

MAGNET

CATALOGUE

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SHENZHEN JIELING INDUSTRIES CO., LTD

Specialized Permanent Magnetic Material

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■ Brief

- Founded in 2004, we are a high-tech enterprise specializing in the research, development, design, production and sales of magnetic materials.
- After years of development, we have a group of experienced R&D technicians and manufacturing personnel, using advanced automated production equipment and technology, relying on advanced management concepts and perfect management system, to ensure our high-quality products. The company has passed the ISO9001, ISO18001, ISO14001, TS16949 and other management system certification.
- Magnetic materials are including neodymium magnet (NdFeB), aluminum nickel-cobalt-magnet (AlNiCo), samarium cobalt magnet (SmCo), ferrite permanent magnet (Ferrite).
- Products are including different shaped magnets processed from different magnetic materials and various related magnetic components like rubber magnet, fridge magnet, strong removal ferromagnetic frame, etc.



■ Advantage

- Core Technology: With an advanced R&D center, top-notch QC team and professional machinists, we surpass competitors for quality, reliability and design.
- Strong Production Ability: With advanced facilities & various production molds, we could produce high grade magnet for our rich production experience.
- Superior Quality: Highly professional Dialing QC team, high quality raw materials with 100% guarantee, and excellent consistency! Demagnetizing curve optional.
- Professional Package: Uniform anti-magnetized package could satisfy different transportation. Complete certificates (MSDS, ROHS, REACH) make us to ensure smooth transportation for customers.
- Competitive Price and One-stop Full Service:

PRODUCT

■ Neodymium (NdFeB) Magnet

Neodymium magnets (also known as “NdFeB”, “Neo” or “NIB” magnets), are strong permanent magnets made from an alloy of neodymium, iron & boron. Part of the Rare-Earth magnet family, they have the highest magnetic properties of all permanent magnets. Due to their high magnetic strength and relatively low-cost, they are the preferred choice for many consumers, commercial, industrial and technical applications.

NdFeB is divided into sintered NdFeB and bonded NdFeB. Bonded NdFeB is magnetic in all directions and corrosion resistance and is divided into Bonded Compression NdFeB Magnet and Bonded Injection NdFeB Magnet; while sintered NdFeB is easy to corrosion, the surface requires coating, generally divided into axial and radial magnetic charging.

● Sintered NdFeB Magnet

The sintered NdFeB magnet is made by powder metallurgy process. First, the smelted alloy needs to be powdered and pressed into a compact in a magnetic field, and then the compact is sintered in inert gas or vacuum to achieve densification. In general, only the magnet blank can be produced after sintering, and then it can be turned into magnets of various shapes through mechanical processing (such as wire cutting, slicing, grinding, etc.).

➤ Advantages of Sintered NdFeB Magnet:

1. Very hard and brittle, high diamagnetic resistance, high cost / performance ratio, not suitable for high working temperature;
2. Magnetic performance is higher than that of the rare earth cobalt permanent magnet, the residual magnetic induction strength, magnetic induction coercivity, the maximum magnetic energy product is very high, is the current magnetic performance of the best permanent magnet;
3. High-cost performance.



➤ Application of Sintered NdFeB Magnet

- Magnetic Resonance Imaging
- Actuators ·Security Systems
- Magnetic Guitar Pickups
- Electric Generators For Wind Turbines ·Sensors
- Loudspeakers And Headphones
- Specialty Door Catches
- Brushless Motor
- Magnetic Bearings And Couplings
- Magnetic Chuck
- Magnetic Toy
- Electric Motors
- Filter &Strainers Magnetic Tools
- Lifting And Compressor Motors
- Health Bandages And Plasters
- Electrical Power Steering
- Magnet Separators
- Other Magnetic

- **Magnetic Characteristics and Physical Properties of Sintered NdFeB Magnet (Table-1)**
- **Direction of Magnetization (Table-8)**
- **Dimension and Tolerance of Magnet (Table-9)**
- **Coating and Corrosion Resistance of Magnet (Table-10)**
- **Package and Transportation of Magnet (Table-11&12)**

PRODUCT

● Compression Bonded NdFeB Magnet

Compression Bonded NdFeB Magnet is composed of a special form of NdFeB powder with adhesive and using compression molding techniques in simple tools, it can be quickly machined into complex shapes. Since its materials are isotropic, bonded NdFeB magnet can be magnetized in any directions or with multiple poles. Special magnetizing fixtures are required in order to achieve multiple poles magnetization, depending on complexity of design and production.

➤ Advantages of Compression Bonded NdFeB Magnet:

1. Very hard and brittle, high diamagnetic resistance, high cost / performance ratio, not suitable for high working temperature;
2. Magnetic performance is higher than that of the rare earth cobalt permanent magnet, the residual magnetic induction strength, magnetic induction coercivity, the maximum magnetic energy product is very high, is the current magnetic performance of the best permanent magnet;
3. High-cost performance.



➤ Application of Bonded NdFeB Magnet:

- | | | |
|--|-----------------------|-------------------|
| *Automobile Instrument Cluster | *Dashboard Instrument | *Roll for Copiers |
| *Digital Speedometers Sensors | *DC Micro Motors | *Stepper Motors |
| *AC Synchronous Motor Magnets | *Electrical Meters | *Coupling Magnets |
| *Disk Drives | *Clock /Timers | *Reed Relays |
| *Educational Kits and Scientific Instruments | *Magnet Bearings | |

➤ Magnetic Parameters of Compression Bonded NdFeB Magnet (Table-2)

➤ Magnetic Parameters of Injection Bonded NdFeB Magnet (Table-3)

➤ Direction of Magnetization (Table-8)

➤ Dimension and Tolerance of Magnet (Table-9)

➤ Coating and Corrosion Resistance of Magnet (Table-10)

➤ Package and Transportation of Magnet (Table-11&12)

PRODUCT

■ SmCo Magnet

Samarium Cobalt (SmCo) magnets are made by a sintering process and exist in two forms. The first is Sm₁Co₅(SmCo 1:5), which has a maximum energy product of between 14 and 24 MGOe. The second and more common form is Sm₂Co₁₇(SmCo 2:17) which has a maximum energy product of between 22 and 32 MGOe. The main Sm₂Co₁₇ alloy is around 35% Samarium (Sm) and 60% Cobalt (Co) with the balance being from varying amounts of Iron (Fe) Copper (Cu), Hafnium (Hf) and Zirconium (Zr). Praseodymium (Pr) may also be used. Sm₁Co₅ is made of only Sm and Co and has excellent corrosion resistance.

➤ Advantages of SmCo Magnet:

1. Superior resistance to high temperature.
2. Excellent resistance to corrosion, no coating is needed for surface protecting.
3. High working temperature.
4. SmCo is suitable for machines with high magnetic requirements and good for strict working environment requirement.

➤ Application of SmCo Magnet:

- | | |
|-------------------------|-----------------------|
| *Electronic Magnetrons | *Magnetic Treatment |
| *Servo-Motors | *Sensors |
| *Magnetic Transmissions | *Magnetars |
| *Pump Couplings | *Computer Disc Drives |



■ AlNiCo Magnet

AlNiCo is composed primarily of Aluminum Nickel Cobalt and also Copper and Titanium. They are manufactured through either casting or sintering process. Cast AlNiCo may be manufactured in complex shapes such as horseshoes not possible with other magnet materials. Sintered AlNiCo offer slightly lower magnetic properties but better mechanical characteristics. It can be efficiently magnetized in any direction, and for anisotropic AlNiCo magnet, it generally has greater magnetic capacity in a preferred orientation than isotropic types. AlNiCo is hard and brittle, Machining or drilling cannot therefore be accomplished by ordinary methods. Holes are usually cored in at the foundry, and magnets are cast close to final size and then finish machined to closer tolerances.

➤ Advantages of AlNiCo Magnet:

1. Customized designs are available.
2. Max working temperature can be as high as 550°C.
3. Disadvantage: Br and BH(max) are not as high as rare earth magnet.
4. High energies and relatively low coercivity.
5. High magnetic flux density; low mold charge stable temperature properties; easy to shape.

➤ Application of AlNiCo Magnet:

- | | |
|------------------------------|-------------------|
| *Electronic Ignition Systems | *Watt Hour Meters |
| *Medical Instruments | *Guitar Pickups |
| *Industrial Motors | *Hand Tools |
| *Automatic Control Appliance | *Vending Machines |



- **Magnetic Characteristics and Physical Properties of SmCo Magnet (Table-4)**
- **Typical Magnetic Properties for AlNiCo Magnet (Table-5&6)**
- **Direction of Magnetization (Table-8)**
- **Dimension and Tolerance of Magnet (Table-9)**
- **Coating and Corrosion Resistance of Magnet (Table-10)**
- **Package and Transportation of Magnet (Table-11&12)**

PRODUCT

■ Ferrite Magnet

Ferrite Magnet is manufactured from oxide material by powder metallurgical process. Its advantages include: low-cost excellent corrosion resistance, resistance to be demagnetized etc. The normal working temperature of Ferrite Magnet is between -40°C and +250°C. It can be magnetized before or after assembling. Generally, Ferrite Magnet can be machined to regular shapes like segments, blocks, rings and discs etc. The normal grades for sintered Ferrite Magnets are Y10, TY25, Y30, Y30BH, Y35, etc.

➤ Advantages of Ferrite Magnet:

Ferrites have isotropic characteristics, weak magnetic performance, has the same magnetic performance in any direction, multipolar magnetic charge. The main raw material of ferrite is oxides, so it is not corroded by high temperature, high humidity or chemicals (except strong acid and base); with excellent diamagnetic impedance, no flux loss before and after assembly and magnetic charging; working temperature is -40°C to +250°C, poor temperature coefficient; B_r temperature coefficient is -0.2% / °C, 0.2% under B_r , etc. per 1°C increase; high hardness, wire cutting and grinding; ferrite is brittle and fragile during production and transportation. magnetic requirements and good for strict working environment requirement.

➤ Application of Ferrite Magnet:

It is widely used in permanent magnet motor, DC motor, speaker, dry clarinet, magnetic separator machine, Magnetic Knife Holder/Rack, General Holding Devices and adsorption device and so on.



- Typical Magnetic Properties for Ferrite Magnet (Table-7)
- Direction of Magnetization (Table-8)
- Dimension and Tolerance of Magnet (Table-9)
- Coating and Corrosion Resistance of Magnet (Table-10)
- Package and Transportation of Magnet (Table-11&12)

PRODUCT

■ Flexible Magnet

Flexible magnets are low-cost extruded permanent magnets made by bonding a strontium magnetic powder in a flexible vinyl binder. Microcrystalline magnetic powder of flexible magnet leads to its high magnetic performance, and artificial rubber makes it very flexible. Its maximum magnetic energy product has reached 90KJ / m³ (11.25MGOe), industrial mass production magnetic performance range of 16 to 68KJ/m³(2.0~8.5MGOe). Due to its excellent flexibility, it can assemble faster than molded magnets. Flexible magnetic sheets, magnetic strips and labeling magnets are easy to use and manipulate to your desired specifications.

➤ Advantages of Flexible Magnet:

Flexible magnets are easy to use, easy to manipulate, low cost and extremely versatile. They can easily be cut, bent, twisted, slit, or coiled and adhere to multiple items and surfaces. In addition, flexible magnetic materials require no surface treatments so no special precautions need to be taken to protect the magnetic surface. Our simple sheet on Care Tips will ensure that the use of magnetic sheeting on vehicles will not mar paint finishes.

➤ Application of Flexible Magnet:

- *Warehouse Labeling
- *POP & Tradeshow Displays
- *Crafting Projects
- *Windows & Door Seals
- *Promotional Giveaways
- *Packaging Closures
- *Automotive Signs
- *Paint Masking Applications
- *Large Format Graphics
- *Commercial Signage
- *Name Badge Holders
- *Office Presentations
- *DIY Home Improvement
- *Fridge Magnets
- *Business Cards

➤ Technical Data of Flexible Magnet:

- Shapes: Rolls or Sheeting & Strips
- Magnetization: Axially Magnetized
- Br: 1,600 Gauss
- BHmax:0.60 MGOe
- Hc: 1,370 Oersted's
- Max Operating Temperature:212°F/100°C
- Density(lb/in³): 0.133



➤ Package and Transportation of Flexible Magnet (Table-11*12)

PRODUCT

■ Shape of Magnet

➤ Block Magnet



➤ Cylinder Magnet



➤ Disc Magnet



➤ Ring Magnet



➤ ARC Magnet



➤ Countersunk Magnet



➤ Irregular Magnet



➤ Irregular Magnet



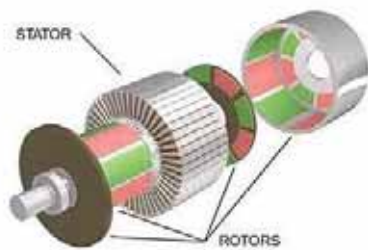
- Customized processing of various shapes of magnetic products according to the drawings or samples.

APPLICATION

■ Motors Magnet

➤ Rotor

In the electric motor, the moving part is the rotor which turns the shaft to deliver the mechanical power. The rotor usually has conductors laid into it which carry currents that interact with the magnetic field of the stator to generate the forces that turn the shaft. However, some rotors carry permanent magnets, and the stator holds the conductors.



➤ Stator

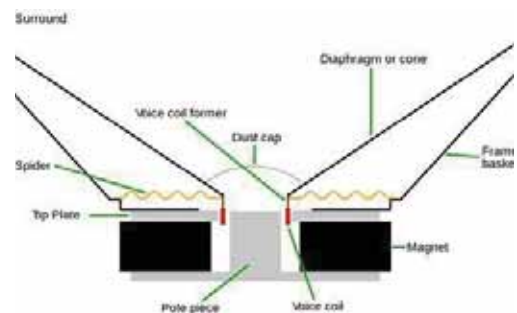
The stationary part is the stator, usually has either windings or permanent magnets. The force between the two magnetic fields tends to rotate the motor shaft. The commutator switches power to the coils as the rotor turns, keeping the magnetic poles of the rotor from constantly aligning with the magnetic poles of the stator field, so that the rotor never stops (like a compass needle does), as long as power is applied.

Motor field is including VCM, CDDVD-ROM, generator, electric motor, servo motor, micro shaped motor, motor, vibration motor, etc.

■ Speakers Magnet

The core component of the audio device is the speaker, the key component of both the audio and the headset. The speaker is composed of several key components: T iron, magnet, sound ring and diaphragm. When the AC current passes through the sound ring of the horn, the corresponding magnetic field is generated in the sound ring, which interacts with the magnetic field generated by the own magnet on the horn, which makes the sound ring vibrate with the audio current in the permanent magnet of the speaker's own magnetic field. The diaphragm and the sound coil are connected together, when the sound coil vibrates together with the horn diaphragm, pushing the surrounding air to vibrate, and the speaker thus produces a sound. Speaker is a kind of transducer that transforms the electrical signal into an acoustic signal. The performance of the speaker has a great impact on the sound quality, and the magnet in the speaker largely determines its performance.

Electroacoustic field is including speakers, receiver, microphone, alarm, stage audio, car audio, etc.



APPLICATION

■ Magnetic Coupling

Magnetic coupling consists of an outer and an inner drive. The two drives do not touch each other. The magnetic couplings work via the non-contact transfer of power. Attractive and repulsive magnetic forces are harnessed to perform work in either a linear or rotary fashion. They are used in the pump, Pharmaceutical, chemical, biotech, military and food industry.



The magnetic material used for magnetic couplings are Neodymium Iron Boron, Samarium Cobalt and various Alnico and Ceramic.



■ Electronic magnet

In the production and processing of electronic products, it is usually necessary to install magnets to meet their functional requirements, the magnets are combined into the appropriate shape and size of the device, the magnet and iron pieces through glue bonded into the assembled product, and then baked to complete the final design, so that the two firmly combined. When need to make more complex structure assembly magnet, the conventional process for multiple magnets on the assembly after positioning, on the magnet end coating glue, iron, and then glue on the iron, by a filled with magnet assembly inversion, two assembly up and down, make the magnet and iron patch, forming iron on both sides of the magnet, but this inversion mount complicated operation, can also may make the magnet fell out of the assembly.

Electronic magnet is including permanent magnet mechanism vacuum circuit breaker, magnetic retention relay, electrical degree meter, water meter, sound meter, dry clarinet,



APPLICATION

■ Mechanical Magnet

With the development of modern industry, the requirements for automation and intelligence of mechanical equipment are gradually improved. At the same time, with the deepening research of magnetic materials, the characteristics of many magnetic materials are widely used in modern mechanical equipment. The application of these materials also plays an important role in automation equipment in improving safety, work efficiency and reducing labor intensity. The application of magnet in mechanical equipment mainly includes magnetic separation, magnetic separator, magnetic suspension, magnetic mechanical and so on.



■ Teaching kits Magnet

Magnetic teaching kits consists of teaching blocks containing magnet blocks and teaching boards containing magnetic material. It can improve the teaching efficiency, convenient and flexible to use, with interesting, can replace part of the board writing to reduce the pollution of chalk to the learning environment, can be used for a variety of teaching purposes and a variety of occasions, more suitable for kindergarten and primary school teaching.



APPLICATION

■ Office Magnet

Magnetic Clip



Magnetic Push Pin



Business Card Magnet



Magnetic Map & Memo Holders



■ Home Magnet

Door & Window Magnets



Fridge Magnet



Bag Magnet



Tool & Toy Magnets





1. All data of (BH) max, Br, Hcj, Hcb presented in the product performance catalog were measured according to the standard of GB/T3217-92. The parameters will vary if the testing conditions are different.

2. If the magnet is hit or dropped, one should always confirm the plating or coating is not damaged. Don't use magnets whose surface plating or coating has been damaged.

3. In general, the magnetization of a magnet will be reduced if it is heated. Its magnetic properties will be completely lost at the Curie point. Accordingly, the magnetic properties of any given magnet will differ substantially from its specifications based on the operating temperatures. In designing magnetic circuits, special attention must be paid to avoid overheating which deteriorates the magnetic properties.

4. The magnetic fields can change or damage the calibration of sensitive electronic devices and measuring instruments. Please note that magnetized magnets must be kept at a safe distance from floppy disks, magnetic cards, magnetic tapes, prepaid cards or other devices.

5. Avoid using and storing magnets under the following environments. Violation may cause corrosion of rare earth magnets as well as deterioration of the properties and the strength of the magnet:

- ① Corrosive gas (Cl₂, NH₃, SO_x, NO_x)
- ② Environments of high conductivity (e.g., in water containing electrolytes, etc.)
- ③ Acidic, alkaline, and organic solvents, etc.
- ④ Hydrogen atmosphere.
- ⑤ High temperature and humidity

6. Due to weak resistance to impact, rare earth magnets can be easily broken and chipped. Care must be taken to use rare earth magnets.

7. Unexpected personal injury may occur during transport or assembly of magnetized magnets. Fingers can be injured between two strongly attractive magnets.

Please contact us when you choose any one of our products.

● Table-1 Magnetic Characteristics and Physical Properties of Sintered NdFeB Magnet

Properties	Remanence		Coercive Force		Intrinsic Coercive Force		Max Energy Product		Max Working Temp
Grade	Br		bHc		iHc		(BH)max		TW
	T	KGs	KA/m	KOe	KA/m	KOe	KJ/m3	MGOe	°C
N33	1.13-1.17	11.3-11.7	≥836	≥10.5	≥955	≥12	247-263	31-33	≤80
N35	1.17-1.21	11.7-12.1	≥868	≥10.9	≥955	≥12	263-287	33-36	≤80
N38	1.22-1.25	12.2-12.5	≥899	≥11.3	≥955	≥12	287-310	36-39	≤80
N40	1.25-1.28	12.5-12.8	≥907	≥11.4	≥955	≥12	302-326	38-41	≤80
N42	1.28-1.32	12.8-13.2	≥915	≥11.5	≥955	≥12	318-342	40-43	≤80
N45	1.32-1.38	13.2-13.8	≥923	≥11.6	≥955	≥12	342-366	43-46	≤80
N48	1.38-1.42	13.8-14.2	≥923	≥11.6	≥955	≥12	366-390	46-49	≤80
N50	1.40-1.45	14.0-14.5	≥796	≥10.0	≥876	≥11	382-406	48-51	≤60
N52	1.43-1.48	14.3-14.8	≥796	≥10.0	≥876	≥11	398-422	50-53	≤60
γ35M	1.17-1.22	11.7-12.2	≥868	≥10.9	≥1114	≥14	263-287	33-36	≤100
38M	1.22-1.25	12.2-12.5	≥899	≥11.3	≥1114	≥14	287-310	36-39	≤100
40M	1.25-1.28	12.5-12.8	≥923	≥11.6	≥1114	≥14	302-326	38-41	≤100
42M	1.28-1.32	12.8-13.2	≥955	≥12.0	≥1114	≥14	318-342	40-43	≤100
45M	1.32-1.38	13.2-13.8	≥955	≥12.5	≥1114	≥14	342-366	43-46	≤100
48M	1.36-1.43	13.6-14.3	≥1027	≥12.9	≥1114	≥14	358-382	45-48	≤100
50M	1.41-1.45	14.1-14.5	≥1033	≥13.0	≥1114	≥14	382-406	48-51	≤100
33H	1.13-1.17	11.3-11.7	≥836	≥10.5	≥1353	≥17	247-271	31-34	≤120
35H	1.17-1.22	11.7-12.2	≥868	≥10.9	≥1353	≥17	263-287	33-36	≤120
38H	1.22-1.25	12.2-12.5	≥899	≥11.3	≥1353	≥17	287-310	36-39	≤120
40H	1.25-1.28	12.5-12.8	≥923	≥11.6	≥1353	≥17	302-326	38-41	≤120
42H	1.28-1.32	12.8-13.2	≥955	≥12.0	≥1353	≥17	318-342	40-43	≤120
45H	1.30-1.36	13.0-13.6	≥963	≥12.1	≥1353	≥17	326-358	43-46	≤120
48H	1.37-1.43	13.7-14.3	≥955	≥12.5	≥1353	≥17	366-390	46-49	≤120
33SH	1.10-1.17	11.3-11.7	≥844	≥10.6	≥1592	≥20	247-272	31-34	≤150
γ35SH	1.17-1.22	11.7-12.2	≥876	≥11.0	≥1592	≥20	263-287	33-36	≤150
38SH	1.22-1.25	12.2-12.5	≥907	≥11.4	≥1592	≥20	287-310	36-39	≤150
40SH	1.25-1.28	12.5-12.8	≥939	≥11.8	≥1592	≥20	302-326	38-41	≤150
42SH	1.28-1.32	12.8-13.2	≥987	≥12.4	≥1592	≥20	318-342	40-43	≤150
45SH	1.32-1.38	13.2-13.8	≥1003	≥12.6	≥1592	≥20	342-366	43-46	≤150
28UH	1.02-1.08	10.2-10.8	≥764	≥9.6	≥1990	≥25	207-231	26-29	≤180
30UH	1.08-1.13	10.8-11.3	≥812	≥10.2	≥1990	≥25	223-247	28-31	≤180
33UH	1.13-1.17	11.3-11.7	≥852	≥10.7	≥1990	≥25	247-271	31-34	≤180
35UH	1.18-1.22	11.8-12.2	≥860	≥10.8	≥1990	≥25	263-287	33-36	≤180
38UH	1.22-1.25	12.2-12.5	≥876	≥11.0	≥1990	≥25	287-310	36-39	≤180
40UH	1.25-1.28	12.5-12.8	≥899	≥11.3	≥1990	≥25	302-326	38-41	≤180
28EH	1.04-1.09	10.4-10.9	≥780	≥9.8	≥2388	≥30	207-231	26-29	≤200
30EH	1.08-1.13	10.8-11.3	≥812	≥10.2	≥2388	≥30	223-247	28-31	≤200
33EH	1.13-1.17	11.3-11.7	≥836	≥10.5	≥2388	≥30	247-271	31-34	≤200
35EH	1.17-1.22	11.7-12.2	≥876	≥11.0	≥2388	≥30	263-287	33-36	≤200
38EH	1.22-1.25	12.2-12.5	≥899	≥11.3	≥2388	≥30	287-310	36-39	≤200
28AH	1.02-1.08	10.2-10.8	≥780	≥9.8	≥2704	≥34	199-231	25-29	≤240
30AH	1.02-1.08	10.2-10.8	≥811	≥10.2	≥2704	≥34	223-247	28-29	≤240
γN35T	1.17-1.21	11.7-12.1	≥868	≥10.9	≥955	≥12	263-287	33-36	≤80
N45T	1.32-1.38	13.2-13.8	≥876	≥11.0	≥955	≥12	342-366	43-46	≤80
N48T	1.38-1.42	13.8-14.2	≥836	≥10.5	≥876	≥11	366-390	46-49	≤80
35MT	1.17-1.21	11.7-12.1	≥868	≥10.9	≥1114	≥14	263-287	33-36	≤100
45MT	1.32-1.38	13.2-13.8	≥995	≥12.5	≥1114	≥14	342-366	43-46	≤100
38HT	1.21-1.25	12.1-12.5	≥899	≥11.3	≥1353	≥17	287-310	36-39	≤120
40HT	1.24-1.28	12.4-12.8	≥923	≥11.6	≥1353	≥17	302-326	38-41	≤120
45HT	1.32-1.38	13.2-13.8	≥995	≥12.5	≥1353	≥16	342-366	43-46	≤120
35SHT	1.17-1.21	11.7-12.1	≥876	≥11.0	≥1592	≥20	263-287	33-36	≤150
38SHT	1.21-1.25	12.1-12.5	≥907	≥11.4	≥1592	≥20	287-310	36-39	≤150
42SHT	1.28-1.32	12.8-13.2	≥995	≥12.5	≥1592	≥20	318-342	40-43	≤150
L-30SHT	1.08-1.13	10.8-11.3	≥804	≥10.1	≥1592	≥20	223-247	28-31	≤150
L-33SHT	1.13-1.17	11.3-11.7	≥844	≥10.6	≥1592	≥20	247-271	31-34	≤150
L-35SHT	1.17-1.21	11.7-12.1	≥876	≥11.0	≥1592	≥20	263-287	33-36	≤150
L-38SHT	1.21-1.25	12.1-12.5	≥907	≥11.4	≥1592	≥20	287-310	36-39	≤150
L-30UHT	1.08-1.13	10.8-11.3	≥812	≥10.2	≥1990	≥25	223-247	28-31	≤180
L-33UHT	1.13-1.17	11.3-11.7	≥852	≥10.7	≥1990	≥25	247-271	31-34	≤180
L-38UHT	1.21-1.25	12.1-12.5	≥907	≥11.4	≥1990	≥25	287-310	36-39	≤180
L-30EHT	1.08-1.13	10.8-11.3	≥812	≥10.2	≥2388	≥30	223-247	28-31	≤200

Remark: The above-mentioned data of magnetic parameters and physical properties are given at room temperature.

The maximum service temperature of magnet is changeable due to the ratio length and diameter and environmental factors.

Density: 7.4~7.6g/cm³; αBr: -0.09~-0.13%/°C; αHcj: -0.50~-0.80%/°C; Hardness: Hv 600.

● Table-2 Magnetic Characteristics of Compression Bonded NdFeB Magnet

Properties/Grade	BNP-6	BNP-8L	BNP-8	BNP-8SR	BNP-8H	BNP-9	BNP-10	BNP-11	BNP-11L	BNP-12L
Remanence Br T(Gs)	0.55-0.62	0.60-0.64	0.62-0.69	0.62-0.66	0.61-0.65	0.65-0.70	0.68-0.72	0.70-0.74	0.70-0.74	0.74-0.80
Coercive Force H CB kA/m(kOe)	285-370 (3.6-4.6)	360-400 (4.5-5.0)	385-445 (4.8-5.6)	410-465 (5.2-5.8)	410-455 (5.2-5.7)	400-440 (5.0-5.5)	420-470 (5.3-5.9)	445-480 (5.6-6.0)	400-440 (5.0-5.5)	420-455 (5.3-5.7)
Intrinsic Coercive Force H CJ kA/m(kOe)	600-755 (7.5-9.5)	715-800 (9-10)	640-800 (8-10)	880-1120 (11-14)	1190-1440 (15-18)	640-800 (8-10)	640-800 (8-10)	680-800 (8.5-10)	520-640 (6.5-8)	520-600 (6.5-7.5)
Max Energy (BH) max kJ/m ³ (MGOe)	44-56 (5.5-7)	56-64 (7.0-8.0)	64-72 (8.0-9.0)	64-72 (8.0-9.0)	64-72 (8.0-9.0)	70-76 (8.8-9.5)	76-84 (9.5-10.5)	80-88 (10.0-11.0)	78-84 (9.8-10.5)	84-92 (10.5-11.5)
Density D g/cm ³	5.5-6.1	5.6-6.1	5.8-6.1	5.8-6.1	5.9-6.2	5.8-6.1	5.8-6.1	5.8-6.1	5.8-6.1	5.8-6.1
Relative Recoil permeability μr	1.15	1.15	1.15	1.13	1.15	1.22	1.22	1.22	1.26	1.26
TempCoeff of Remanence α (Br) %/°C	-0.13	-0.13	-0.13	-0.13	-0.07	-0.12	-0.11	-0.11	-0.11	-0.08
Max Working Temp TW °C	100	110	120	150	125	120	120	120	110	110

● Table-3 Magnetic Characteristics of Injection Bonded NdFeB Magnet

Properties/Grade	BNI-3	BNI-4	BNI-5	BNI-6	BNI-6H	BNI-7	BNI-5SR (PPS)
Remanence Br T(Gs)	0.2-0.4	0.40-0.46	0.45-0.51	0.51-0.56	0.48-0.56	0.54-0.64	0.45-0.50
Coercive Force H CB kA/m(kOe)	120-240 (1.5-3.0)	250-335 (3.1-4.2)	280-360 (3.5-4.5)	295-375 (3.7-4.7)	335-400 (4.2-5.0)	320-400 (4.0-5.0)	300-360 (3.8-4.5)
Intrinsic Coercive Force H CJ kA/m(kOe)	480-640 (6.0-8.0)	575-735 (7.2-9.2)	640-800 (8-10)	640-800 (8-10)	1035-1355 (13-17)	640-800 (8-10)	875-1115 (11-14)
Max Energy (BH) max kJ/m ³ (MGOe)	8-24 (1.0-3.0)	28-36 (3.5-4.5)	37-44 (4.6-5.5)	44-52 (5.5-6.5)	40-52 (5.0-6.5)	51-59 (6.5-7.5)	36-44 (4.5-5.5)
Density D g/cm ³	3.9-4.4	4.2-4.9	4.5-5.0	4.7-5.1	4.8-5.2	5.0-5.5	4.9-5.4
Relative Recoil permeability μr	1.2	1.2	1.2	1.13	1.13	1.13	1.13
TempCoeff of Remanence α (Br) %/°C	-0.15	-0.13	-0.13	-0.11	-0.15	-0.11	-0.13
Max Working Temp TW °C	100	110	120	120	130	120	150

● Table-4 Magnetic Characteristics and Physical Properties of SmCo Magnet

Material	Grade	Br		Hcb		Hcj		(BH)max		TW °C
		T	KGS	KA/m	KOe	KA/m	KOe	KJ/m ³	MGOe	
SmCo5	YX-16	0.81-0.85	8.1-8.5	620-660	7.8-8.3	1194-1830	15-23	110-127	14-16	250
	YX-18	0.85-0.9	8.5-9.0	660-700	8.3-8.8	1194-1830	15-23	127-143	16-18	250
	YX-20	0.9-0.94	9.0-9.4	680-725	8.5-9.1	1194-1830	15-23	150-167	19-21	250
	YX-22	0.92-0.96	9.2-9.6	710-750	8.9-9.4	1194-1830	15-23	160-175	20-22	250
	YX-24	0.96-1.0	9.6-10.0	730-770	9.2-9.7	1194-1830	15-23	175-190	22-24	250
	YX-20s	0.9-0.94	9.0-9.4	680-725	8.5-9.1	1433-1830	18-23	143-160	18-20	250
	YX-22s	0.92-0.96	9.2-9.6	710-750	8.9-9.4	1433-1830	18-23	160-175	20-22	250
Sm2Co17	YXG-24H	0.95-1.02	9.5-10.2	700-750	8.7-9.4	≥1990	≥25	175-191	22-24	350
	YXG-26H	1.02-1.05	10.2-10.5	750-780	9.4-9.8	≥1990	≥25	191-207	24-26	350
	YXG-28H	1.03-1.08	10.3-10.8	756-796	9.5-10	≥1990	≥25	207-220	26-28	350
	YXG-30H	1.08-1.10	10.8-11.0	788-835	9.9-10.5	≥1990	≥25	220-240	28-30	350
	YXG-24	0.95-1.02	9.5-10.2	700-750	8.7-9.4	≥1433	≥18	175-191	22-24	300
	YXG-26	1.02-1.05	10.2-10.5	750-780	9.4-9.8	≥1433	≥18	191-207	24-26	300
	YXG-28	1.03-1.08	10.3-10.8	756-796	9.5-10	≥1433	≥18	207-220	26-28	300
	YXG-30	1.08-1.10	10.8-11.0	788-835	9.9-10.5	≥1433	≥18	220-240	28-30	300
	YXG-26M	1.02-1.05	10.2-10.5	750-780	9.4-9.8	955-1273	12-16	191-207	24-26	300
	YXG-28M	1.03-1.08	10.3-10.8	756-796	9.5-10.0	955-1273	12-16	207-220	26-28	300
	YXG-30M	1.08-1.10	10.8-11.0	788-835	9.9-10.5	955-1273	12-16	220-240	28-30	300
	YXG-28L	1.02-1.08	10.2-10.8	413-716	5.2-9.0	438-796	5.5-10.0	207-220	26-28	250
YXG-30L	1.08-1.15	10.8-11.5	413-716	5.2-9.0	438-796	5.5-10.0	220-240	28-30	250	

APPENDIX

● Table-5 Specification of Sintered AlNiCo Magnet

Characteristics	(BH)max	Br	Hcb	Hcj	Density	α (Br)	Curie point	remarks
Grade	kJ/m ³ (MGOe)	mT(kG)	kA/m(kOe)	kA/m(kOe)	g/cm ³	%/K	°C	
SAlNiCo4/1	3.2-4.8	870-890	9-11	10-12	6.80	-0.02	750	Isotropic
	(0.40-0.60)	(8.7-8.9)	(0.11-0.14)	(0.13-0.15)				
SAlNiCo8/5	8.5-9.5	530-620	45-50	47-52	6.80	-0.02	750	
	(1.07-1.19)	(5.3-6.2)	(0.57-0.63)	(0.59-0.65)				
SAlNiCo10/5	9.5-11	630-700	48-56	50-58	6.80	-0.02	780	
	(1.19-1.38)	(6.3-7.0)	(0.60-0.70)	(0.63-0.73)				
SAlNiCo12/5	11-13	700-750	50-56	53-58	7.00	-0.02	800	
	(1.38-1.63)	(7.0-7.5)	(0.62-0.70)	(0.66-0.73)				
SAlNiCo14/5	13-15	730-800	47-50	50-53	7.10	-0.02	790	
	(1.63-1.88)	(7.3-8.0)	(0.59-0.63)	(0.63-0.67)				
SAlNiCo14/6	14-16	620-810	56-64	58-66	7.10	-0.02	790	
	(1.76-2.00)	(6.2-8.1)	(0.70-0.81)	(0.73-0.83)				
SAlNiCo14/8	14-16	550-610	75-88	80-92	7.10	-0.01	850	
	(1.76-2.00)	(5.5-6.1)	(0.94-1.11)	(1.00-1.16)				
SAlNiCo18/10	16-19	570-620	92-100	99-107	7.20	-0.01	860	
	(2.00-2.39)	(5.7-6.2)	(1.16-1.26)	(1.24-1.34)				
SAlNiCo29/6	29-33	970-1200	58-64	60-66	7.20	-0.02	860	Anisotropic
	(3.64-4.15)	(9.7-12)	(0.73-0.80)	(0.75-0.83)				
SAlNiCo30/6	30-34	1000-1100	58-64	60-66	7.20	-0.02	860	
	(3.77-4.27)	(10-11)	(0.73-0.80)	(0.75-0.83)				
SAlNiCo42/10	42-46	950-1100	100-110	104-114	7.20	-0.01	860	
	(5.27-5.77)	(9.5-11)	(1.26-1.38)	(1.30-1.43)				
SAlNiCo33/11	33-38	700-800	107-115	111-119	7.20	-0.01	860	
	(4.14-4.77)	(7-8)	(1.34-1.45)	(1.39-1.50)				
SAlNiCo35/5	35-39	1100-1200	48-52	50-54	7.20	-0.02	850	
	(4.40-4.90)	(11-12)	(0.60-0.65)	(0.63-0.68)				
SAlNiCo37/15	37-41	700-800	140-147	150-158	7.20	-0.01	870	
	(4.65-5.15)	(7.0-8.0)	(1.76-1.85)	(1.88-1.98)				
SAlNiCo39/12	39-43	830-900	115-123	119-127	7.25	-0.01	860	
	(4.90-5.40)	(8.3-9.0)	(1.45-1.54)	(1.50-1.60)				
SAlNiCo44/12	44-48	900-950	119-127	124-132	7.25	-0.01	860	
	(5.53-6.03)	(9-9.5)	(1.50-1.60)	(1.56-1.66)				
SAlNiCo40/15	40-48	750-850	143-151	155-163	7.20	-0.01	870	
	(5.02-6.03)	(7.5-8.5)	(1.80-1.90)	(1.95-2.05)				
SAlNiCo44/15	44-48	800-880	148-160	155-163	7.20	-0.01	870	
	(5.53-6.03)	(8.0-8.8)	(1.86-2.00)	(1.95-2.05)				

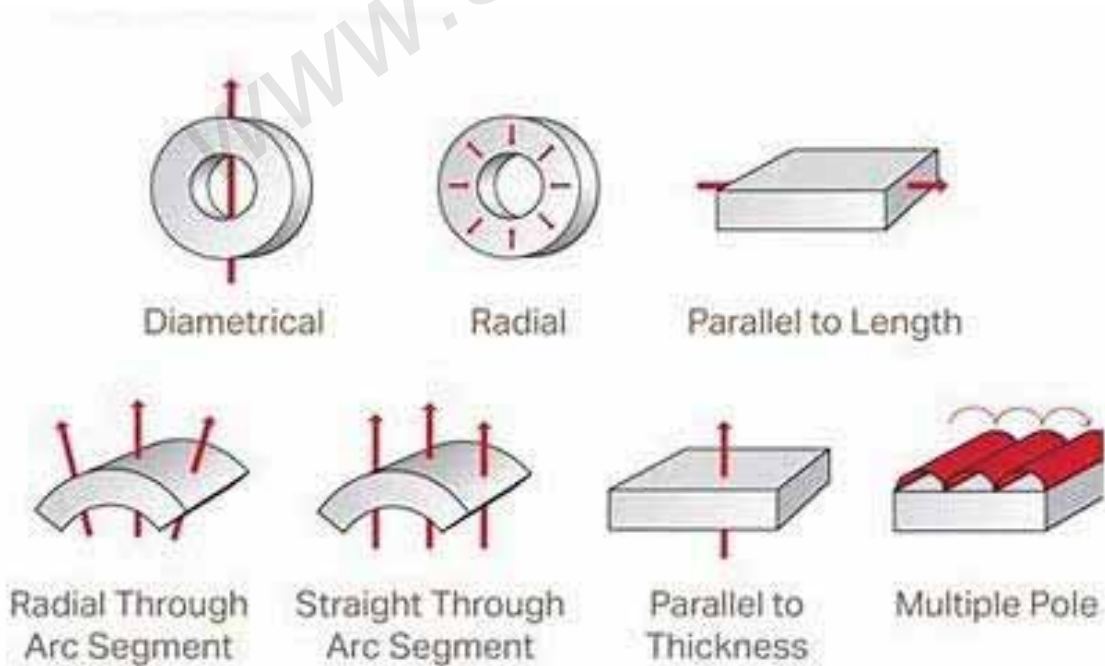
● Table-6 Specification of Cast AlNiCo Magnet

Characteristics	(BH)max	Br	Hcb	Hcj	Density	α (Br)	Curie point	remarks	
Grade	kJ/m ³ (MGOe)	mT(kG)	kA/m(kOe)	kA/m(kOe)	g/cm ³	%/K	°C		
AlNiCo12/6	12(1.50)	640(6.4)	52(0.65)	56(0.70)	7	-0.03	810	isometric crystal	Isotropic
AlNiCo13/6	13(1.63)	750(7.5)	52(0.65)	56(0.70)	7	-0.03	810		
AlNiCo18/10	18(2.26)	530(5.3)	90(1.13)	97(1.22)	7.1	-0.01	860		
AlNiCo20/11	20(2.51)	600(6.0)	100(1.26)	108(1.36)	7.3	-0.01	860		
AlNiCo36/6	36(4.52)	1150(11.5)	60(0.75)	62(0.78)	7.3	-0.02	850		
AlNiCo38/5	38(4.77)	1200(12.0)	50(0.63)	52(0.65)	7.3	-0.02	850		
AlNiCo40/5	40(5.03)	1250(12.5)	49(0.62)	50(0.63)	7.3	-0.02	850	semi-columnar crystal	Anisotropic
AlNiCo44/5	44(5.53)	1270(12.7)	52(0.65)	53(0.67)	7.3	-0.02	850		
AlNiCo52/6	52(6.53)	1300(13.0)	56(0.71)	57(0.72)	7.3	-0.02	850	columnar crystal	
AlNiCo60/6	60(7.54)	1350(13.5)	59(0.74)	60(0.75)	7.3	-0.02	860		
AlNiCo38/11	38(4.77)	850(8.5)	110(1.38)	112(1.41)	7.3	-0.01	860	isometric crystal	
AlNiCo40/17	40(5.02)	750(7.5)	156(1.96)	168(2.11)	7.3	-0.01	870		
AlNiCo46/12	46(5.78)	930(9.3)	120(1.51)	124(1.56)	7.3	-0.015	860		
AlNiCo48/16	48(6.03)	820(8.2)	144(1.81)	158(1.98)	7.3	-0.01	870		
AlNiCo72/12	72(9.04)	1050(10.5)	114(1.43)	116(1.46)	7.3	-0.015	850	columnar crystal	
AlNiCo80/12	80(10.04)	1080(10.8)	120(1.51)	122(1.53)	7.3	-0.015	8		

● Table-7 Typical Magnetic Properties for Ferrite Magnet

Grade	Br		Hcb		Hcj		(BH)max	MG0e	TDK	MMPA	HF
	mT	Gs	kA/m	Oe	kA/m	Oe	KJ/m3				
Y10	200-235	2000-2350	125-160	1570-2010	210-280	2640-3520	6.5-9.5	0.82-1.19	FB1A	C1	HF8/22
Y25	360-400	3600-4000	135-170	1700-2140	140-200	1760-2520	22.5-28.0	283-3.52			HF24-16
Y26H-1	360-390	3600-3900	200-250	2520-3140	225-255	2830-3200	23.0-28.0	2.89-3.52	FB3X		HF24/23
Y28	370-400	3700-4000	175-210	2200-2640	180-220	2260-2760	26.0-30.0	3.27-3.77		C5	HF26/18
Y28H-1	380-400	3800-4000	240-260	3015-3270	250-280	3140-3520	27.0-30.0	3.39-3.77	FB3G	C8	HF28/26
Y28H-2	360-380	3600-3800	271-295	3405-3705	382-405	4800-5090	26.0-28.5	3.27-3.58	FB6E	C9	HF24/35
Y30H-1	380-400	3800-4000	230-275	2890-3450	235-290	2950-3650	27.0-31.5	3.39-3.96	FB3N		HF28/24
Y30H-2	395-415	3950-4150	275-300	3450-3770	310-335	3900-4210	27.0-32.0	3.39-4.02	(FB5DH)	C10(C8A)	HF28/30
Y32	400-420	4000-4200	160-190	2010-2400	165-195	2080-2450	30.0-33.5	3.77-4.21	FB4A		HF30/16
Y32H-1	400-420	4000-4200	190-230	2400-2900	230-250	2900-3140	31.5-35.0	3.96-4.40			HF32/17
Y32H-2	400-440	4000-4400	224-240	2800-3020	230-250	2900-3140	31.0-34.0	3.89-4.27	FB4D		HF30/26
Y33	410-430	4100-4300	220-250	2760-3140	225-255	2830-3200	31.5-35.0	3.96-4.40			HF32/22
Y33H	410-430	4100-4300	250-270	3140-3400	250-275	3140-3450	31.5-35.0	3.96-4.40	(FB5D)		HF32/25
Y33H-2	410-430	4100-4300	285-315	3580-3960	305-335	3830-4210	31.8-35.0	4.0-4.40	FB6B	C12	HF30/32
Y34	420-440	4200-4400	250-280	3140-3520	260-290	3270-3650	32.5-36.0	4.08-4.52		C8B	HF32/26
Y35	430-450	4300-4500	230-260	2900-3270	240-270	3015-3400	33.1-38.2	4.16-4.80	FB5N	C11(C8C)	
Y36	430-450	4300-4500	260-290	3270-3650	265-295	3330-3705	35.1-38.3	4.41-4.81	FB6N		HF34/30
Y38	440-460	4400-4600	285-315	3580-3960	295-325	3705-4090	36.6-40.6	4.60-5.10			
Y40	440-460	4400-4600	315-345	3960-4340	320-350	4020-440	37.6-41.6	4.72-5.23	FB9B		HF35/34
Y41	450-470	4500-4700	245-275	3080-3460	255-285	3200-3580	38.0-2.0	4.77-5.28	FB9N		
Y41H	450-470	4500-4700	315-345	3960-4340	385-415	4850-5220	38.5-42.5	4.84-5.34	FB12H		
Y42	460-480	4600-4800	315-335	3960-4210	355-385	4460-4850	40.0-44.0	5.03-5.53	FB12B		

● Table-8 Direction of Magnetization



APPENDIX

● Table-9 Dimension and Tolerance of Magnet

Block	Length	Width	Thickness
	mm	mm	mm
Maximum	250	180	50
Minimum	2.6	1.8	0.5
Ring	Outer Dimmeter	Inner Diameter	Thickness
	mm	mm	mm
Maximum	220	80	50
Minimum	2.0	1.5	0.5

Discs/Cylinder	Outer Dimmeter	Thickness
	mm	mm
Maximum	220	50
Minimum	1.0	0.5

Dimension		Accepted Tolerance (mm)	
mm		Perpendicular Compression Direction	Compression Direction
<10	Sintered Surface	0.25	±0.3
10-20		± 0.40	±0.45
20-50		±0.70	±0.85
50-80		±1.10	±1.30

Dimension		Accepted Tolerance (mm)			
mm		Top grinding	Inner and Outer Circle Grinding	Wire Cutting	Slicing
<10	Machining Surface	±0.05	±0.05	±0.03	±0.05
10-20		± 0.05	±0.08	±0.05	±0.08
20-50		±0.10	±0.13	±0.08	±0.15
50-80		±0.15	±0.20	±0.13	±0.20

● Table-10 Coating and Corrosion Resistance of Magnet

Coating and Corrosive Resistance Sintered NdFeB						
Surtace	Coating	Colour	Thickness (um)	Standard Resistance		Corrosive Resistance
				PCT Test	Sait Spray Test	
Nickel	Nickel	Silver	10-20	48hr or 72h	72hr	EXCELLENT
	Ni+Cu+N					
Zinc	Blue Zinc	Bright Biue	8-20	24hr	24hr	GOOD
	Colour Zinc	Shinny Colour				
Epoxy Epoxy	Epoxy	Black / Grey	15-25	48hr	96hr	EXCELLENT
	Ni+Cu+Epoxy					
Tin	Ni+Cu+Sn	Siver	15-20	72hr	72h	SUPERIOR
Paryione	Paryiene	Grey	15-25	96hr	200hr	SUPERIOR
Tefion	Tefion	Grey	10-20	12hr	24hr	SUPERIOR
Phosphorization	/	Grey	1-2	/	/	TEMPORARY PROETCTION
Passivation	/	Grey	1-2	/	/	TEMPORARY PROETCTION

APPENDIX

- Table-11 Package of Magnet



- Table-12 Transportation

