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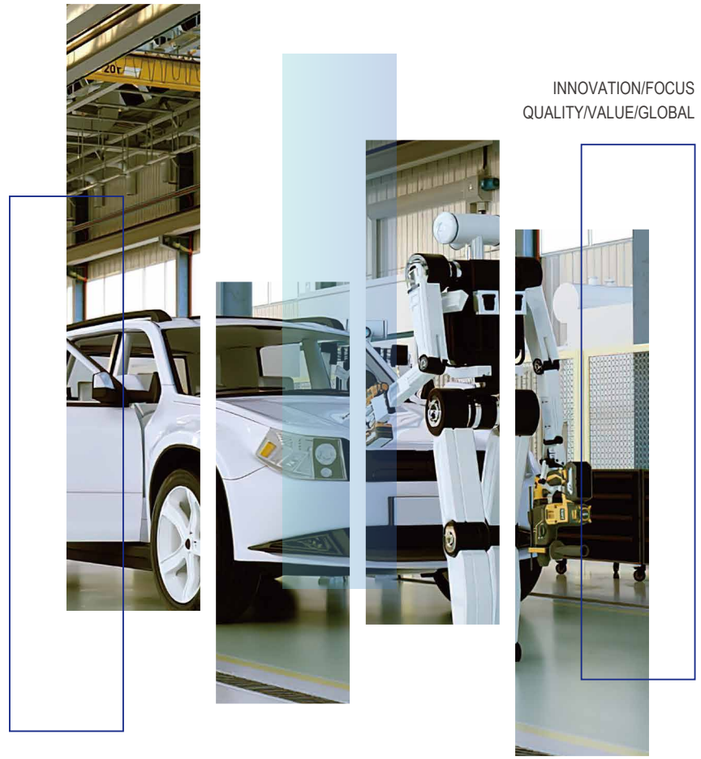
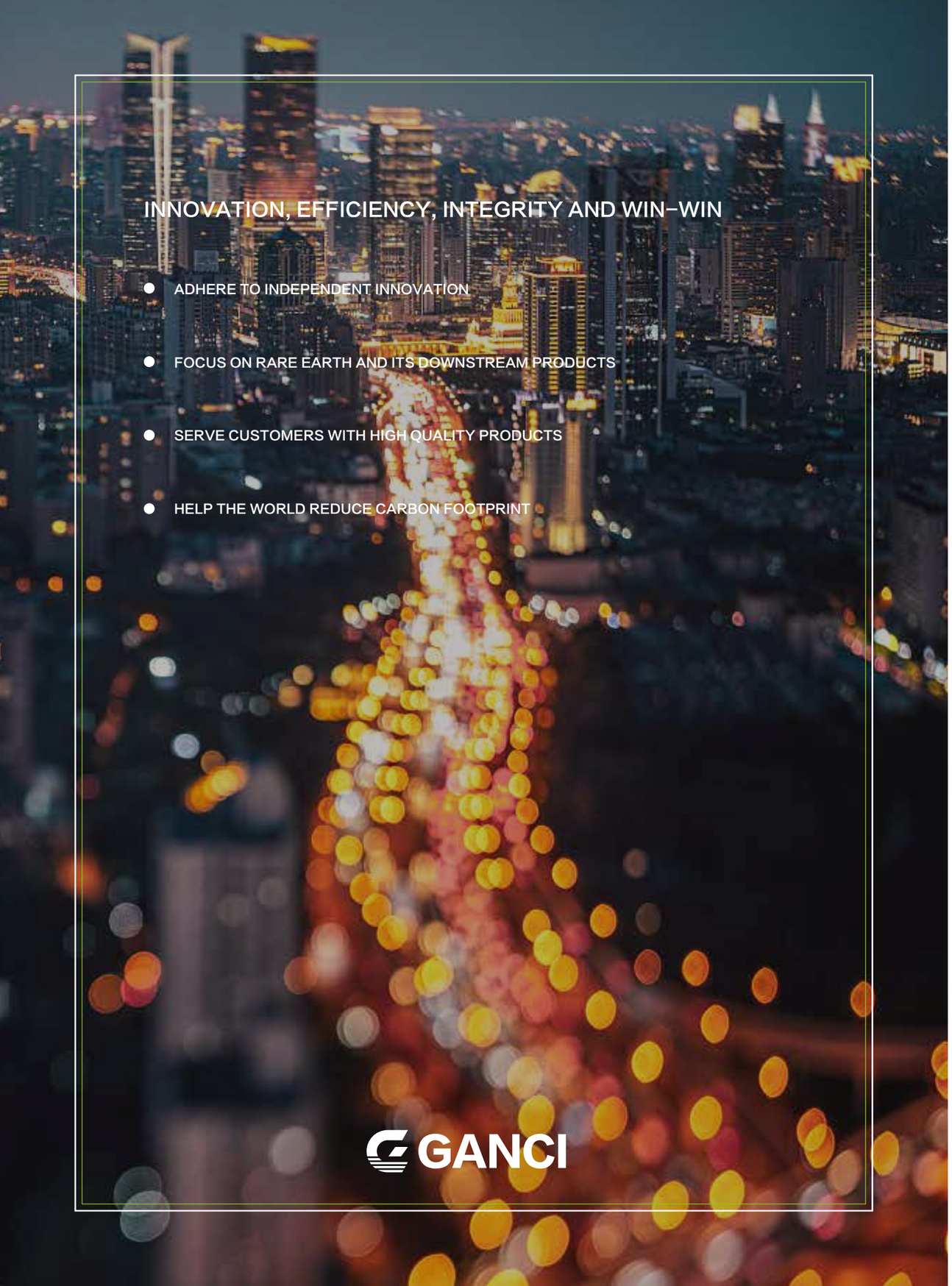


INNOVATION/FOCUS
QUALITY/VALUE/GLOBAL

● A PROFESSIONAL SUPPLIER OF RARE EARTH ●
PERMANENT MAGNET PRODUCTS AND SYSTEM SOLUTIONS



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PART A

ABOUT US

01

Company Introduction

Ganci New Materials (Shanghai) Co., Ltd. is a professional high-tech company integrating R&D, production and sales of high-performance NdFeB permanent magnetic materials. It is a professional supplier of key applied materials in global new energy, energy conservation and environmental protection fields. Ganci's products are widely used in new energy vehicles, auto parts, energy saving home appliances, 3C, industrial robots and other fields.

Compared with other magnetic materials, NdFeB permanent magnetic materials have outstanding performance with high BH value, high coercive force and service characteristic. Currently, Ganci is able to supply a full range of products. It has the production capacity of product development, mold development and manufacturing, block production, finished product processing and surface treatment, all these production processes are fully under quality control and management.



Ganci masters core technologies such as block production and grain boundary diffusion technology. It is able to supply customers with high-performance rare earth permanent magnets and magnetic assemblies in a long-term and stable manner. Equipped with advanced production equipment and technology, Ganci has established a thorough production process and quality management system. It has passed ISO9001:2015, ISO14001:2015, ISO45001:2018, IATF16949, ensuring that its product quality is at a high level. Ganci has established long-term partnership with universities and institutes, continuously promotes technology, improves its R&D and provides customers with complete product solutions.

The vision of Ganci is to become a world-class provider of permanent rare earth magnet products and system solutions. We insist on independent innovation, focus on rare earth and its downstream products, serve customers with high-quality products, create values for customers and help the world reduce carbon footprint.

02

Resource Introduction

Dubbed “Vitamin of Industries”, rare earths are valuable strategic resources. China has rich rare earth resources which account for about 23% of the world's total rare earth reserves. China's rare earth characterizes by “light in the north and heavy in the south”. Light rare earth minerals are mainly distributed in Baotou, Inner Mongolia while ionic medium and heavy rare earth minerals are mainly distributed in Ganzhou, Jiangxi Province,Fujian, Guangxi and other southern areas.

Ganci has the complete facilities from upstream rare earth oxides to midstream rare earth metals, and is able to provide stable and high-quality rare earth raw materials. This provides strong support for the R&D and production of permanent magnetic materials, forming a complete rare earth magnetic material supply chain. Ganci can start R&D from metal formula and is able to provide customers with customized products according to customers' needs.

INTERNATIONALIZED VISION

Full Green Rare Earth Supply Chain

Mining and Separating » Rare Earth Oxides » Metals » Semi-finished Magnets » Finished Magnets » Application

Rare Earth Separating Plant » Rare Earth Raw Materials

Metal Plant » Metal Pr and Nd

› Ganci New Materials (Shanghai) Co., Ltd.

Together with the most environmental friendly rare earth mine,
Ganci joins to establish a sustainable and green supply chain of rare earth

03

Factory

Ganci has three production bases, located in Guangxi Province, Sichuan Province and Jiangxi Province. It has complete production line of permanent magnets, including Strip Casting, Hydrogen Decrepitation, Jet Milling, Pressing, Sintering, Machining, Grain Boundary Diffusion, Surface Treatment, Inspection and Packing.



Melting and Strip Casting



HD Furnace



Jet Milling

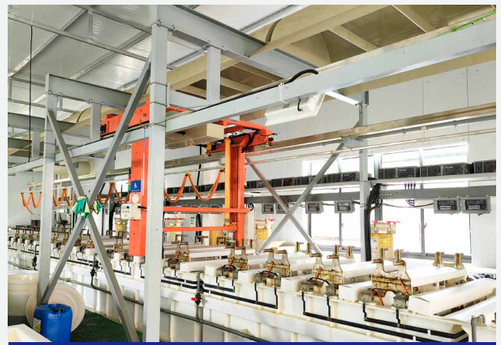


Sintering Furnace

FACTORY



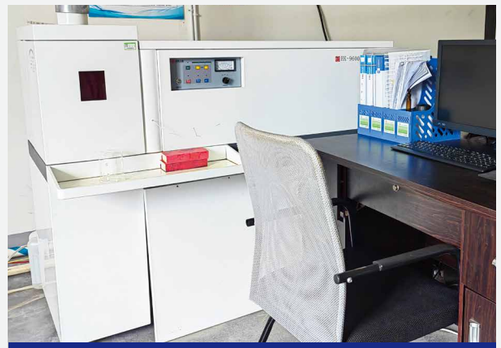
Multi-wire Saw



Coating Line



Magnetizing Machine



ICP-OES



Carbon Sulphur Analyzer



Oxygen Hydrogen Analyzer



SST Equipment

PART

PRODUCTS

01

Sintered NdFeB Magnet

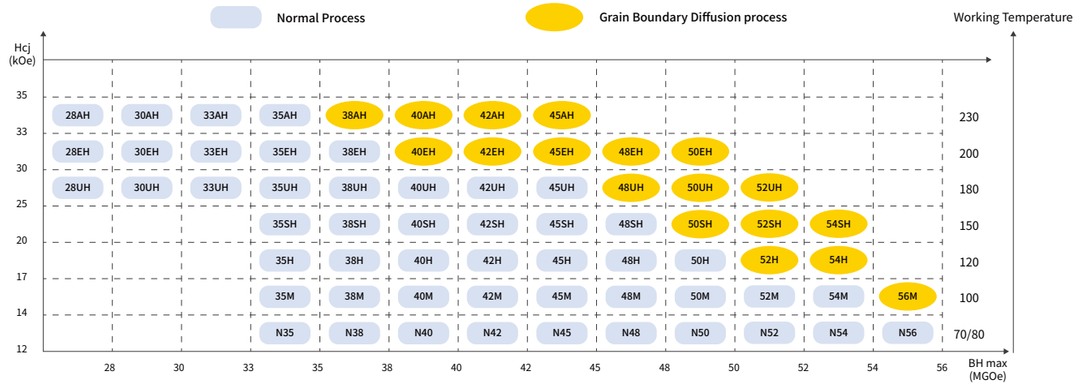
Brief Introduction

Sintered NdFeB permanent magnet is a type of magnet material with Nd_2FeB_{14} as the main magnetic phase. It has extremely high magnetic properties and cost performance. Currently, it is the most widely used permanent magnet materials.

The sintered NdFeB magnets produced by Ganci cover 7 categories from N to AH. Ganci can produce specific products according to customer needs. Its products have high magnetic properties, good temperature resistance and well corrosion resistance, and are mainly used in new energy vehicles, industrial motors, energy saving home appliance, consumer electronics and etc.

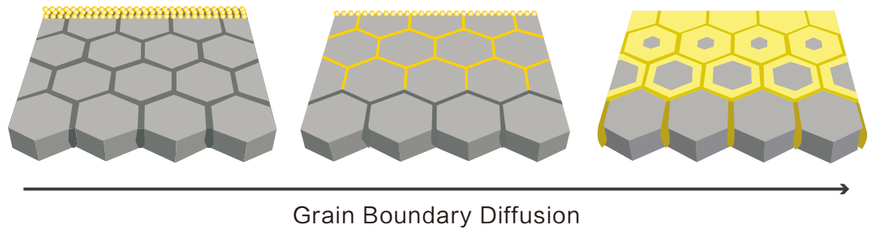
Technology Introduction

1. Development Distribution Chart of Sintered NdFeB Magnet



2. Grain Boundary Diffusion Technology

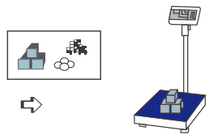
Heavy rare earth Dy, Tb and other alloys are diffused from the surface of the magnets to the interior of the magnets by high temperature, forming a high coercivity shell layer on the grain surface to significantly increase the coercivity of the magnet.



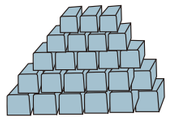
3. Leading Rapid Solidification SC Technology

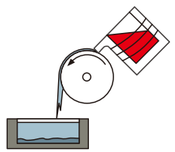
Through advanced SC technology, accurate composition and excellent structure of magnet materials are obtained to ensure the consistency of magnet properties.

Production Process

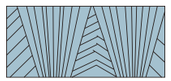


01
Raw Materials Preparing





02
Melting and Strip Casting





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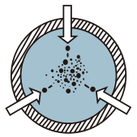
Hydrogen Decrepitation





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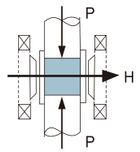
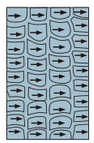
Jet Milling



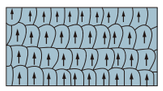


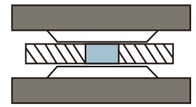
05
Pressing





06
Sintering





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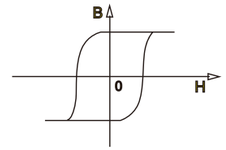
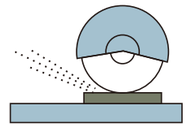
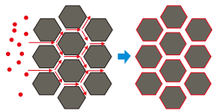
Magnetic Property Inspection





08
Machining





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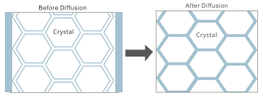
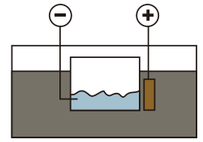
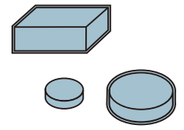
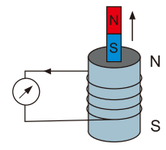
Grain Boundary Diffusion
(Optional)



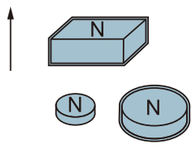


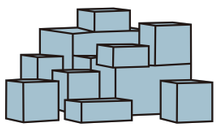
10
Surface Treatment





11
Inspection and Magnetization





12
Packing



Properties

Magnetic Properties of Normal Process Magnets

Magnetic Properties of Normal Process Magnets

Type	Grade	Remanence		Intrinsic Coercivity		Magnetic Coercivity		Max. Energy Product (BH)max		Max. Working Temperature
		Br		Hcj		Hcb		(BH)max		Tw
		T	kGs	kA/m	kOe	kA/m	kOe	kJ/m³	MGOe	℃
N	N35	1.17~1.22	11.7~12.2	⩾955	⩾12	⩾868	⩾10.9	263~287	33~36	80
	N38	1.22~1.25	12.2~12.5	⩾955	⩾12	⩾899	⩾11.3	287~310	36~39	
	N40	1.25~1.28	12.5~12.8	⩾955	⩾12	⩾907	⩾11.4	302~326	38~41	
	N42	1.28~1.32	12.8~13.2	⩾955	⩾12	⩾915	⩾11.5	318~342	40~43	
	N45	1.32~1.38	13.2~13.8	⩾955	⩾12	⩾923	⩾11.6	342~366	43~46	
	N48	1.38~1.42	13.8~14.2	⩾955	⩾12	⩾923	⩾11.6	366~390	46~49	
	N50	1.40~1.45	14.0~14.5	⩾876	⩾11	⩾955	⩾12	382~406	48~51	
	N52	1.43~1.48	14.3~14.8	⩾876	⩾11	⩾876	⩾11	398~422	50~53	
	N54	1.45~1.50	14.5~15.0	⩾876	⩾11	⩾876	⩾11	414~438	52~55	
	N56	1.48~1.52	14.8~15.2	⩾876	⩾11	⩾836	⩾11	414~454	52~57	
M	35M	1.17~1.22	11.7~12.2	⩾1114	⩾14	⩾868	⩾10.9	263~287	33~36	100
	38M	1.22~1.25	12.2~12.5	⩾1114	⩾14	⩾899	⩾11.3	287~310	36~39	
	40M	1.25~1.28	12.5~12.8	⩾1114	⩾14	⩾923	⩾11.6	302~326	38~41	
	42M	1.28~1.32	12.8~13.2	⩾1114	⩾14	⩾955	⩾12	318~342	40~43	
	45M	1.32~1.38	13.2~13.8	⩾1114	⩾14	⩾995	⩾12.5	342~366	43~46	
	48M	1.37~1.43	13.7~14.3	⩾1114	⩾14	⩾1027	⩾12.9	366~390	46~49	
	50M	1.40~1.45	14.0~14.5	⩾1114	⩾14	⩾1033	⩾13	382~406	48~51	
	52M	1.43~1.48	14.3~14.8	⩾1114	⩾14	⩾1043	⩾13.1	398~422	50~53	
	54M	1.44~1.49	14.4~14.9	⩾1114	⩾14	⩾1043	⩾13.1	398~438	50~55	
	56M	1.48~1.53	14.8~15.3	⩾1114	⩾14	⩾1003	⩾12.6	422~454	53~57	
H	35H	1.17~1.22	11.7~12.2	⩾1353	⩾17	⩾868	⩾10.9	263~287	33~36	120
	38H	1.22~1.25	12.2~12.5	⩾1353	⩾17	⩾899	⩾11.3	287~310	36~39	
	40H	1.25~1.28	12.5~12.8	⩾1353	⩾17	⩾923	⩾11.6	302~326	38~41	
	42H	1.28~1.32	12.8~13.2	⩾1353	⩾17	⩾955	⩾12	318~342	40~43	
	45H	1.32~1.37	13.2~13.7	⩾1353	⩾17	⩾973	⩾12.3	342~366	43~46	
	48H	1.37~1.42	13.7~14.2	⩾1353	⩾17	⩾995	⩾12.5	366~390	46~49	
	50H	1.40~1.45	14.0~14.5	⩾1353	⩾17	⩾1003	⩾12.6	382~406	48~51	
	52H	1.42~1.48	14.2~14.8	⩾1353	⩾17	⩾1035	⩾13	390~422	49~53	
	54H	1.45~1.51	14.5~15.1	⩾1353	⩾17	⩾1035	⩾13	406~438	51~55	

Magnetic Properties of Normal Process Magnets

Type	Grade	Remanence		Intrinsic Coercivity		Magnetic Coercivity		Max. Energy Product (BH)max		Max. Working Temperature
		Br		Hcj		Hcb		(BH)max		Tw
		T	kGs	kA/m	kOe	kA/m	kOe	kJ/m³	MGOe	℃
SH	35SH	1.17~1.22	11.7~12.2	⩾1592	⩾20	⩾876	⩾11	263~287	33~36	150
	38SH	1.22~1.25	12.2~12.5	⩾1592	⩾20	⩾907	⩾11.4	287~310	36~39	
	40SH	1.25~1.28	12.5~12.8	⩾1592	⩾20	⩾939	⩾11.8	302~326	38~41	
	42SH	1.28~1.32	12.8~13.2	⩾1592	⩾20	⩾963	⩾12.1	318~342	40~43	
	45SH	1.32~1.38	13.2~13.8	⩾1592	⩾20	⩾979	⩾12.3	342~366	43~46	
	48SH	1.37~1.43	13.7~14.3	⩾1592	⩾20	⩾1011	⩾12.7	366~390	46~49	
	50SH	1.39~1.44	13.9~14.4	⩾1592	⩾20	⩾1043	⩾13.1	366~406	46~51	
UH	28UH	1.04~1.08	10.4~10.8	⩾1990	⩾25	⩾764	⩾9.6	207~231	26~29	180
	30UH	1.08~1.13	10.8~11.3	⩾1990	⩾25	⩾812	⩾10.2	223~247	28~31	
	33UH	1.13~1.17	11.3~11.7	⩾1990	⩾25	⩾852	⩾10.7	247~271	31~34	
	35UH	1.17~1.22	11.7~12.2	⩾1990	⩾25	⩾860	⩾10.8	263~287	33~36	
	38UH	1.22~1.25	12.2~12.5	⩾1990	⩾25	⩾890	⩾11.3	287~310	36~39	
	40UH	1.25~1.28	12.5~12.8	⩾1990	⩾25	⩾939	⩾11.8	302~326	38~41	
	42UH	1.28~1.32	12.8~13.2	⩾1990	⩾25	⩾963	⩾12.1	318~342	40~43	
	45UH	1.32~1.38	13.2~13.8	⩾1990	⩾25	⩾979	⩾12.3	342~366	43~46	
EH	28EH	1.04~1.08	10.4~10.8	⩾2388	⩾30	⩾780	⩾9.8	207~231	26~29	200
	30EH	1.08~1.13	10.8~11.3	⩾2388	⩾30	⩾812	⩾10.2	223~247	28~31	
	33EH	1.13~1.17	11.3~11.7	⩾2388	⩾30	⩾836	⩾10.5	247~271	31~34	
	35EH	1.17~1.22	11.7~12.2	⩾2388	⩾30	⩾876	⩾11	263~287	33~36	
	38EH	1.22~1.25	12.2~12.5	⩾2388	⩾30	⩾899	⩾11.3	287~310	36~39	
	40EH	1.25~1.28	12.5~12.8	⩾2388	⩾30	⩾923	⩾11.6	302~326	38~41	
	42EH	1.28~1.32	12.8~13.2	⩾2388	⩾30	⩾931	⩾11.7	318~342	40~43	
AH	28AH	1.04~1.08	10.4~10.8	⩾2624	⩾33	⩾787	⩾9.9	207~231	26~29	220
	30AH	1.08~1.13	10.8~11.3	⩾2624	⩾33	⩾819	⩾10.3	223~247	28~31	
	33AH	1.13~1.17	11.3~11.7	⩾2624	⩾33	⩾843	⩾10.6	247~271	31~34	
	35AH	1.17~1.22	11.7~12.2	⩾2624	⩾33	⩾876	⩾11	263~287	33~36	
	38AH	1.22~1.25	12.2~12.5	⩾2624	⩾33	⩾896	⩾11.3	287~310	36~39	
	40AH	1.25~1.28	12.5~12.8	⩾2624	⩾33	⩾923	⩾11.6	302~326	38~41	

Ganci Materials can produce magnets of special performance according to customers' requirements.

Properties

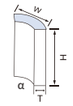
Magnetic Properties of Grain Boundary Diffusion Process Magnets

Magnetic Properties of Grain Boundary Diffusion Process Magnets

Grade	Remanence		Intrinsic Coercivity		Magnetic Coercivity		Max. Energy Product (BH)max		Max. Working Temperature
	Br		Hcj		Hcb		(BH)max		Tw
	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m³	MGOe	°C
G52H	1.41~1.47	14.1~14.7	⩾1353	⩾17	⩾1050	⩾13.2	398~422	50~53	⩽120
G54H	1.45~1.48	14.5~14.8	⩾1353	⩾17	⩾1090	⩾13.7	406~438	51~55	⩽120
G45SH	1.32~1.37	13.2~13.7	⩾1592	⩾20	⩾1003	⩾12.6	342~366	43~46	⩽150
G48SH	1.37~1.43	13.7~14.3	⩾1592	⩾20	⩾1035	⩾13	366~390	46~49	⩽150
G50SH	1.40~1.45	14.0~14.5	⩾1592	⩾20	⩾1035	⩾13	382~406	48~51	⩽150
G52SH	1.43~1.45	14.3~14.5	⩾1592	⩾20	⩾1050	⩾13.2	406~430	51~54	⩽150
G54SH	1.45~1.48	14.5~14.8	⩾1592	⩾20	⩾1059	⩾13.3	406~438	51~55	⩽150
G40UH	1.26~1.31	12.6~13.1	⩾1990	⩾25	⩾907	⩾11.4	302~326	38~41	⩽180
G42UH	1.28~1.34	12.8~13.4	⩾1990	⩾25	⩾907	⩾11.4	318~342	40~43	⩽180
G45UH	1.30~1.36	13.0~13.6	⩾1990	⩾25	⩾1003	⩾12.6	342~366	43~46	⩽180
G48UH	1.37~1.43	13.7~14.3	⩾1990	⩾25	⩾1035	⩾13	366~390	46~49	⩽180
G50UH	1.40~1.45	14.0~14.5	⩾1990	⩾25	⩾1035	⩾13	382~406	48~51	⩽180
G52UH	1.42~1.45	14.2~14.5	⩾1990	⩾25	⩾1035	⩾13	390~422	49~53	⩽180
G38EH	1.22~1.27	12.2~12.7	⩾2388	⩾30	⩾907	⩾11.4	287~310	36~39	⩽200
G40EH	1.26~1.31	12.6~13.1	⩾2388	⩾30	⩾907	⩾11.4	302~326	38~41	⩽200
G42EH	1.28~1.32	12.8~13.2	⩾2388	⩾30	⩾907	⩾11.4	318~342	40~43	⩽200
G45EH	1.30~1.36	13.0~13.6	⩾2388	⩾30	⩾1003	⩾12.6	342~366	43~46	⩽200
G48EH	1.37~1.43	13.7~14.3	⩾2388	⩾30	⩾1035	⩾13	366~390	46~49	⩽200
G50EH	1.39~1.44	13.9~14.4	⩾2388	⩾30	⩾1043	⩾13.1	374~406	47~51	⩽200
G35AH	1.16~1.23	11.6~12.3	⩾2786	⩾35	⩾812	⩾10.2	263~287	33~36	⩽220
G38AH	1.22~1.25	12.2~12.5	⩾2786	⩾35	⩾907	⩾11.4	287~310	36~39	⩽220
G40AH	1.26~1.31	12.6~13.1	⩾2786	⩾35	⩾907	⩾11.4	302~326	38~41	⩽220
G42AH	1.28~1.34	12.8~13.4	⩾2786	⩾35	⩾907	⩾11.4	318~342	40~43	⩽220
G45AH	1.33~1.38	13.3~13.8	⩾2786	⩾35	⩾1003	⩾12.6	334~366	42~46	⩽220

Product Dimension

Product Dimension

Shape	Diagram	Dimension		Max. Dimension	
Block		L	⩽180	L	⩽220
		W	⩽120	W	⩽150
		H	⩽60	H	⩽80
Cylinder		D	⩽150	D	⩽220
		H	⩽60	H	⩽80
Ring		D	⩽120	D	⩽160
		d	⩽80	d	⩽100
		H	⩽45	L	⩽45
Segment		H	⩽180	L	⩽220
		W	⩽120	W	⩽150
		T	⩽60	T	⩽80
		α	0~180°		

Surface Treatment

Surface Treatment

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

Notes

This performance might vary according to different dimension of product.
Multi-layer coating is a combination of different types of coating, and its color, thickness and working temperature might vary from different combinations.
PCT test conditions: 121 degrees Celsius, 100% humidity, 2atms.

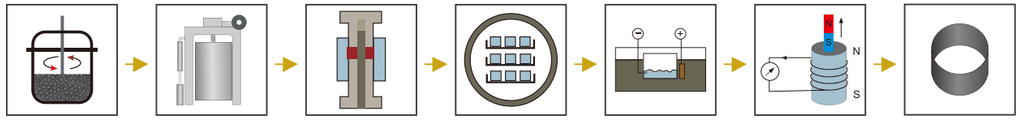
02

Bonded NdFeB Magnet

Brief Introduction

Bonded NdFeB magnets have high dimensional accuracy, good magnetic uniformity and consistency, can be made into magnetic components with relatively complex shapes, and have the characteristics of one-time molding and multi-polar orientation. Magnetic powder is coated with temperature-resistant plastics and additives to achieve excellent temperature stability, the special resin coating ensures good corrosion resistance. Bonded NdFeB magnets have high mechanical strength and can be formed at one time with other supporting components during forming.

Production Process



Bonded NdFeB Products



Properties

Magnetic Properties of Bonded Magnets

Grade	Remanence		Intrinsic Coercivity		Magnetic Coercivity		Max. Energy Product (BH)max		Density	Recoil Permeability	Reversible Temperature Coefficient	Max. Working Temperature
	Br		Hcj		Hcb		(BH)max			μr	αB (T)	Tw
	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m³	MGOe	g/cm³		%/℃	℃
N-6	0.55~0.62	5.5~6.2	600~755	7.5~9.5	285~370	3.6~4.6	45~56	5.5~7.0	5.5~6.1	1.15	-0.13	100
N-8L	0.60~0.64	6.0~6.4	715~800	9.0~10	360~400	4.5~5.0	56~54	7.0~8.0	5.6~6.1	1.15	-0.13	110
N-8	0.62~0.69	6.2~6.9	640~800	8.0~10	385~445	4.8~5.6	64~72	8.0~9.0	5.8~6.1	1.15	-0.13	120
N-8H	0.62~0.66	6.2~6.6	880~1120	11~13	410~465	5.2~5.8	64~72	8.0~9.0	5.8~6.1	1.13	-0.13	140
N-9	0.65~0.70	6.5~7.0	640~800	8~10	400~440	5.0~5.5	70~76	8.8~9.5	5.8~6.1	1.22	-0.12	120
N-10	0.68~0.72	6.8~7.2	640~800	8~10	420~470	5.3~5.9	76~84	9.5~10.5	5.8~6.1	1.22	-0.11	120
N-11	0.70~0.74	7.0~7.4	680~800	8.5~10	445~480	5.6~6.0	80~88	10.0~11.0	5.8~6.1	1.22	-0.11	120
N-11L	0.70~0.74	7.0~7.4	520~640	6.5~8.0	400~440	5.0~5.5	78~84	9.8~10.5	5.8~6.1	1.22	-0.11	110
N-12L	0.74~0.8	7.4~8.0	520~600	6.5~7.5	420~455	5.3~5.7	84~92	10.5~11.5	5.8~6.1	1.26	-0.08	110

03

Magnetic Assembly

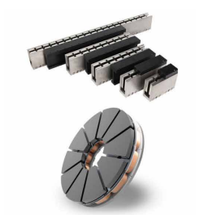
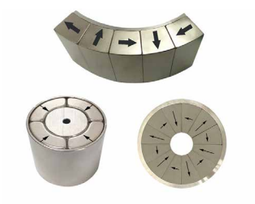
Product Introduction

Magnetic assemblies are parts with magnetic functions and composed of magnets and other components.

Ganci has the capabilities of design, development, assembling and inspecting of magnetic assemblies, can provide customers overall solutions.

Magnetic Assemblies





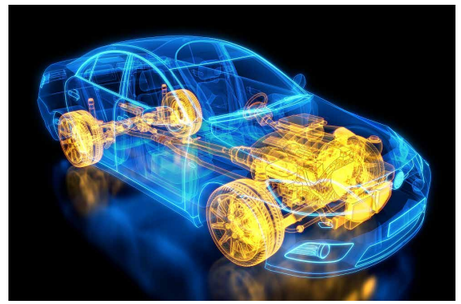
04

Application

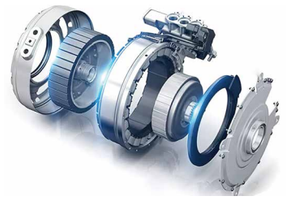
Motors

Automobile Application

NdFeB permanent magnets are widely used in the automotive industry. It is mainly used in drive motors, electric power steering motors and other micro-motors.






Drive Motor


Drive Motor


EPS Motor


Electronic Cooling Water Pump

Electric Motorcycle Application





Hub Motor



Electric Motorcycle

Robot Application



High performance NdFeB magnets with high reliability and stability are the core materials of industrial robot servo system. They can enable the core components to achieve small size, lightweight, fast response and strong short-term overload capacity.





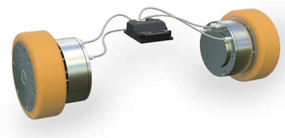
Servo Motor



Robotic Arm

AGV Motor





AGV Motor



AGV Car

Electric Tool Application

Garden Instrument Motor





Mower Motor



Lawn Mower

Handheld Power Tool Application





Motor for Power Tool



Handheld Power Tool

Home Appliance Motor





Air Conditioner Motor



Air Conditioner

3C Products

Due to their small size and high magnetic properties, NdFeB magnets are widely used in computers, mobile phones, camera voice coil motors(VCM), headphones, wireless charging and smart wearable devices.

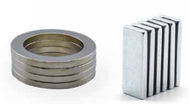
Computer Application





Computer

Telecommunication Application





Communication Products

Consuming Electronic Application





Consuming Electronic Products

Wireless Charging Application





Wireless Charging

Electroacoustics

As magnetic materials for loudspeakers, NdFebB has the advantages of small size, light weight, high sensitivity and low distortion. Replacing traditional ferrite cores or AlnicoAlnico cores with NdFeB magnet can not only improve the sensitivity of speakers but also greatly reduce the total numbers of commonly used magnetic fields.





Car Audio Application







Car Audio System

Home Audio Application







Home Audio

Cinema Audio Application







Cinema Audio