)	⩾ 1274 (⩾ 16)	398-414 (50-52)	120
3	N50H	1400-1450 (14.0-14.5)	⩾ 1035 (⩾ 13.0)	⩾ 1274 (⩾ 16)	382-406 (48-51)	120
4	N48H	1370-1430 (13.7-14.3)	⩾ 1035 (⩾ 13.0)	⩾ 1274 (⩾ 16)	366-390 (46-49)	120
5	N46H	1330-1380 (13.3-13.8)	⩾ 1018 (⩾ 12.8)	⩾ 1274 (⩾ 16)	350-374 (44-47)	120
6	N45H	1330-1380 (13.3-13.8)	⩾ 1010 (⩾ 12.7)	⩾ 1353 (⩾ 17)	342-366 (43-46)	120
7	N44H	1310-1360 (13.1-13.6)	⩾ 1003 (⩾ 12.6)	⩾ 1353 (⩾ 17)	326-358 (42-45)	120
8	N42H	1280-1330 (12.8-13.3)	⩾ 995 (⩾ 12.5)	⩾ 1353 (⩾ 17)	318-342 (40-43)	120
9	N40H	1250-1280 (12.5-12.8)	⩾ 940 (⩾ 11.8)	⩾ 1353 (⩾ 17)	302-326 (38-41)	120
10	N38H	1220-1250 (12.2-12.5)	⩾ 899 (⩾ 11.3)	⩾ 1353 (⩾ 17)	287-310 (36-39)	120
11	N35H	1180-1220 (11.8-12.2)	⩾ 876 (⩾ 11.0)	⩾ 1353 (⩾ 17)	263-287 (33-36)	120
12	N33H	1130-1180 (11.3-11.8)	⩾ 844 (⩾ 10.6)	⩾ 1353 (⩾ 17)	247-271 (31-34)	120
13	N30H	1080-1130 (10.8-11.3)	⩾ 812 (⩾ 10.2)	⩾ 1353 (⩾ 17)	223-247 (28-31)	120

Production Information - Property Parameters

Magnetic Properties of SH-series Magnet

NO	Grade	Magnet Property				Max Working Temp T_w (°C)
		Remanence,Br mT or kGs	Coercivity,H_{cb} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product, $(BH)_{max}$ kJ/m³ or MGOe	
1	N52SH	1430-1450 (14.3-14.5)	⩾ 1050 (⩾ 13.2)	⩾ 1600 (⩾ 20)	406-430 (51-54)	150
2	N50SH	1400-1430 (14.0-14.3)	⩾ 1035 (⩾ 13.0)	⩾ 1600 (⩾ 20)	390-406 (49-51)	150
3	N48SH	1370-1430 (13.7-14.3)	⩾ 1003 (⩾ 12.6)	⩾ 1600 (⩾ 20)	366-390 (46-49)	150
4	N45SH	1320-1380 (13.2-13.8)	⩾ 1003 (⩾ 12.6)	⩾ 1600 (⩾ 20)	342-366 (43-46)	150
5	N44SH	1310-1350 (13.1-13.5)	⩾ 1003 (⩾ 12.6)	⩾ 1600 (⩾ 20)	334-358 (42-45)	150
6	N42SH	1280-1320 (12.8-13.2)	⩾ 995 (⩾ 12.5)	⩾ 1600 (⩾ 20)	318-342 (40-43)	150
7	N40SH	1250-1280 (12.5-12.8)	⩾ 947 (⩾ 11.9)	⩾ 1600 (⩾ 20)	302-326 (38-41)	150
8	N38SH	1220-1250 (12.2-12.5)	⩾ 931 (⩾ 11.7)	⩾ 1600 (⩾ 20)	287-310 (36-39)	150
9	N35SH	1180-1220 (11.8-12.2)	⩾ 907 (⩾ 11.4)	⩾ 1600 (⩾ 20)	263-287 (33-36)	150
10	N33SH	1130-1180 (11.3-11.8)	⩾ 844 (⩾ 10.6)	⩾ 1600 (⩾ 20)	247-271 (31-34)	150
11	N30SH	1080-1130 (10.8-11.3)	⩾ 804 (⩾ 10.1)	⩾ 1600 (⩾ 20)	223-247 (28-31)	150

Magnetic Properties of UH-series Magnet

NO	Grade	Magnet Property				Max Working Temp T_w (°C)
		Remanence,Br mT or kGs	Coercivity,H_{cb} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product, $(BH)_{max}$ kJ/m³ or MGOe	
1	N45UH	1310-1350 (13.1-13.5)	⩾ 1003 (⩾ 12.6)	⩾ 2000 (⩾ 25)	334-358 (42-45)	180
2	N42UH	1280-1320 (12.8-13.2)	⩾ 907 (⩾ 11.4)	⩾ 2000 (⩾ 25)	318-342 (40-43)	180
3	N40UH	1250-1280 (12.5-12.8)	⩾ 907 (⩾ 11.4)	⩾ 2000 (⩾ 25)	302-326 (38-41)	180
4	N38UH	1220-1250 (12.2-12.5)	⩾ 907 (⩾ 11.4)	⩾ 2000 (⩾ 25)	287-310 (36-39)	180
5	N35UH	1180-1220 (11.8-12.2)	⩾ 875 (⩾ 11.0)	⩾ 2000 (⩾ 25)	263-287 (33-36)	180
6	N33UH	1130-1180 (11.3-11.8)	⩾ 844 (⩾ 10.6)	⩾ 2000 (⩾ 25)	247-271 (31-34)	180
7	N30UH	1080-1130 (10.8-11.3)	⩾ 835 (⩾ 10.5)	⩾ 2000 (⩾ 25)	223-247 (28-31)	180
8	N28UH	1020-1080 (10.2-10.8)	⩾ 764 (⩾ 9.6)	⩾ 2000 (⩾ 25)	207-239 (26-30)	180

Magnetic Properties of EH-series / AH-series Magnet

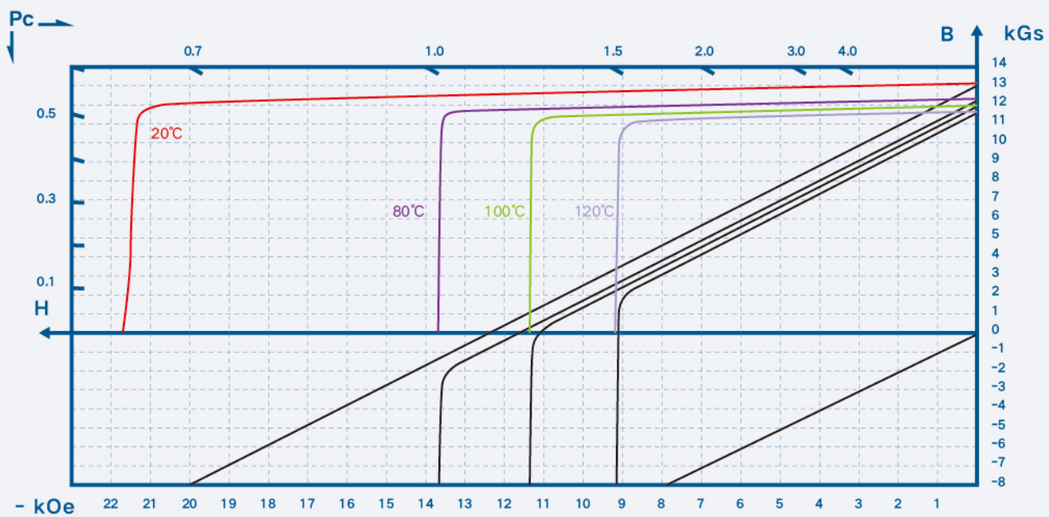
NO	Grade	Magnet Property				Max Working Temp T_w (°C)
		Remanence,Br mT or kGs	Coercivity,H_{cb} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product, $(BH)_{max}$ kJ/m³ or MGOe	
1	N42EH	1280-1310 (12.8-13.1)	⩾ 907 (⩾ 11.4)	⩾ 2388 (⩾ 30)	320-340 (38-41)	200
2	N40EH	1250-1280 (12.5-12.8)	⩾ 907 (⩾ 11.4)	⩾ 2388 (⩾ 30)	302-326 (38-41)	200
3	N38EH	1220-1250 (12.2-12.5)	⩾ 907 (⩾ 11.4)	⩾ 2388 (⩾ 30)	287-310 (36-39)	200
4	N35EH	1180-1220 (11.8-12.2)	⩾ 876 (⩾ 11.0)	⩾ 2388 (⩾ 30)	263-287 (33-36)	200
5	N33EH	1130-1180 (11.3-11.8)	⩾ 812 (⩾ 10.2)	⩾ 2388 (⩾ 30)	247-271 (31-34)	200
6	N30EH	1080-1130 (10.8-11.3)	⩾ 812 (⩾ 10.2)	⩾ 2388 (⩾ 30)	223-247 (28-31)	200
7	N28EH	1040-1080 (10.4-10.8)	⩾ 780 (⩾ 9.8)	⩾ 2400 (⩾ 30)	207-231 (26-29)	200
8	N38AH	1220-1250 (12.2-12.5)	⩾ 907 (⩾ 11.4)	⩾ 2706 (⩾ 34)	287-310 (36-39)	240
9	N35AH	1180-1220 (11.8-12.2)	⩾ 812 (⩾ 10.2)	⩾ 2785 (⩾ 35)	263-287 (33-36)	240
10	N33AH	1130-1180 (11.3-11.8)	⩾ 812 (⩾ 10.2)	⩾ 2785 (⩾ 35)	247-271 (31-34)	240
11	N30AH	1080-1130 (10.8-11.3)	⩾ 812 (⩾ 10.2)	⩾ 2785 (⩾ 35)	223-247 (28-31)	240

Remarks

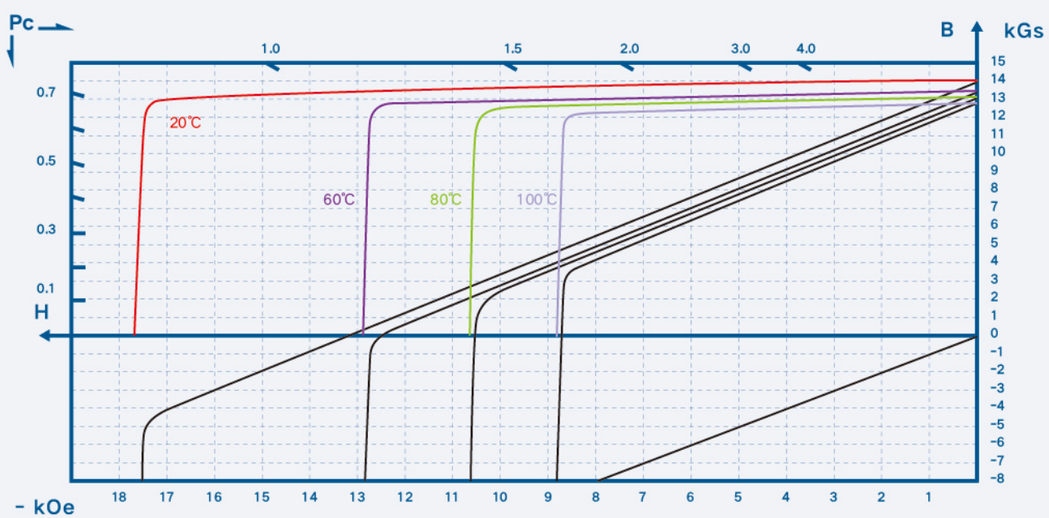
- The above data is developed with reference to the Chinese National Standard GB/T13560
- The testing method is according to the Magnetic Material Testing Standard GB/T3217
- For high temperature features, specification is to be determined according to clients' requirement.
- Conversion between SI and CGS: 1T=10kGs, 1kOe=79.6kA/m, 1MGOe=7.96kJ/m³
- The Max. Working Temperature refers to the temperature point when the irreversible flux loss under open-circuit test is ⩽5%, while the PC value of magnet L/D=0.7.

Product Information - Demagnetization Curve

HRE Free-42SH

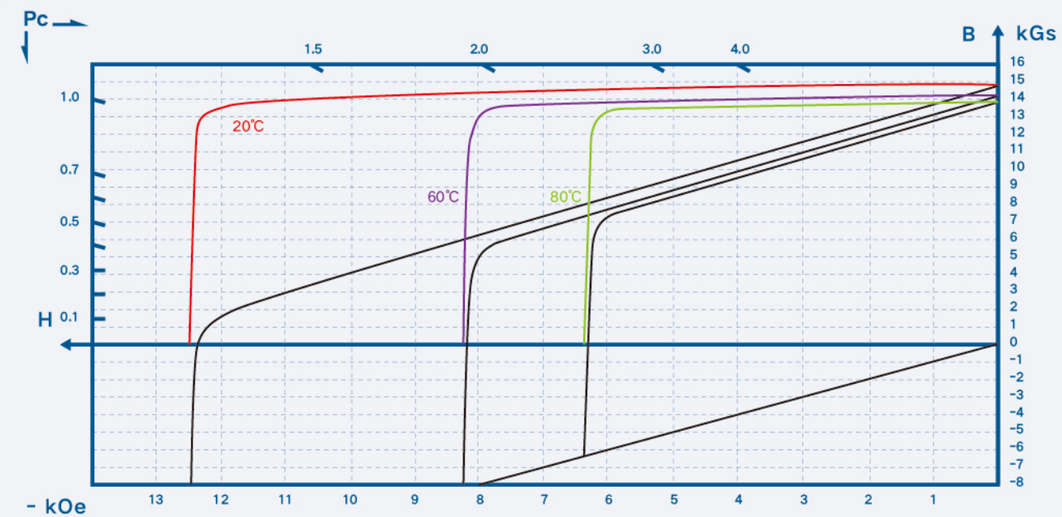


HRE Free-48H

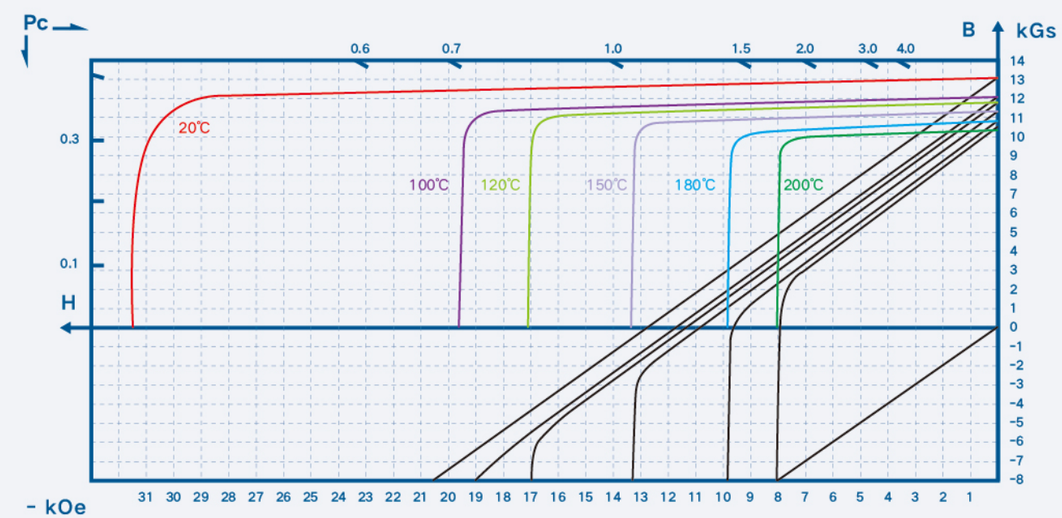


Product Information - Demagnetization Curve

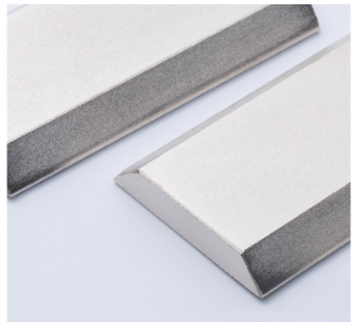
N55



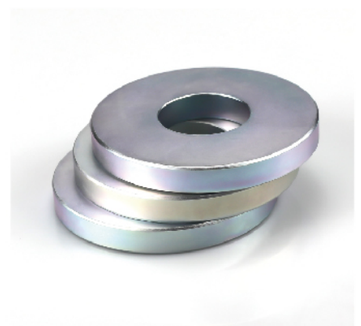
42EH

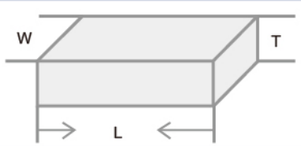
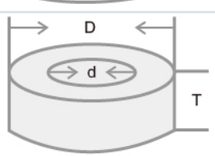
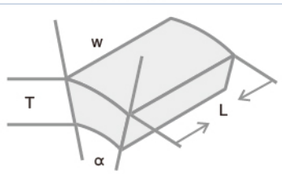


Product Information - Dimension and Coating





Shape Type	Picture	Dimenion	Recommended Dimension/mm	Maximum Dimension/mm
Block		L	≤ 180	≤ 220
		W	≤ 120	≤ 150
		T	≤ 60	≤ 80
Cylinder		D	≤ 150	≤ 220
		T	≤ 60	≤ 80
Ring		D	≤ 120	≤ 160
		d	≤ 80	≤ 100
		T	≤ 45	≤ 65
Segment		L	≤ 180	≤ 220
		W	≤ 120	≤ 150
		T	≤ 60	≤ 80
		α	0-180°C	

Weight limit per piece: ≤5kg for "Recommended dimension"; ≤10kg for "Maximum dimension",
The Maximum Dimension may be related with the magnet grade.

Product Information - Dimension and Coating

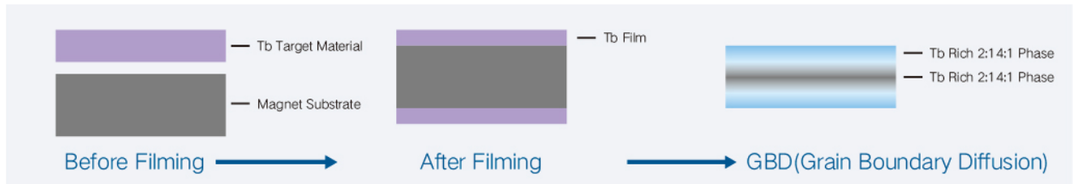
Coating Type	Color	Thickness/um	SST/h	PCT/h	Working Temp/°C	Performance Features
Blue Zn	Blue/White	5-10	≥ 48	-	< 160	Good corrosion resistance
Color Zn	Multiple colors	5-10	≥ 72	-	< 160	Good corrosion resistance
NICUNI	Silver white	10-30	≥ 72	≥ 96	< 200	Very good corrosion resistance, thermal resistance and moisture resistance
PVD Aluminium	Silver white	5-25	≥ 96	≥ 240	< 390	Very good corrosion resistance and adhesiveness
Phosphate	-	-	-	-	< 250	Low cost, low corrosion resistance performance
Epoxy	Black/Grey	10-30	≥ 480	≥ 96	< 180	Excellent corrosion resistance, non-conductive
Multi-layer coating	-	-	≥ 1000	≥ 480	-	Excellent corrosion resistance
Bluing	Blue	-	-	-	< 250	Low cost, low corrosion resistance performance

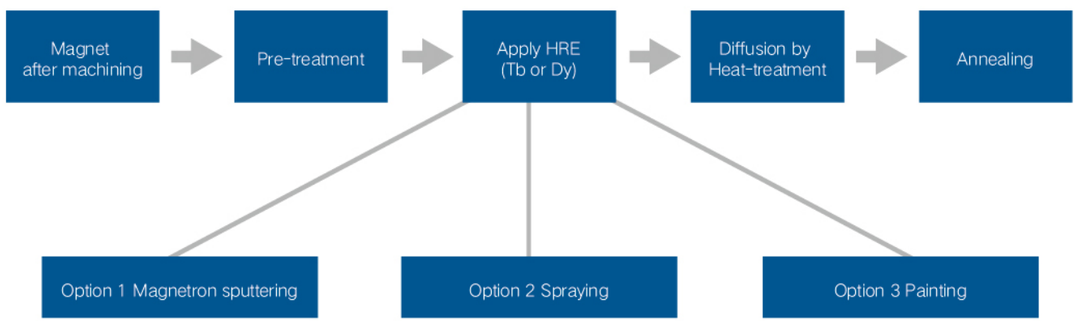
Remarks

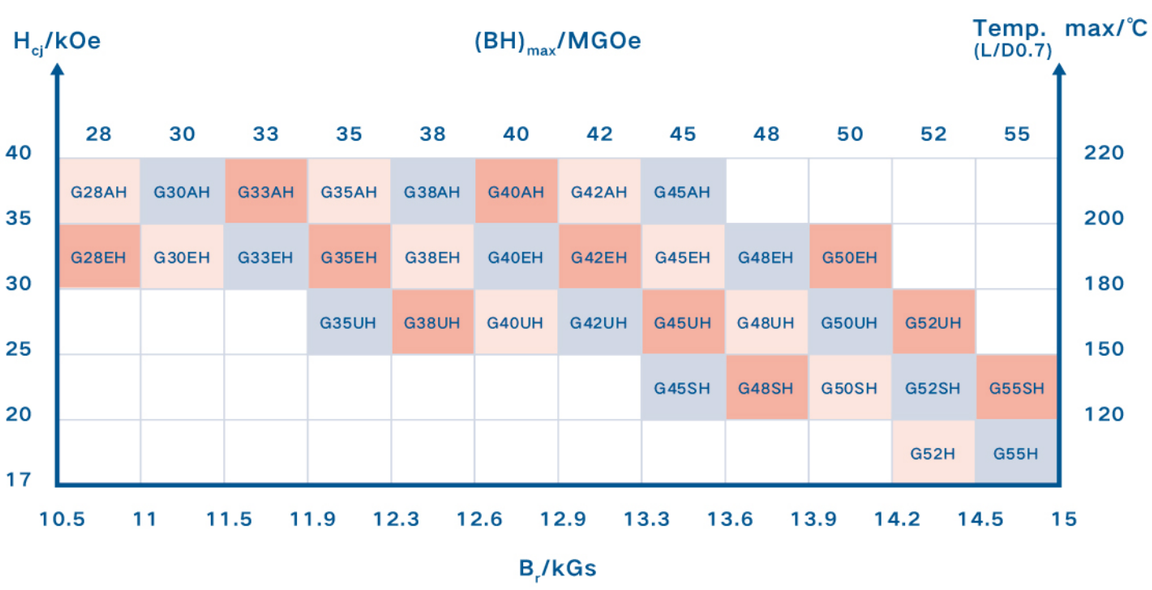
- The above data represent the best performance. The actual specification is to be adjusted according to variable product size and shape.
- Multi-layer coatings is a combination of different type of coatings. It's color, thickness and working temperature may vary from different combinations.
- Test condition of PCT: 121℃, 100% humidity, 2 atms
- Test condition of HAST: 132℃, 95% humidity, 2.7 atms. HAST is to evaluate the weight loss of magnet after testing, the lower the better.

Product Information - Grain Boundary Diffusion

Grain Boundary Diffusion







Product Information - Grain Boundary Diffusion

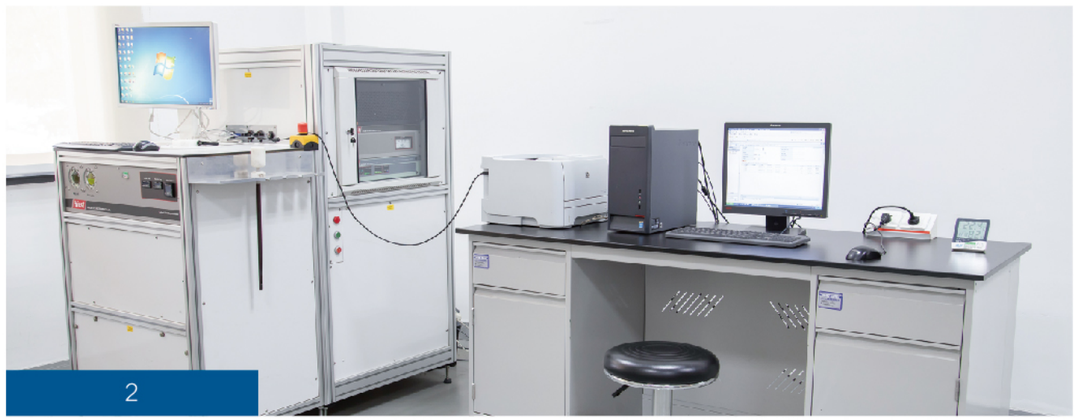
Magnetic Properties of GBD Magnets

Grade	Remanence,Br mT or kGs	Coercivity,H_{cB} kA/m or kOe	Intrinsic Coercivity,H_{cJ} kA/m or kOe	Maximum Energy Product,$(BH)_{max}$ kJ/m or MGOe	Max Working Temp T_w(°C)
G55H	1440-1480 (14.4-14.8)	⩾ 1061 (⩾ 13.3)	⩾ 1353 (⩾ 17)	398-422 (53-56)	120
G52H	1410-1470 (14.1-14.7)	⩾ 1050 (⩾ 13.2)	⩾ 1353 (⩾ 17)	398-422 (50-53)	120
G55SH	1440-1480 (14.4-14.8)	⩾ 1050 (⩾ 13.3)	⩾ 1592 (⩾ 20)	398-422 (53-56)	150
G52SH	1430-1450 (14.3-14.5)	⩾ 1050 (⩾ 13.2)	⩾ 1592 (⩾ 20)	406-430 (51-54)	150
G50SH	1400-1450 (14.0-14.5)	⩾ 1035 (⩾ 13.0)	⩾ 1592 (⩾ 20)	382-406 (48-51)	150
G48SH	1370-1430 (13.7-14.3)	⩾ 1035 (⩾ 13.0)	⩾ 1592 (⩾ 20)	366-390 (46-49)	150
G45SH	1320-1370 (13.2-13.7)	⩾ 1003 (⩾ 12.6)	⩾ 1592 (⩾ 20)	342-366 (43-46)	150
G52UH	1410-1470 (14.1-14.6)	⩾ 1050 (⩾ 13.2)	⩾ 1990 (⩾ 25)	398-422 (50-53)	180
G50UH	1400-1450 (14.0-14.5)	⩾ 1035 (⩾ 13.0)	⩾ 1990 (⩾ 25)	382-406 (48-51)	180
G48UH	1370-1430 (13.7-14.3)	⩾ 1035 (⩾ 13.0)	⩾ 1990 (⩾ 25)	366-390 (46-49)	180
G45UH	1300-1360 (13.0-13.6)	⩾ 1003 (⩾ 12.6)	⩾ 1990 (⩾ 25)	342-366 (43-46)	180
G42UH	1280-1340 (12.8-13.4)	⩾ 907 (⩾ 11.4)	⩾ 1990 (⩾ 25)	318-342 (40-43)	180
G40UH	1260-1310 (12.6-13.1)	⩾ 907 (⩾ 11.4)	⩾ 1990 (⩾ 25)	302-326 (38-41)	180
G50EH	1400-1450 (14.0-14.5)	⩾ 1035 (⩾ 13.0)	⩾ 2388 (⩾ 30)	382-406 (48-51)	200
G48EH	1370-1430 (13.7-14.3)	⩾ 1035 (⩾ 13.0)	⩾ 2388 (⩾ 30)	366-390 (46-49)	200
G45EH	1300-1360 (13.0-13.6)	⩾ 1003 (⩾ 12.6)	⩾ 2388 (⩾ 30)	342-366 (43-46)	200
G42EH	1280-1320 (12.8-13.2)	⩾ 907 (⩾ 11.4)	⩾ 2388 (⩾ 30)	318-342 (40-43)	200
G40EH	1260-1310 (12.6-13.1)	⩾ 907 (⩾ 11.4)	⩾ 2388 (⩾ 30)	302-326 (38-41)	200
G38EH	1220-1270 (12.2-12.7)	⩾ 907 (⩾ 11.4)	⩾ 2388 (⩾ 30)	287-310 (36-39)	200
G45AH	1300-1360 (13.0-13.6)	⩾ 1003 (⩾ 12.6)	⩾ 2786 (⩾ 35)	342-366 (43-46)	220
G42AH	1280-1340 (12.8-13.4)	⩾ 907 (⩾ 11.4)	⩾ 2786 (⩾ 35)	318-342 (40-43)	220
G40AH	1260-1310 (12.6-13.1)	⩾ 907 (⩾ 11.4)	⩾ 2786 (⩾ 35)	302-326 (38-41)	220
G38AH	1220-1250 (12.2-12.5)	⩾ 907 (⩾ 11.4)	⩾ 2786 (⩾ 35)	287-310 (36-39)	220
G35AH	1160-1230 (11.6-12.3)	⩾ 812 (⩾ 10.2)	⩾ 2786 (⩾ 35)	263-287 (33-36)	220

Note: The magnet property is measured under room temperature between 20-23 degrees Celsius

Technical Capability - Quality Assurance

1



2

3

4

Technical Capability - Quality Assurance

5

6

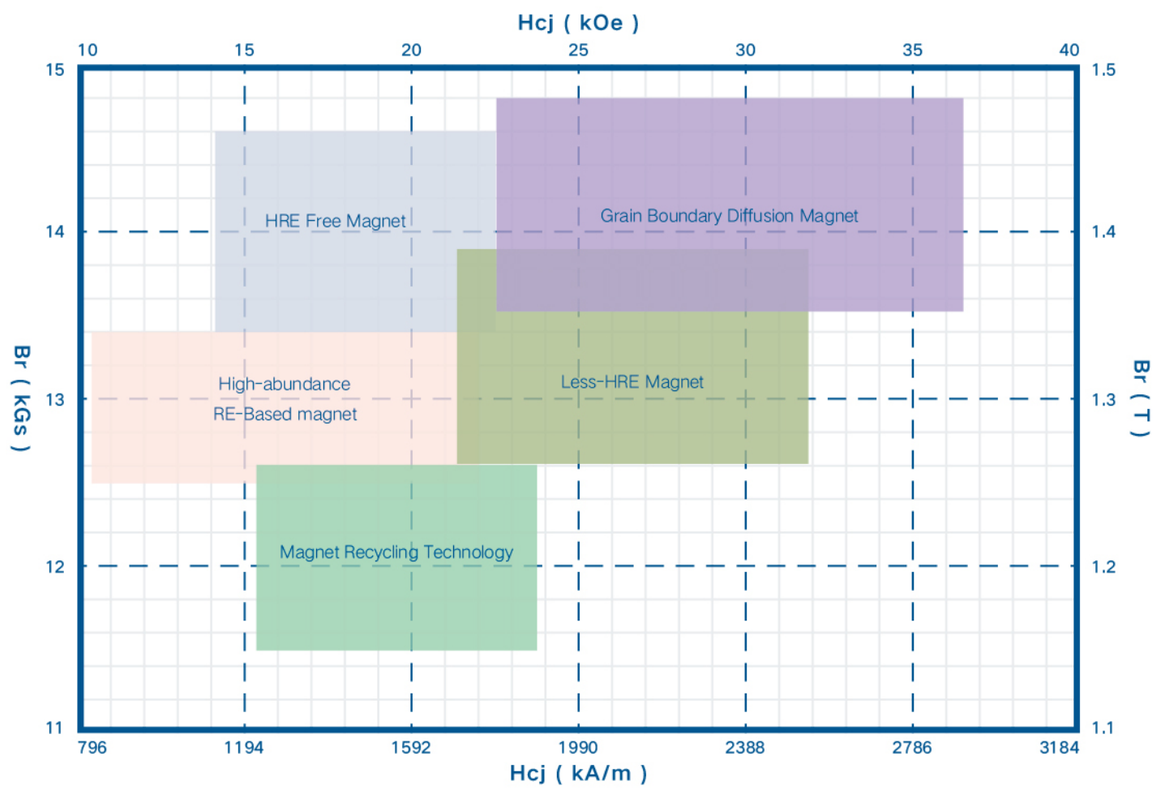
1. Horiba Ultima Expert -ICP-OES
2. Hirst PFM-12 -Pulsed field Magnetometer
3. NIM62000TB - High Temperature Magnetic Property Measurement Instrument
4. Keyence IM8020 -Image Dimension Measurement System
5. Horiba EMG830 -Oxygen/Nitrogen/Hydrogen Analyzer
6. Leica-Leitz Automatic Cleanliness Test System

Technical Capability - Research and Development

R & D Center

Research Achievements

Development Direction

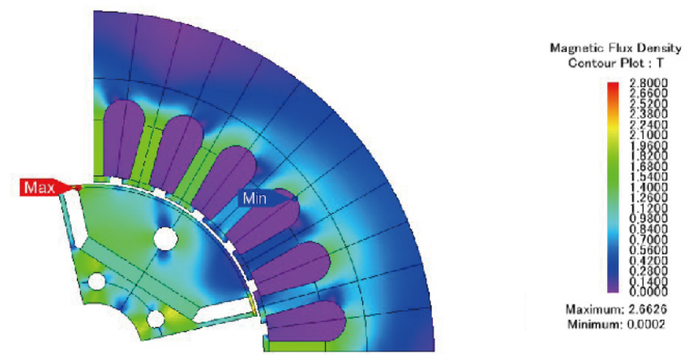


Technical Capability - Magnetic Circuit Simulation

■ Magnetic Circuit Analysis

Motor simulation diagram

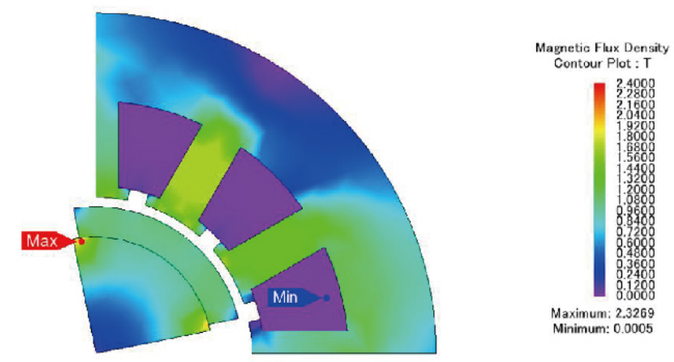
IPM



■ Magnetic Circuit Analysis

Motor simulation diagram

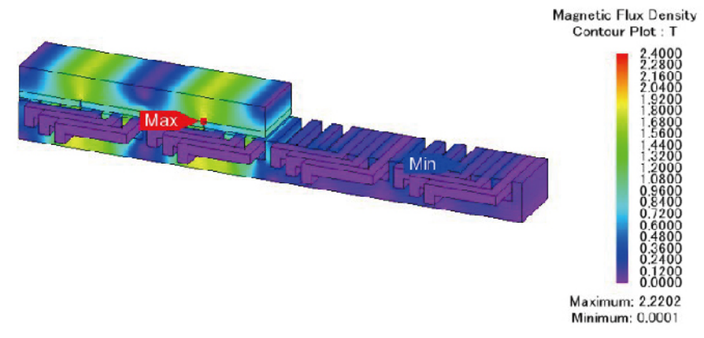
SPM



■ Magnetic Circuit Analysis

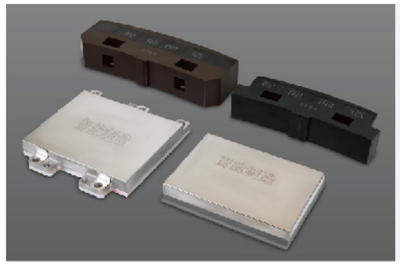
Motor simulation diagram

Linear Motor



Magnet Assembly - Product

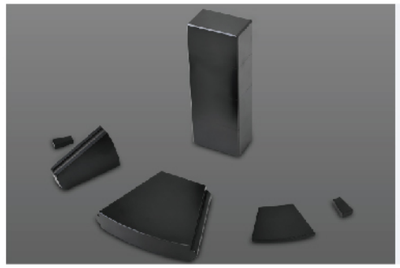
Production Introduction



Magnet Module Assembly for Wind Turbine Generator

Application: Wind Turbine

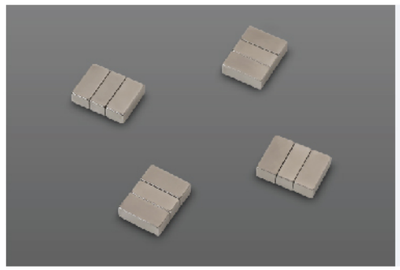
Features: High Performance + HeavyRareEarth-Free Technology,
High Corrosion Resistance Coating Technology
Laser welding Technology,
High strength High precision lamination Technology
Multi-dimensional Glue dispensing & Automatic assembly Technology,
Excellent Adhesive Strength
Multipole magnetization and measurement,
and magnetic application analysis



Laminated Magnet for EV

Application:
Drive motor for EV/HEV, in-wheel Motor, Motor for urban rail transit vehicle

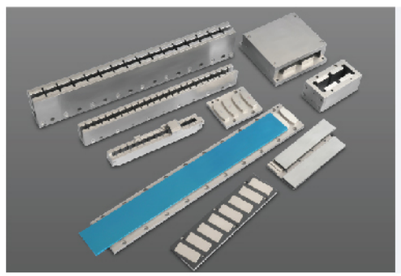
Features:
Insulation between magnets, lower electromagnetic induction and eddy current, low heat, and large torque



Vibration Motor

Application:
Electronic devices

Features:
small range of magnetic moment, consistent performance,
high vibration force, small size and low noise



Stator for linear motor

Application:
IC Chip manufacturing equipment, high precision machining equipment

Features:
high-precision & long-distance movement, high-load transmission,
Short accelerating time for frequent reciprocation,
high repositioning precision, long operation life

Magnet Assembly - Production Facility

Production Facility

Fully equipped in-house production can assure the fast prototype production.
Sufficient outsource capability and convenient component purchasing.
Automatic equipment, internally developed and manufactured, can assure the production capacity ramp up.

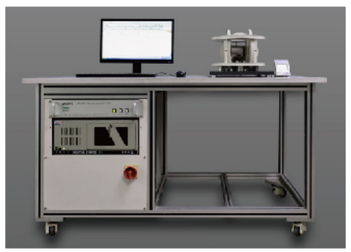
Machining Workshop

Automatic line for loading, marking, magnetization, measurement and packing

Inspection Technology

Full range of inspection of magnetic properties, mechanical features, corrosion resistance features, etc.

MZ-MRTS501 Measuring apparatus of magnetic field distribution



KCS-908PC Angle error (magnetic moment) measurement instrument

Left: PSL-2J High/Low temperature test chamber
Right: EHS-222MD HAST test chamber

CMT5205 Universal Mechanical Testing Facility

Automatic Video-measurement Instrument

CMM