



BRIGHT-MAG MAGNETICS

Magnetize The World Together

 **Ningbo China-Base Group Co., Ltd**
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Company Profile

Ningbo Bright-Mag Magnetics Co., Ltd is a magnet company under Ningbo China-Base Group Co., Ltd. (CBNB), who is one of the leaders of foreign trade company in Ningbo and Zhejiang.

Bright-Mag is mainly engaged in sintered NdFeB magnet and magnetic assembly. We supports our clients at each stage of the magnet supply chain—from raw material production and cost control to production management, quality assurance, domestic transportation and global logistics management.

Magnetic materials are widely used in wind power generation, new energy vehicles, auto parts, robots, elevators, energy-saving variable frequency air conditioners, motors, medical equipment, household appliances, national defense and military industry, electric tools, aerospace and other high-tech fields.

We take "Quality first, credit principal, refining uppermost" as our core value. We strive to achieve mutual benefit and win-win situation with our customers and become one of the most competitive and reliable product and service suppliers.



Product Introduction

• Typical Magnet

Disc, Cylinder, Ring, Block, Arc, Pot, Hook, Bar, etc.



• Magnetic Assembly and Tool

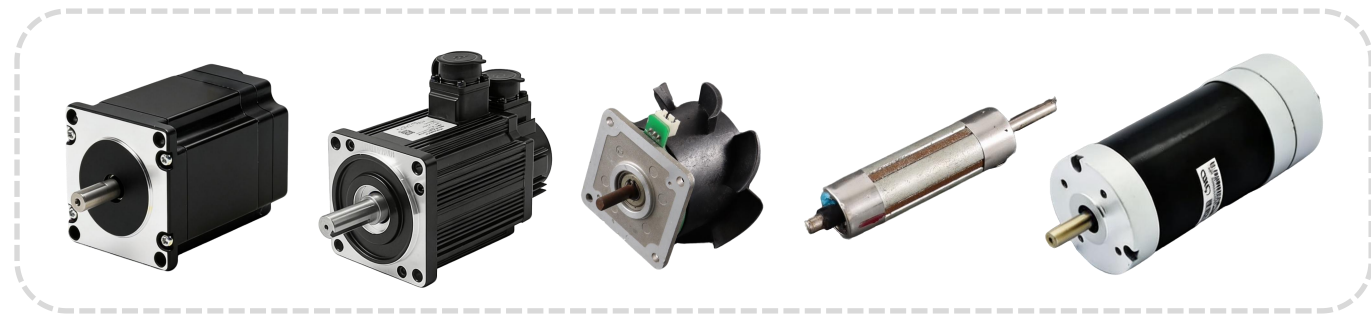
Rotor Magnet, Stator Magnet, Magnetic Holder



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Freely assembled and enough space

• Magnetic Motor

Stepper Motor, Servo Motor, Brushless Motor



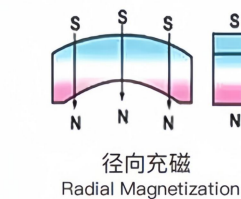
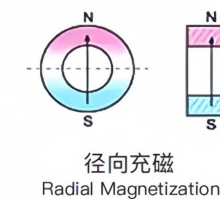
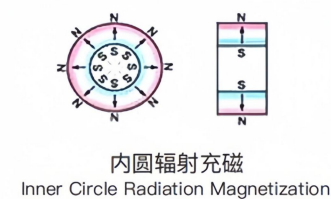
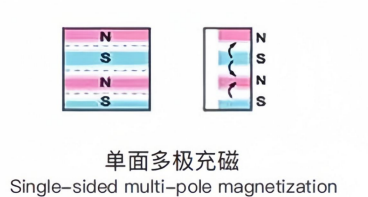
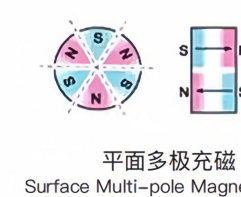
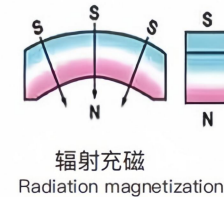
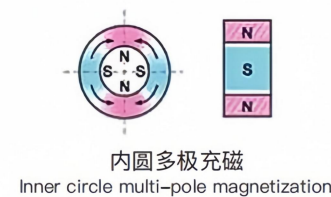
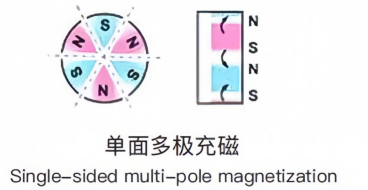
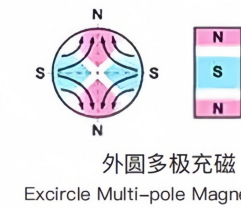
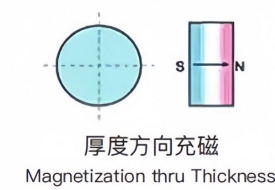
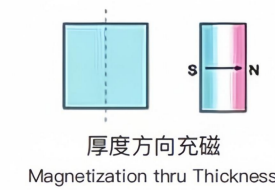
Physical Properties

Parameter	Unit	Standard Data
Curie Temperature (Tc)	°C	310~380
Maximum Operating Temperature (Tw)	°C	80~230
Vickers Hardness	Hv	620
Electrical Resistivity (ρ)	Ω·cm	1.8x10 ⁻⁴ ~2.0x10 ⁻⁴
Density (D)	g/cm	7.45~7.65
Recoil Permeability (μrec)		1.02~1.05
Temp. Coefficient of Br (αBr)	%/°C	-0.11~-0.12
Temp. Coefficient of Hcj (βHcj)	%/°C	-0.5~-0.6
Saturation Field Strength	KOe KA/m	30~40 2400~3200
Tensile Strength	Mpa	80
Specific Heat	Kj·kg·°C	0.502
Young's Modulus	N/m ²	0.16x10 ¹¹
Poisson's Ratio		0.24
Thermal Conductivity	/°C	4x10 ⁻⁶
Thermal Conductivity	W/m·k	8.9551
Compressibility	m ² /N	9.8x10 ⁻¹²
Compressive Strength	Mpa	1050
Coefficient of Thermal Expansion (C//)	10 ⁻⁶ /k	6.5
Coefficient of Thermal Expansion (C⊥)	10 ⁻⁶ /k	-1.5
Bending Strength	Mpa	295~345



Coating and Magnetization

Coating Type	Code	Typical Thickness	Color	Characteristics
Nickel Coating	NiCuNi	10~20μm	Silver	Good Hardness and Good Anti-corrosion
Zinc Coating	Zn CR3+	8~20μm	Blue	Common Anti-corrosion
	Black Zn		Black	Common Anti-corrosion and Special Color Requested
	CZn CR3+		Light Color	Good Anti-corrosion
Phosphate /Passivation	Phosphate /Passivation	0.1~0.3μm	Grey Black (Yellow)	Anti-rust in Short-term
Epoxy	Epoxy	15~25μm	Black	Excellent Anti-corrosion
	Ni·Cu·Epoxy		Black	Excellent Anti-corrosion
Chemical Coating	Chemical Ni	10~20μm	Dark Silver	Good Anti-corrosion and Even Coating Layer
Tin Coating	Ni·Cu·Sn	15~20μm	Silver	Excellent Anti-corrosion

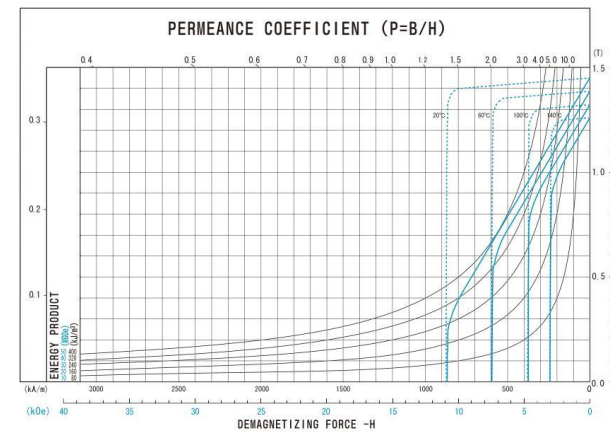


Magnetic Properties

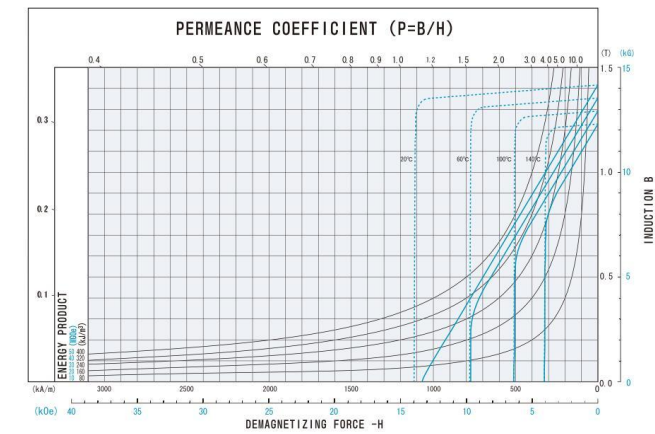
Grade	Br		Hcb		Hcj		(BH)max		Working Temperature
	T	KGs	KA/m	KOe	KA/m	KOe	KJ/m3	MGOe	°C
N35	1.17-1.22	11.7-12.2	868	10.9	955	12	263-287	33-36	80
N38	1.22-1.26	12.2-12.6	899	11.3	955	12	287-311	36-39	80
N40	1.25-1.29	12.5-12.9	923	11.6	955	12	303-327	38-41	80
N42	1.28-1.32	12.8-13.2	923	11.6	955	12	319-343	40-43	80
N45	1.32-1.37	13.2-13.7	876	11.0	955	12	343-367	43-46	80
N48	1.37-1.42	13.7-14.2	892	11.2	955	12	367-391	46-49	80
N50	1.39-1.44	13.9-14.4	836	10.5	955	12	383-406	48-51	80
N52	1.42-1.47	14.2-14.7	836	10.5	876	11	399-422	50-53	80
N35M	1.17-1.22	11.7-12.2	868	10.9	1114	14	263-287	33-36	100
N38M	1.22-1.26	12.2-12.6	899	11.3	1114	14	287-311	36-39	100
N40M	1.25-1.29	12.5-12.9	923	11.6	1114	14	303-327	38-41	100
N42M	1.28-1.32	12.8-13.2	955	12.0	1114	14	319-343	40-43	100
N45M	1.32-1.37	13.2-13.7	995	12.5	1114	14	343-367	43-46	100
N48M	1.37-1.42	13.7-14.2	1019	12.8	1114	14	367-391	46-49	100
N50M	1.39-1.44	13.9-14.4	1035	13.0	1114	14	383-406	48-51	100
N52M	1.42-1.47	14.2-14.7	955	12.5	1035	13	399-422	50-53	100
N35H	1.17-1.22	11.7-12.2	868	10.9	1353	17	263-287	33-36	120
N38H	1.22-1.26	12.2-12.6	899	11.3	1353	17	287-311	36-39	120
N40H	1.25-1.29	12.5-12.9	923	11.6	1353	17	303-327	38-41	120
N42H	1.28-1.32	12.8-13.2	955	12.0	1353	17	319-343	40-43	120
N45H	1.32-1.37	13.2-13.7	971	12.2	1353	17	343-367	43-46	120
N48H	1.37-1.42	13.7-14.2	1027	12.9	1353	17	367-391	46-49	120
N50H	1.39-14.4	13.9-14.4	1035	13.0	1274	16	383-406	48-51	120
N35SH	1.17-1.22	11.7-12.2	876	11.0	1592	20	263-287	33-36	150
N38SH	1.22-1.26	12.2-12.6	907	11.4	1592	20	287-311	36-39	150
N40SH	1.25-1.29	12.5-12.9	939	11.8	1592	20	303-327	38-41	150
N42SH	1.28-1.32	12.8-13.2	971	12.2	1592	20	319-343	40-43	150
N45SH	1.32-1.37	13.2-13.7	979	12.3	1592	20	343-367	43-46	150
N48SH	1.37-1.42	13.7-14.2	955	12.5	1512	19	367-391	46-49	150
N30UH	1.08-1.13	10.8-11.3	812	10.2	1990	25	223-247	28-31	180
N33UH	1.13-1.17	11.3-11.7	852	10.7	1990	25	247-271	31-34	180
N35UH	1.17-1.22	11.7-12.2	860	10.8	1990	25	263-287	33-36	180
N38UH	1.22-1.26	12.2-12.6	876	11.0	1990	25	287-311	36-39	180
N40UH	1.25-1.29	12.5-12.9	915	11.5	1990	25	303-327	38-41	180
N42UH	1.27-1.32	12.7-13.2	971	12.2	1990	25	319-343	40-43	180
N45UH	1.32-1.36	13.2-13.6	987	12.4	1990	25	343-367	43-46	180

Demagnetized Curves

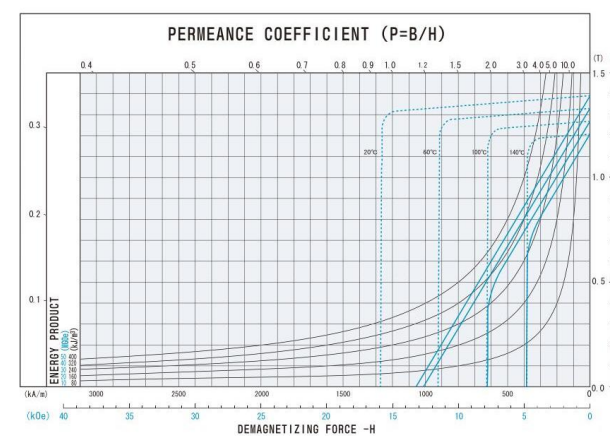
N52



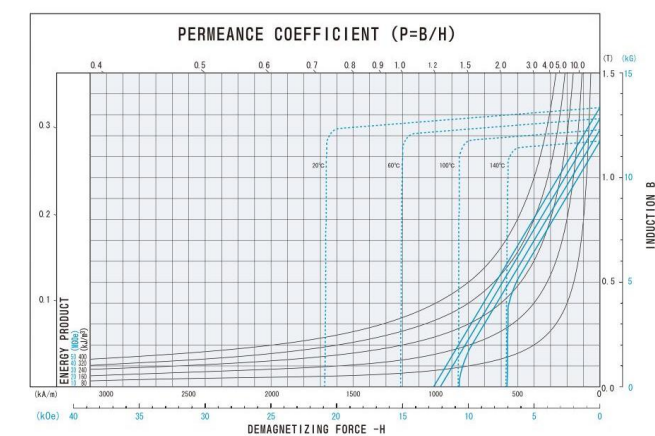
N50M



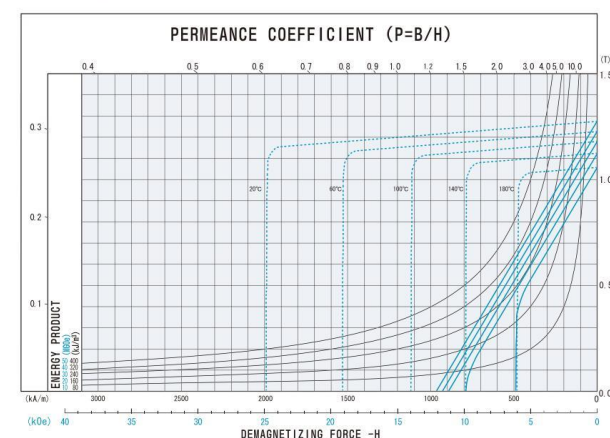
N50H



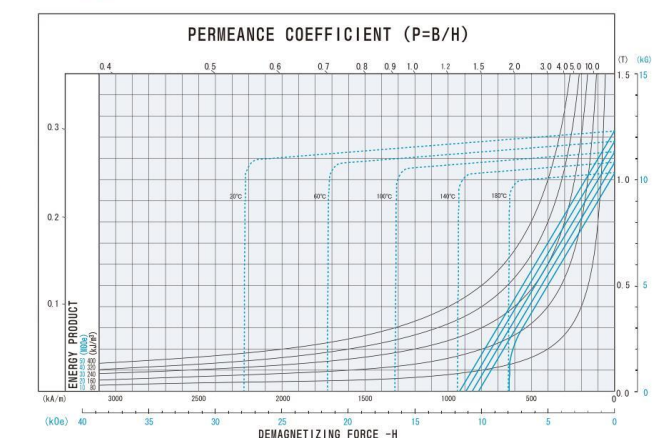
N46SH



N40UH



N38EH



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Production Equipment

Jet Mill



Isostatic Pressing Machine



Coating Production Line



Clean Packaging Workshop



Continuous Melting Furnace



Vacuum Sintering Surface



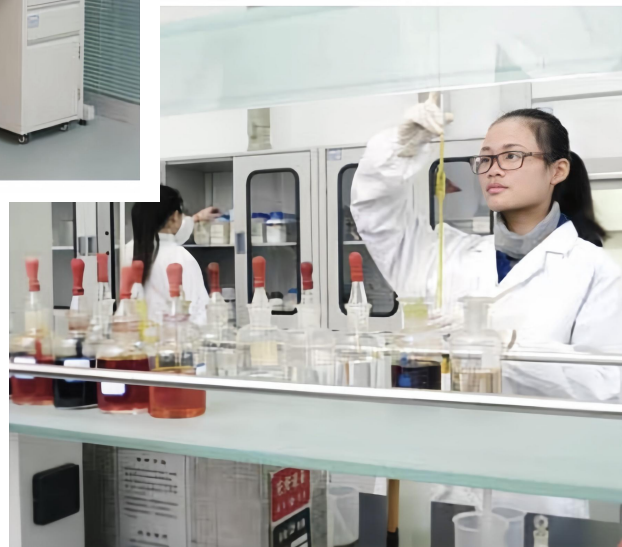
Multi-wire Cutting Machine



Grinding Machine

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Quality Control



- **Shear Force Tester**
It can help to simulate the product assembling in motor. We can test the bonding performance of the magnetic assembly by the adhesion between magnet and glue.



- **Magnetic declination Tester**
It can test the magnetic declination to help analyze and evaluate different magnetic declination's effects on motors or sensors.
- **MOMENT Tester**
It applies Helmholtz coil and magnetic fluxmeter, the output signal from the coil is directly transmitted to the fluxmeter. After the magnet has been magnetized, it will be under remanent magnetization (open circuit). The advantages are fast speed, high accuracy and small error. It's suitable for measuring products with complex shapes.
- **HAST Tester**
It can accelerate the simulation of the use of magnets in harsh environments. Weight loss <math>< 2\text{mg/cm}^2</math> after 168 hours in the environment of 130°C , 2.6Bar atmospheric pressure and 95% humidity. It is equivalent to running for over 15 years in the normal operational environment of motors.



Bright-Mag Magnetics currently has long-term cooperation with about 17 countries, we mainly supplying customers with magnet and magnetic assembly for motor and automobile etc.

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Typical Customers

The Application

● Automotive industry

Magnets are widely applied in the automotive industry. There are 30 parts requiring magnet in each car. They can be found in ABS brake control systems, automatic clutches, power window mechanisms, windshield wiper motors, directional lighting controls, seat motion motors, automatic parking equipment, seat belt usage detection, generators, interior space closures, etc.

● Magnetic Assembly and Engineering

Industrial magnets can be magnetic assemblies consisting of magnets and some other components like metal, plastic, nylon, etc. The main applications are various motors, stators, rotors, generators, engines, couplings, lifts, separators, filters, tools, electric vehicles, etc.



● Audio System

Magnets can be found in every professional audio system. Magnet is the key component of sound. It provides a permanent magnetic field to the coils in it, and the rapid alternating directions of the current cause the cone to vibrate back and forth, and then the audio signal comes out of the speaker.

● Wind Generator

Magnets play a very important role in the renewable energy market. Magnetic materials offer different solutions for wind, tidal and wave energy enhancement. By using magnets and corresponding solutions, you can reduce or even eliminate gearboxes in wind turbines. The working environment of wind turbines is very harsh and must be able to withstand heat, cold, wind, humidity and even salt spray tests.

● Household Equipment

The kitchen appliances contain DC motors, and so do the electric toothbrushes. Most small household appliances require small DC motors for operation, which require small NdFeB magnets. Small magnets are also used in door locks, fire doors and premium kitchen doors etc.