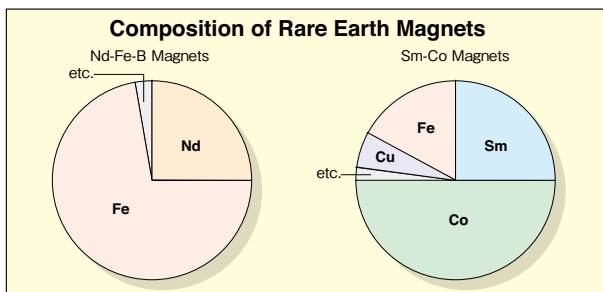
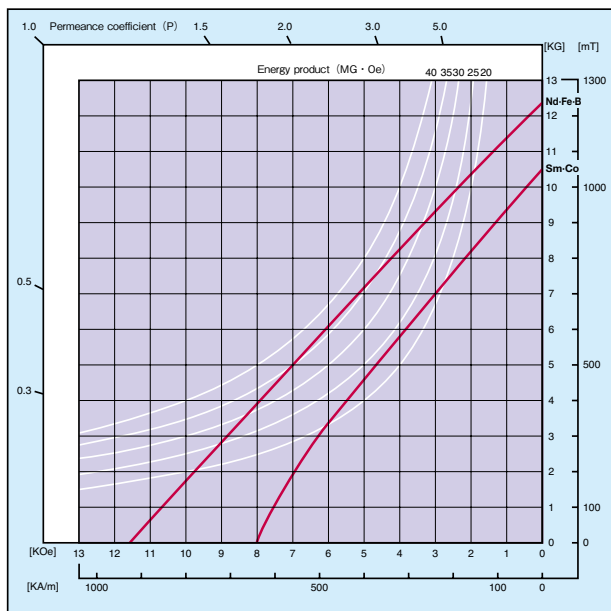


Magna Permanent Magnets

RARE EARTH MAGNET

Rare earth magnets can be classified into a samarium-cobalt magnet and a neodymium magnet. A characteristic of a samarium-cobalt magnet is strong magnetic force. Its merit is that it is resistant to rust and high temperature, but it tends to be easily broken. It is popular as the most suitable material for a small and lightweight magnet, like neodymium. A neodymium magnet can produce the strongest magnetic field in the world among those sold in the current market. The shape of a neodymium magnet can be round, square or ring according to what it is used for. Although it is mechanically strong, its surface is processed since it is easily rusted and therefore it must be used below 80°C .

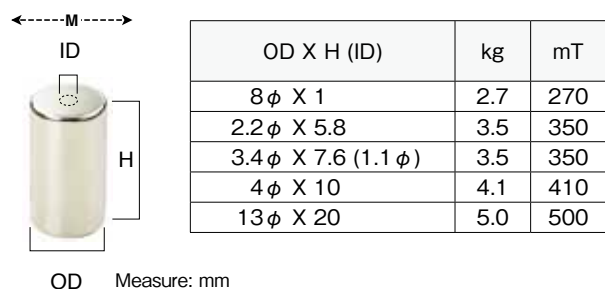
Nd-Fe-B & Sm-Co



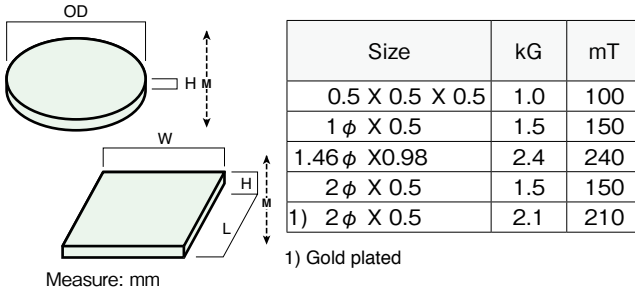
Item	Unit	Nd-Fe-B	Sm-Co
Br	kG	12.4	10.5
	mT	1,240	1,050
bHc	kOe	11.6	8.0
	kA/m	923.1	636.6
iHc	kOe	>17.0	11.0
	kA/m	>1,352.9	875.4
BHmax	MG0e	37	24
	kJ/m ³	294.5	191.0
Temperature characteristics of Br	%/°C	-0.12	-0.04
Curie point	°C	320	750
Density	g/cm ³	7.4	8.3
J I S		REFe 280/120	RECo 160/70
M e r i t		Hard and mechanically strong.	Anticorrosive and temperature does not tend to change.
D e m e r i t		Nickel-plated because it is easily rusted. Must be used below 80°C.	Not so mechanically strong.
C o a t i n g		Ni plated generally	Non plated generally

Nd-Fe-B Magnets

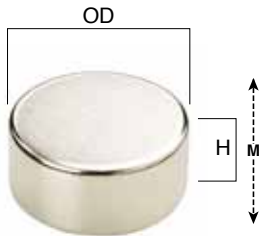
Diametrically Magnetized Type



Extra Thin Type



Round Type

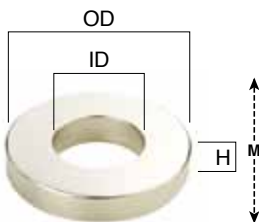


	OD X H	kG	mT	kgf
1)	1.2 φ X 2	1.3	130	0.04
	1.5 φ X 1.5	2.8	280	0.05
	2 φ X 2	2.7	270	0.07
	2 φ X 3	3.2	320	0.08
	3 φ X 1.5	3.1	310	0.17
2)	3 φ X 1.8	3.2	320	0.25
	3 φ X 2.5	3.3	330	0.3
	3 φ X 2	3.5	350	0.3
	3 φ X 3	3.4	340	0.35
	3 φ X 4	3.5	350	0.38
	4 φ X 1.5	2.7	270	0.25
	4 φ X 2	3.0	300	0.3
	4 φ X 3	3.5	350	0.4
	4 φ X 4	3.9	390	0.5
	4 φ X 5	4.2	420	0.55
	5 φ X 1	1.5	150	0.2
2)	5 φ X 1.5	2.0	200	0.3
	5 φ X 2			
	5 φ X 3	3.5	350	0.44
	5 φ X 4	3.8	380	0.56
	5 φ X 5	4.0	400	0.65
	5.5 φ X 1.7	2.1	210	0.3
	6 φ X 2	2.2	220	0.4
	6 φ X 3	2.9	290	0.6
	6 φ X 5	3.5	350	0.75
	7 φ X 2	3.0	300	0.7
	7 φ X 3	3.5	350	0.77
	8 φ X 1	1.8	180	0.5
	8 φ X 2	2.2	220	0.65
	8 φ X 3	3.5	350	1.1
	8 φ X 4	3.6	360	1.25
	8 φ X 5	4.0	400	1.4
	8 φ X 8	4.2	420	1.8
	9 φ X 3	3.2	320	1.2
	9.4 φ X 0.8	1.5	150	0.4
	10 φ X 2	2.6	260	1.3

	O X H	kG	mT	kgf
	10 φ X 3	3.5	350	2.0
	10 φ X 4	3.8	380	2.4
	10 φ X 5	4.2	420	2.6
	10 φ X 10	4.8	480	3.65
	12 φ X 1.3	2.0	200	1.45
	12.5 φ X 1.5	2.0	200	1.8
	12.5 φ X 2	2.0	200	1.9
	13 φ X 10	4.8	480	6.1
	13 φ X 20	5.5	550	9.5
	14 φ X 10	4.5	450	6.4
	15 φ X 1.5	1.8	180	1.1
	15 φ X 1.7	2.0	200	1.3
2)	15 φ X 3	3.2	320	3.7
	15 φ X 4	3.3	330	4
	15 φ X 5	3.3	330	4.5
	15 φ X 10	4.2	420	6.8
	16 φ X 10	4.2	420	7.2
	17.9 φ X 2.5	2.7	270	2.5
	19 φ X 10	4.0	400	9.8
	20 φ X 5	2.8	280	6.3
	21 φ X 4.6	3.2	320	7.0
	22 φ X 10	4.5	450	15.3
	23.5 φ X 3.4	2.0	200	4
	23.5 φ X 4.5	2.2	220	4.8
	23.5 φ X 5	2.4	240	5.6
	24 φ X 20	5.0	500	40.0
	25 φ X 3.4	1.8	180	4.2
	25 φ X 5	2.5	250	7.5
	25 φ X 6	3.0	300	9
	25 φ X 9.8	3.5	350	20.0
	30 φ X 15	5.0	500	22.0
	32 φ X 10.5	4.0	400	26.0
	40 φ X 10	3.8	380	35.0
	50 φ X 20	5.1	510	180.6
	100 φ X 15	3.7	370	75.0

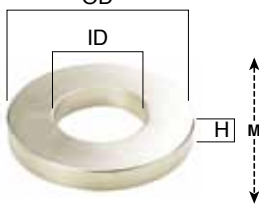
1) Gold plated, 2) Gold or Ni plated

Ring Type



Measure: mm

Disc type



OD X ID X H	kG	mT	kgf
5 φ X 2.4 φ X 3	2.2	220	0.3
6 φ X 3 φ X 4	3.3	330	0.4
6.6 φ X 2 φ X 1.5	2.0	200	0.28
8 φ X 2 φ X 2.5	3.0	300	0.9
8 φ X 4 φ X 5	3.7	370	1.2
8.5 φ X 5.5 φ X 0.8	1.0	100	0.2
10 φ X 5 φ X 5	3.6	360	1.8
10 φ X 6 φ X 1	1.7	170	0.7
10 φ X 6 φ X 10	3.3	330	2.5
10.5 φ X 7.6 φ X 1	1.6	160	0.7
11 φ X 4 φ X 10	3.2	320	3.2
12 φ X 6 φ X 0.8	1.6	160	0.7
12 φ X 7 φ X 6	3.6	360	2.2
13.5 φ X 5 φ X 2	2.2	220	1.0
14 φ X 9 φ X 4	3.0	300	3.0

OD X ID X H	kG	mT	kgf
14.2 φ X 10 φ X 2	3.0	300	2.1
17 φ X 8.8 φ X 1.25	1.8	180	1.0
18 φ X 7 φ X 6	3.6	360	5.5
19 φ X 6.5 φ X 10	4.5	450	8.4
23 φ X 8 φ X 3.5	3.0	300	3.5
23 φ X 8 φ X 14	4.2	420	12.0
23 φ X 13 φ X 1	1.3	130	1.8
25 φ X 7 φ X 6	3.6	360	7.3
26 φ X 20 φ X 6	3.5	350	5.5
31.2 φ X 18.2 φ X 1	1.2	120	3.2
39 φ X 19 φ X 7	4.5	450	20.0
59 φ X 19 φ X 10	4.5	450	45.0
70 φ X 32 φ X 15	4.5	450	50.0
76 φ X 42 φ X 6	3.5	350	55.0
98 φ X 58 φ X 10	4.0	400	65.0

DISC TYPE

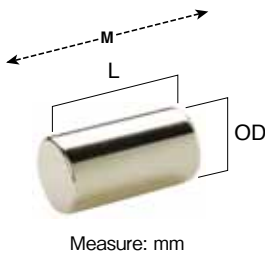
OD X ID X H	Poles
26 φ X 20 φ X 4.7	4 poles
48 φ X 25 φ X 3.5	4 poles
60 φ X 30 φ X 8	8 poles



Multipole Pattern viewed with Magnetic viewer.

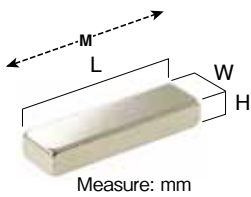
● Surface magnetic flux density and the magnetic adsorption is a value for reference.

Bar Type (Round Type)



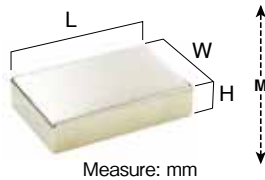
OD X L	kG	mT	kgf	OD X L	kG	mT	kgf
1 φ X 5	1.5	150	0.05	5 φ X 8	3.7	370	0.8
1.4 φ X 5	1.5	150	0.08	5 φ X 10	4.0	400	0.9
1.5 φ X 8	2.0	200	0.09	5.5 φ X 8	3.9	390	1.0
2 φ X 5.5	3.5	350	0.12	6 φ X 10	4.0	400	1.1
2 φ X 7	3.8	380	0.2	6 φ X 23	5.0	500	2.5
2.3 φ X 4.5	3.3	330	0.15	9 φ X 10	4.2	420	2.2
2.5 φ X 6	3.6	360	0.23	16 φ X 30	5.0	500	15.0
3 φ X 5	3.4	340	0.4	17.5 φ X 20	4.7	470	17.0
3 φ X 6	3.6	360	0.42	19 φ X 40	5.2	520	19.0
3 φ X 10	4.0	400	0.5	22.5 φ X 25	5.0	500	24.0
4 φ X 8	4.0	400	0.7	23.5 φ X 25	5.0	500	27.0

Bar Type (Square Type)



W X H X L	kG	mT	kgf	W X H X L	kG	mT	kgf
0.6 X 2 X 7	3.0	300	0.01	4 X 7.5 X 12	4.4	440	1.0
4 X 4 X 12	4.5	450	0.6	5 X 5 X 10	4.0	400	0.9

Square Type



L X W X H	kG	mT	kgf	L X W X H	kG	mT	kgf
2.4 X 2.4 X 1.8	2.0	200	0.04	20 X 18 X 7.5	4.4	440	11.0
4 X 4 X 2	2.0	200	0.3	22 X 21 X 5	2.9	290	7.2
6 X 6 X 4.5	3.2	320	0.85	23 X 23 X 10	3.3	330	8.5
6.8 X 4 X 2	2.8	280	0.45	24 X 24 X 12.5	4.2	420	23.0
8 X 5 X 1.8	2.5	250	0.56	25.4 X 9.6 X 9.6	4.0	400	12.0
9 X 5 X 1.5	2.3	230	0.7	25.4 X 25.4 X 12.7	4.0	400	23.5
9 X 7 X 3	3.1	310	1.1	26 X 20 X 6	3.3	330	9.5
10 X 3 X 3	3.3	330	0.65	28 X 13 X 4	3.3	330	6.7
10 X 5 X 1	1.4	140	0.35	28.5 X 16 X 5 (3φ)	3.1	310	7.6
10 X 10 X 2	2.0	200	1.5	29.5 X 4.15 X 2.15	2.5	250	2.2
10 X 10 X 4	3.1	310	2.2	30 X 10 X 8	4.2	420	10.0
10 X 10 X 6	4.2	420	3.7	30 X 30 X 5	3.0	300	12.0
10 X 10 X 8	3.6	360	2.8	30 X 30 X 10	4.0	400	23.0
10 X 10 X 10	4.2	420	3.6	30 X 30 X 10	4.0	400	23.0
12 X 7 X 4	3.5	350	1.8	40 X 11 X 6	3.5	350	8.4
12 X 10 X 4	3.3	330	2.9	40 X 15 X 5	3.0	300	9
15 X 5 X 3	3.2	320	1.5	40 X 40 X 10	4.0	400	38.0
15 X 6 X 2.8	3.0	300	1.6	46 X 30 X 10	4.0	400	35.0
15 X 10 X 5	3.5	350	3.3	50 X 10 X 2	2.0	200	4.5
16 X 3.25 X 4.1	4.3	430	2.3	50 X 10 X 3	2.9	290	6.5
18 X 3.25 X 2.7	3.0	380	1.9	50.8 X 50.8 X 12.7	4.0	400	65.0
18 X 3.25 X 4.1	3.5	350	2.6	3) 50.8 X 50.8 X 12.7	4.0	400	65.0
1) 20 X 4.15 X 2.15	2.6	260	1.9	50.8 X 50.8 X 25.4	4.8	480	80.0
20 X 10 X 4	2.8	280	4.8	51 X 4.15 X 2.15	2.2	220	3.5
20 X 10 X 4	4.0	400	6.0	58 X 14 X 3	2.4	240	5.5
20 X 10 X 10	3.2	320	7.1	60 X 30 X 10	3.8	380	45.0
20 X 12 X 5	3.0	300	6.0	68 X 4 X 8	3.2	320	7.5
20 X 15 X 5	3.0	300	6.3	79.5 X 4.5 X 1.5	1.8	180	4.5

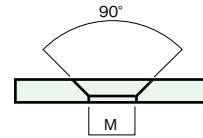
- 1) Aluminum Chromate coated
- 2) M3 Counter sunk
- 3) M5 Counter sunk

● Surface magnetic flux density and the magnetic adsorption is a value for reference.

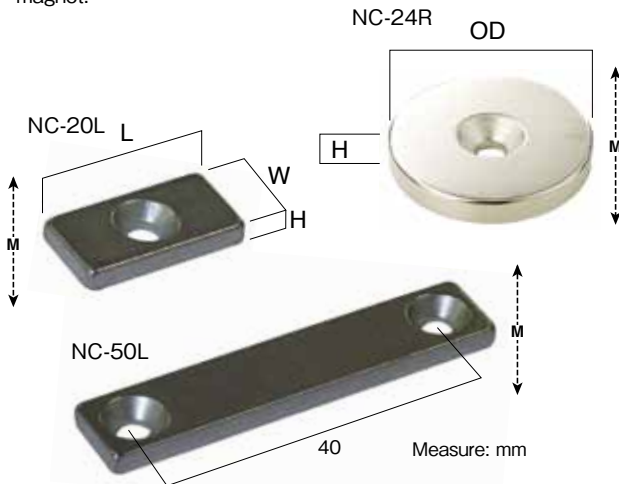
Nd-Fe-B Applied Products

Plate Catch

Since a traditional Plate Catch is thick, it had some disadvantages such as it had to be fixed on the main body of a storage case. The newly developed Plate Catch is thin and flat, and can easily be fixed on the lid since a hole for M3 counter sunk head screw is directly bored in the magnet.



Using countersunk head screw



ROUND TYPE

Code	OD X H	M	Holding Force	Remarks
NC-12R	12 φ X 3	3	3.0kgf	Zn plated/Cr treated (RoHS-compliant)
NC-24R	24 φ X 4	5	6.0kgf	Ni plated
NC-35R	35 φ X 5	5	12.0kgf	Ni plated

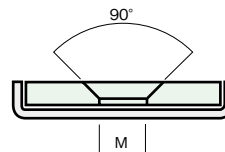
SQUARE TYPE

Code	L X W X H	M	Holding Force	Remarks
NC-20L	20 X 10 X 3	3	2.5kgf	Zn plated/Cr treated (RoHS-compliant)
NC-35L	34.5 X 20 X 5	5	11.0kgf	Ni plated
NC-50L	50 X 10 X 3	3	5.0kgf	Zn plated/Cr treated (RoHS-compliant)

● Adsorbability is based on a backing plate of 1.6t. ● Must be used below 80°C.

Plate Catch (Yoke Attached)

A plate magnet with a yoke attached makes adsorbability two or four times as strong as the one without a yoke.



Using countersunk head screw



ROUND TYPE

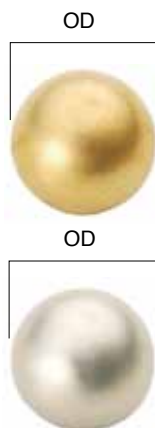
Code	OD X H	M	T(yoke)	Holding Force	Remarks
NCC-12R	15.5 φ X 5	3	1.5	4.0kgf	Zn plated/Cr treated (RoHS-compliant)
NCC-29R	29 φ X 6.6	5	2.1	24.0kgf	Cromate plated (Yoke only)
NCC-40R	40 φ X 7.6	5	2.1	40.0kgf	Ni plated

SQUARE TYPE

Code	L X W X H	M	T(yoke)	Holding Force	Remarks
NCC-20L	20 X 13.5 X 5	3	1.5	7.5kgf	Zn plated/Cr treated (RoHS-compliant)
NCC-35L	35 X 24.5 X 7.5	5	2.0	30.0kgf	Ni plated
NCC-50L	50 X 13.5 X 5	3	1.6	20.0kgf	Zn plated/Cr treated (RoHS-compliant)

● Adsorbability is based on a backing plate of 1.6t. ● Must be used below 80°C.

BALL Type



OD	kG	mT	Remarks
3 φ	3.2	320	Gold plated
5 φ	4.5	450	Gold plated
8 φ	5.5	550	Gold plated
10 φ	5.8	580	Gold plated
15 φ	6.5	650	Gold plated
1) 3 φ	3.2	320	Ni plated
5 φ	4.5	450	Ni plated
8 φ	5.5	550	Ni plated
10 φ	5.8	580	Ni plated
15 φ	6.5	650	Ni plated

1) 1.2 φ pierced

Measure: mm ● Surface magnetic flux density and the magnetic adsorption is a value for reference.

POLYAMIDE MAGNET Nd-Fe-B Magnet

It is a totally new neodymium magnet with the polyamide coat (the powder body painting). This product improved an environmental characteristic-resistant than a conventional plating processing article. For example, this product confirms that the durability does not have any problem on the salt water mist test of 2000 hours either.

It is suitable for various uses, mostly for a product touching human skin direct, apparel connection, purses, a toiletry, a kitchen and a house connection article.

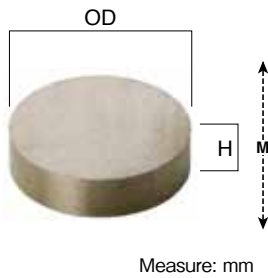
A basic color is white and black, but the favorite color does production by special order, as well.



Item	Dimension (value for reference)	Product	Color	Note
Round Type	8.2 φ X 1.7		White/ Black	
	5 φ X 1.5		White	
	5.5 φ X 2.5		Black	
Ring Type	42.5 φ X 18 φ X 3.7		White	
	20 φ X 4.5 (M4)		White/ Black	Counter sunk hole
	20.3 φ X 5.5 φ X 2.5		Black	
	15 φ X 4.5 (M3)		White/ Black	Counter sunk hole
	12.5 φ X 4.2 (M2)		White/ Black	Counter sunk hole
	12.3 φ X 2.3 (M3)		Classical Gold	Counter sunk hole
Square Type	35 X 20.5 X 5.5 (M4)		White	Counter sunk hole
	50 X 10 X 3.4 (M3)		White/ Black	Counter sunk hole
	20 X 10 X 3 (M3)		White/ Black	Counter sunk hole
	10 X 10 X 4.2 (M2)		White/ Black	Counter sunk hole
	10.3 X 10.3 X 2.3 (M3)		Classical Gold	Counter sunk hole
hexagon Type	14.5 X 14.5 X 4.2 (M2)		White/ Black	Counter sunk hole
	12.5 X 12.5 X 2.3 (M3)		Classical Gold	Counter sunk hole
Magnet Hook	12.3 φ X 2.3 (1.5 φ X 2)		Classical Gold	Buttonhole
	12.5 φ X 4.1 (1.5 φ X 2)		White/ Black	Buttonhole
	Hook Catcher 16 φ		White/ Black	Buttonhole
	Hook Catcher 12 φ		White/ Black	Buttonhole
Octagon Type	5.4 X 10.4		White/ Black	

Sm-Co Magnets

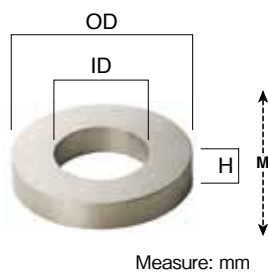
Round Type



OD X H	kG	mT	kgf	OD X H	kG	mT	kgf
2φ X 0.8	1.6	160	0.04	8φ X 2	2.4	240	0.6
2φ X 2	2.8	280	0.08	8φ X 2.8	2.7	270	0.75
2.4φ X 1	1.9	190	0.05	8φ X 3	2.3	230	0.75
3φ X 1	1.8	180	0.08	8φ X 5	3.0	300	1.2
3φ X 1.5	2.0	200	0.1	1) 8φ X 5	3.0	300	1.2
3φ X 2	2.6	260	0.12	8φ X 8	3.6	360	1.45
3φ X 3	2.8	280	0.15	9φ X 2	1.8	180	0.5
3φ X 4	3.0	300	0.18	9φ X 3	2.2	220	0.66
3.5φ X 2	2.6	260	0.16	9.5φ X 1.5	1.5	150	0.4
3.9φ X 2.5	2.9	290	0.22	9.5φ X 2	1.8	180	0.45
4φ X 0.8	1.5	150	0.1	10φ X 2	1.8	180	0.65
4φ X 0.9	1.8	180	0.12	10φ X 3	2.5	250	1.1
4φ X 1.5	2.0	200	0.13	10φ X 3.5	2.7	270	1.2
4φ X 2	2.6	260	0.2	10φ X 5	3.0	300	1.4
4φ X 3	3.0	300	0.24	10φ X 6	3.5	350	1.6
4φ X 3.5	3.1	310	0.28	10φ X 8	3.8	380	1.9
4φ X 4	3.3	330	0.32	11φ X 1.5	1.6	160	0.8
4φ X 5	3.5	350	0.35	12φ X 3	2.2	220	1.3
5φ X 1	1.8	180	0.14	12φ X 8	3.8	380	3.2
5φ X 1.5	2.0	200	0.15	12.5φ X 1.5	1.5	150	0.83
5φ X 2	2.5	250	0.26	13.5φ X 10	4.2	420	4.2
5φ X 3	3.0	300	0.35	14φ X 3.9	2.5	250	2.1
5φ X 4	3.2	320	0.43	15φ X 3	2.0	200	1.76
5φ X 5	3.5	350	0.5	15φ X 5	3.0	300	3.25
5.9φ X 3.5	3.0	300	0.37	15φ X 10	4.0	400	4.2
6φ X 2	2.2	220	0.32	15.5φ X 3.9	2.4	240	2.5
6φ X 3	2.6	260	0.36	15.8φ X 3.5	2.5	250	2.4
6φ X 4	3.1	310	0.4	17φ X 3	2.6	260	3.0
6φ X 5	3.5	350	0.5	17.5φ X 3.5	2.7	270	3.1
6φ X 6	3.6	360	0.55	17.5φ X 5	3.0	300	3.4
6.4φ X 1.5	2.1	210	0.5	20φ X 5	2.5	250	4.0
7φ X 3	2.8	210	0.61	25φ X 9	3.7	370	7.0

1) Ni plated

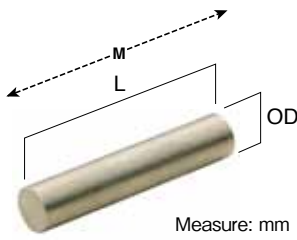
Ring Type



OD X ID X H	kG	mT	kgf	OD X ID X H	kG	mT	kgf
1.4φ X 0.4φ X 1.6	2.8	280	0.06	16φ X 5φ X 3	2.0	210	1.48
3φ X 1φ X 2.5	2.6	260	0.2	17φ X 5φ X 2	1.8	180	1.48
3φ X 1.8φ X 4	2.9	290	0.15	17φ X 5φ X 5	2.5	250	2.4
5φ X 3.2φ X 3	2.5	250	0.2	19φ X 5.5φ X 2	1.8	180	1.9
6.5φ X 2φ X 1.5	2.0	200	0.2	20φ X 7φ X 4	2.5	250	2.9
6.5φ X 2φ X 2	2.2	220	0.25	23.5φ X 11φ X 1.5	2.5	250	2.9
8φ X 0.6φ X 1.5	1.8	180	0.35	30φ X 5φ X 5	2.5	250	7.0
2) 9φ X 2.1φ X 2	2.3	230	0.9	30φ X 15.5φ X 5	2.5	250	5.7
9.5φ X 2.2φ X 1.4	1.5	150	0.26	36φ X 28φ X 5	2.4	240	6.3
10φ X 4.6φ X 2.6	2.8	280	1.4	40φ X 17.5φ X 3	2.0	200	7.1
10.5φ X 7.6φ X 1	1.1	110	0.3	46φ X 33φ X 2	2.0	200	6.2
13.2φ X 3φ X 1.5	1.5	150	1.0	60φ X 32φ X 7	3.0	300	29.0
14φ X 4φ X 3	2.5	250	1.4	64φ X 47φ X 15	3.5	350	35.0
14φ X 9φ X 8	3.3	330	2.6				

2) Gold plated

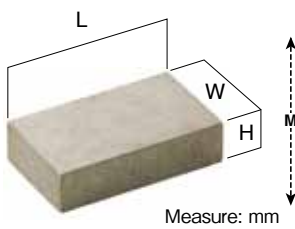
Bar Type



OD X L	kG	mT	kgf
2.5 φ X 5	3.7	370	0.2
3 φ X 5	3.7	370	0.26
3 φ X 9	3.2	320	0.35
3.5 φ X 6	4.0	400	0.32
4 φ X 8.5	3.5	350	0.44
5 φ X 10	4.0	400	0.6
5 φ X 13	4.2	420	0.7

OD X L	kG	mT	kgf
5 φ X 15	3.8	380	0.8
5 φ X 25	3.3	330	1.7
6 φ X 8	3.7	370	0.7
6 φ X 9.5	4.0	400	0.8
7 φ X 8	3.8	380	1.3
8 φ X 10	3.8	380	1.8
22.5 φ X 25	4.2	420	12

Square Type

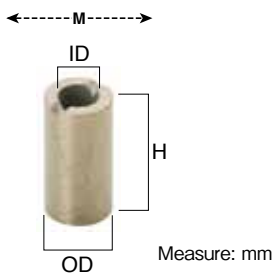


L X W X H	kG	mT	kgf
1) 1.2 X 1 X 1	1.1	110	0.03
1) 1.2 X 1.2 X 2	1.8	180	0.05
1) 3 X 2 X 0.7	1.2	120	0.08
4 X 4 X 2	2.5	250	0.25
6 X 6 X 1.5	2.3	230	0.4
6 X 6 X 2	2.5	250	0.44
9 X 2.5 X 3.9	3.0	300	0.47
10 X 6.5 X 4	3.2	320	0.83
11 X 7 X 8	3.5	350	1.86
12 X 7 X 3	2.6	260	1.1
1) 14 X 2 X 1	1.4	140	0.21
14.5 X 10 X 4.5	2.8	280	2.5
15 X 5 X 3	2.6	260	1.1
15 X 10 X 4	2.8	280	2.4
15 X 10 X 5	3.0	300	2.5
20 X 5 X 12	3.6	360	2.2

L X W X H	kG	mT	kgf
20 X 10 X 5	3.0	300	4
20 X 12 X 5	3.0	300	4.4
20 X 15 X 5	2.6	260	4.3
20 X 20 X 10	3.0	300	7.2
25 X 15 X 1.5	1.2	120	1.3
25 X 15 X 3	1.7	170	2.4
26 X 8 X 4	2.8	280	2.6
30 X 16 X 5	2.5	250	6.8
38 X 38 X 18	3.2	320	32
38 X 38 X 24.5	3.8	380	43
50 X 30 X 12	3.5	350	40
50 X 30 X 35	5.0	500	55.0
58 X 14 X 6	2.7	270	12
60 X 60 X 12	3.3	330	50
77 X 32 X 24	3.7	370	56

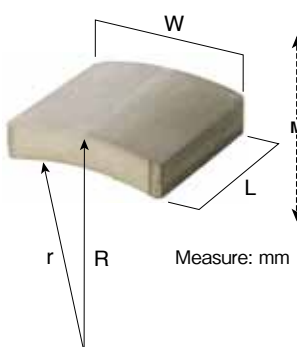
1) Ni plated

Diametrically Magnetized Type



OD X H [ID]	kG	mT
1.5 φ X 0.37 (0.4 φ)	1.5	150
2 φ X 9	2.4	240
4.4 φ X 8.3 (2.4 φ)	2.0	200

Segment C Type



R X r X W X L
56 X 50 X 30 X 29

SUPER MAGNET SHEET

Nd-Fe-B Magnet

High Magnetic Force Neodymium Sheet



High magnetic force sheet with neodymium of the strong adsorption power, that is 4 times higher in comparison with conventional rubber magnet. The flexibility of the sheet also improves more. With scissors and a cutter, a clipping can be made easily in various form.

- ① Flexible Magnet Sheet of rare earth Nd-Fe-B.
- ② The Sheet surface does not have the oxidation and falling off of magnet material for a multilayered structure body.
- ③ In comparison with normal rubber magnet, there is about 4 times adsorption power.
- ④ This product is superior to conventional rubber magnet in flexibility, the reconstruction characteristics and can easily clip it out in scissors and cutter.



• NORMAL SHEET SIZE

- 0.6 mm thickness : 200 mm (W) x 220 mm (L) and 200 mm (W) x 440 mm (L)
- 1.0 mm thickness : 200 mm (W) x 220 mm (L) and 200 mm (W) x 440 mm (L)
- 2.0 mm thickness : 200 mm (W) x 220 mm (L) and 200 mm (W) x 440 mm (L)
- 3.0 mm thickness : 200 mm (W) x 220 mm (L) and 200 mm (W) x 440 mm (L)

• THE SHEET WITH ADHESION MATERIAL IS AVAILABLE

MAGNETIC CHARACTERISTIC

	Residual magnetic flux density Br	Coercive force HcB	Coercive force HcJ	Maximum energy product BH max
SI group (mT)	518~534	332~337	>650	44~46
CGS group (kG)	5.2~5.3	4.2~4.3	>8.2	5.5~5.8

SURFACE MAGNETIC FLUX DENSITY AND ADSORPTION POWER

Thickness	Dimensions	Surface magnetic force	Adsorption power
0.6 mm	200 mm~440 mm	85~ 90 mT	140 g/cm ²
1.0 mm	200 mm~440 mm	130~140 mT	360 g/cm ²
2.0 mm	200 mm~440 mm	160~165 mT	450 g/cm ²
3.0 mm	200 mm~440 mm	210~215 mT	530 g/cm ²

PRODUCT PHYSICS CHARACTERISTIC

Heat-resistant temperature range	Flexibility (JIS)	Strength (Mpa)	Growth rate (%)	Hardness (ShoreA)	Departure from surface rust *	Oiliness-resistant		
						Rust prevention oil	Machine cutting oil	Spindle oil
≤100°C	◎	3.8	55	80~85	Good	Fine	Fine	Admittable

· Above data is not a guarantee value.

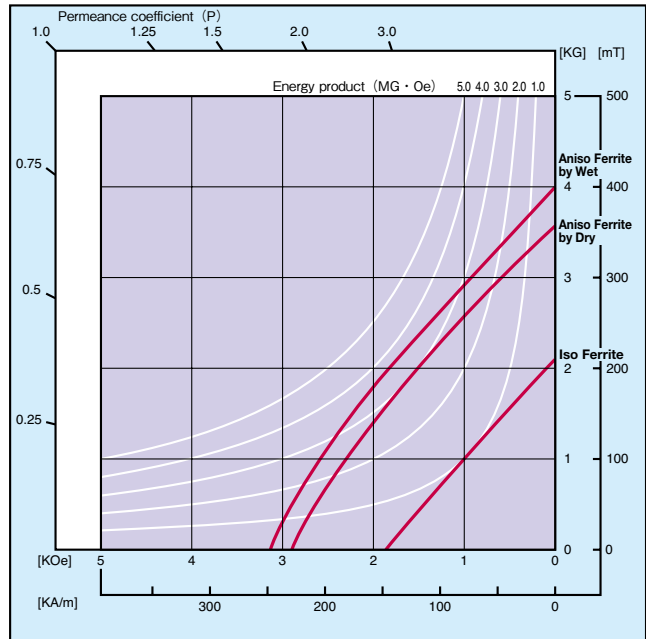
* Moisture test (60.°C x 95% x 500Hr besides an end face)

FERRITE MAGNET



Since its coercive force is strong, there is no demagnetization. Being a ceramic magnet, Ferrite magnet is highly anticorrosive and is suitable for a flat shape, but its weak point is that it tends to be easily broken. Ferrite magnet is used for traditional audio speakers and headphones, and since it becomes lighter and lighter (a half or one-third of previous ones) due to technical innovation, the demand for Ferrite magnet for automobile motors or generators is increasingly growing. As there is abundant ferric oxide, raw materials of Ferrite magnet, the magnet can be supplied at the lowest price among present magnets.

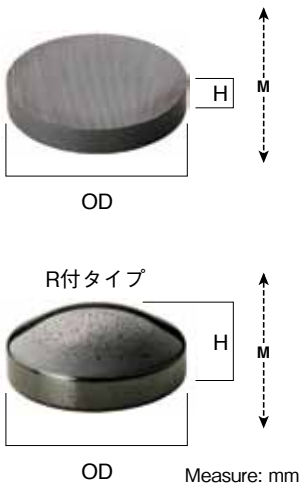
Ferrite



Item	Unit	Isotropic Ba-Ferrite	Anisotropic Sr-Ferrite by Dry	Anisotropic Sr-Ferrite by wet
Br	kG	2.2	3.6	4.0
	mT	220	360	400
bHc	kOe	1.9	3.0	3.3
	kA/m	151.2	238.7	262.6
iHc	kOe	3.2	3.15	3.4
	kA/m	254.7	250.7	270.6
BHmax	MGoe	1.0	3.0	3.8
	kJ/m ³	8.0	23.9	30.2
Temperature characteristics of Br	%/°C	-0.18	-0.18	-0.18
Curie point	°C	460	460	460
Density	g/cm ³	4.8	4.8	4.9
J I S		Hard ferrite 7/21	Hard ferrite 20/19	Hard ferrite 29/22
M M P A		CERAMIC-1	CERAMIC-6	CERAMIC-8
M e r i t		Since its coercive force is strong, there is no demagnetization. Being a ceramic magnet, it is highly anticorrosive and antioxidizable.		
D e m e r i t		Being a ceramic magnet, it tends to be easily broken like porcelain.		

Anisotropic Sr-Ferrite Magnets

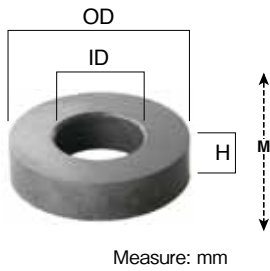
Round Type



OD X H	OD X H	OD X H	OD X H
1.5 φ X 3	7 φ X 2	13 φ X 5	20 φ X 7
2 φ X 3	7 φ X 4	13 φ X 6.5	20 φ X 10
1) 2 φ X 4	7 φ X 5	15 φ X 4	20 φ X 15
2.3 φ X 2.8	8 φ X 2	15 φ X 5.2	22 φ X 25.4
2.3 φ X 4.5	8 φ X 3	3) 15 φ X 6R	25 φ X 4
3 φ X 3	8 φ X 5	15 φ X 6.5	25 φ X 6
3.2 φ X 5	9 φ X 3	15 φ X 8	29.5 φ X 11
3.5 φ X 3.5	10 φ X 3	15 φ X 10	30 φ X 5
4 φ X 2	10 φ X 4	16 φ X 12	30 φ X 8
2) 5 φ X 2	10 φ X 5	17 φ X 3	30 φ X 10
5 φ X 3	10 φ X 7	17 φ X 4	30 φ X 13.5
5 φ X 8	10 φ X 10	18 φ X 8	32 φ X 20
6 φ X 2	11 φ X 5	20 φ X 3	38 φ X 10
6 φ X 5	12 φ X 4	20 φ X 4	38 φ X 13.5
6.35 φ X 6.35	12.5 φ X 3.8	20 φ X 5	50 φ X 10

1) Ni Plated 2) Ni Plated is also available 3) Round top type

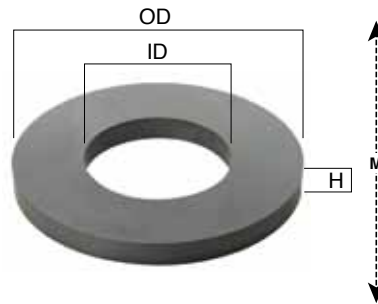
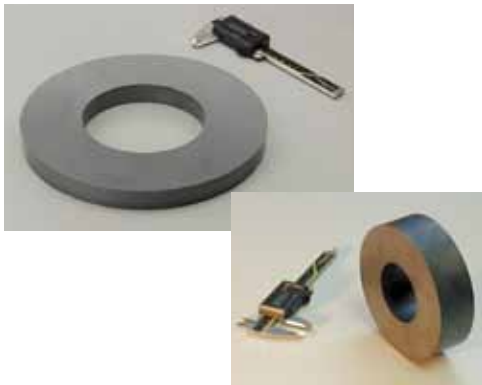
Ring Type



OD X ID X H	OD X ID X H	OD X ID X H	OD X ID X H
6φ X 2φ X 2.5	20.5φ X 7.5φ X 3.6	39φ X 22φ X 7	57φ X 47φ X 25
8φ X 3.5φ X 4.5	21φ X 12φ X 4.5	41.8φ X 23φ X 6	60φ X 32φ X 7
10φ X 3φ X 2	23φ X 6.5φ X 3.7	42φ X 19φ X 3	60φ X 32φ X 8
12φ X 5φ X 4	23.5φ X 15.6φ X 4	45φ X 22φ X 6	60φ X 32φ X 10
12.5φ X 5.3φ X 6	25φ X 8φ X 6	45φ X 22φ X 8	70φ X 32φ X 8
13φ X 6.1φ X 10	28φ X 10φ X 3.5	45φ X 22φ X 10.5	70φ X 32φ X 10
13.5φ X 5φ X 2	29φ X 10φ X 3.5	45φ X 22φ X 11	70φ X 32φ X 15
14φ X 8φ X 3	29φ X 10φ X 5	45φ X 24φ X 8	70φ X 53φ X 8.4
15φ X 6.1φ X 10	29.6φ X 18φ X 2.7	48φ X 17.7φ X 6	75φ X 32φ X 10
17.5φ X 7φ X 3	30φ X 9φ X 6	50φ X 9φ X 20	80φ X 40φ X 8
17.5φ X 10.8φ X 5	30φ X 12φ X 5	50φ X 16φ X 10	80φ X 40φ X 10
19φ X 6.5φ X 10	32φ X 8φ X 5	52.5φ X 20.3φ X 5	80φ X 40φ X 12
20φ X 8φ X 4	35.6φ X 14φ X 6	55φ X 24φ X 12	84φ X 70φ X 6
20φ X 8φ X 8	36φ X 18φ X 8	55.5φ X 40.5φ X 2.5	85φ X 33φ X 22
20φ X 10φ X 3	37φ X 14φ X 6	56φ X 45φ X 19	90φ X 50φ X 16

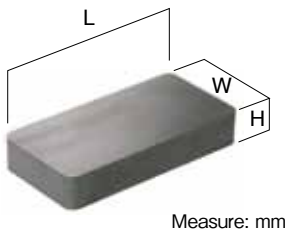
Large Ring Type

A thick large-sized ring type, which has been difficult to manufacture with Anisotropic Sr-Ferrite Magnets is now available with only by order-received production since it is large-sized.



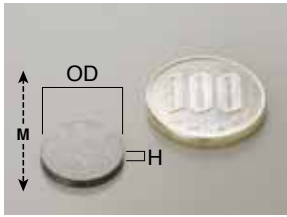
OD X ID X H
100φ X 32.5φ X 27.4
100φ X 60φ X 15
110φ X 50φ X 15
115φ X 44.5φ X 25.4
134φ X 75φ X 20
156φ X 80φ X 20
165φ X 86.3φ X 38.1
169φ X 81.2φ X 40
178φ X 88.9φ X 25.4
190φ X 88.9φ X 31.7
200φ X 86φ X 30
200φ X 120φ X 20
220φ X 110φ X 20
220φ X 110φ X 30

Square Type



L X W X H	L X W X H	L X W X H	L X W X H
4 X 3.2 X 0.65	25 X 19 X 5	41.5 X 4 X 3.3	90 X 34 X 20
4 X 4 X 2	25.5 X 25.5 X 3	47.5 X 47.5 X 20	95 X 95 X 1
7 X 7 X 4	27 X 8.5 X 4	48 X 15 X 5	95 X 95 X 2
12 X 8 X 2.5	27 X 14.5 X 7	48 X 22 X 10	96 X 10 X 3
12.5 X 8.5 X 4.7	30 X 6 X 4	50 X 20 X 5	100 X 15 X 5
13.5 X 5.5 X 2	30 X 9 X 6	50 X 50 X 12	100 X 35 X 5
15 X 10 X 4	30 X 10 X 5	50 X 50 X 18	100 X 50 X 10
15 X 15 X 5	30 X 10 X 10	55 X 4 X 4	100 X 63.5 X 17
18 X 11.5 X 5	30 X 20 X 5	55 X 30 X 18	100 X 100 X 3
18.5 X 6 X 3	30 X 30 X 10	58 X 14 X 16	100 X 100 X 5
20 X 10 X 4	34 X 8 X 5	58 X 14 X 19	100 X 100 X 8
20 X 10 X 5	34 X 34 X 10	58 X 14 X 25	100 X 100 X 10
20 X 12 X 5	35 X 15 X 4.5	60 X 30 X 5	110 X 33.5 X 10
20 X 15 X 7	40 X 12 X 6	60 X 30 X 10	150 X 26 X 15
20 X 20 X 10	40 X 12 X 8	63 X 14 X 10	150 X 100 X 15
23 X 22 X 8	40 X 25 X 5	63.5 X 19 X 5	150 X 100 X 20
24 X 10 X 4	40 X 25 X 10	65 X 15 X 25.4	150 X 100 X 25.4
25 X 6 X 4	40 X 40 X 10	68 X 18 X 12	150 X 100 X 40
25 X 8 X 5	40 X 40 X 12	75 X 30 X 25.4	160 X 80 X 20
25 X 15 X 7	40 X 40 X 15	85 X 65 X 0.9	270 X 90 X 10
25 X 19 X 4.5	40 X 40 X 20	80 X 80 X 20	

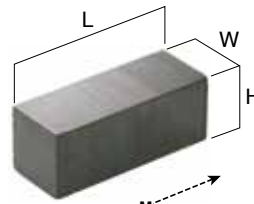
Flat Round Type



OD X H
3.8φ X 0.53
4φ X 0.6
5φ X 1
13φ X 1.2
15φ X 1.2
19φ X 1.2
20φ X 1.2

Measure: mm

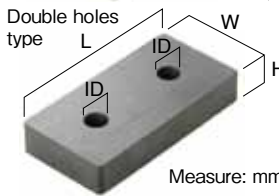
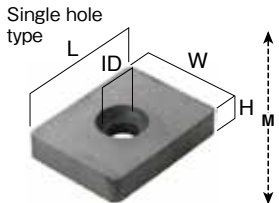
Bar Type (Square Type)



Measure: mm

W X H X L
3 X 3 X 7
4 X 10 X 20
6 X 6 X 18
6.3 X 6.8 X 27.5
7 X 7 X 12
9.75 X 9.75 X 25.4

Pierced Square Type



Measure: mm

L X W X H X (ID)	Remarks
8 X 8 X 7 (2.5φ)	
12 X 9 X 5 (3φ)	
19 X 17.5 X 4.8 (3.5φ)	
20 X 12 X 4 (6φ)	
22 X 16 X 5 (5φ)	
24 X 13.5 X 4.5 (5φ)	
24.6 X 14.7 X 3 (3.3φ)	Elevated pierced
25 X 19 X 4.5 (5φ)	Elevated pierced

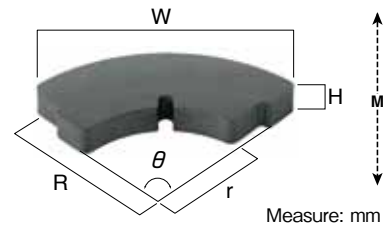
L X W X H X (ID)	Remarks
30 X 18 X 6 (4.5φ)	
31 X 11.7 X 5.3 (3.2φ)	Elevated pierced
40 X 25 X 5.2 (5φ)	Elevated pierced
40 X 40 X 10 (12φ)	
1) 48 X 22.5 X 10 (5φ X 2)	Counter sunk
1) 60 X 30 X 10 (7φ X 2)	
85 X 65 X 18 (9φ)	

1) Double Holes Type

Segment Type (Large)

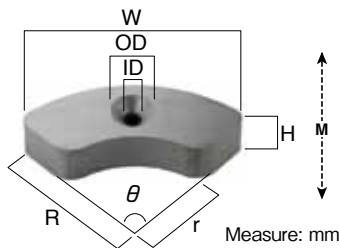


Code	R X r X W X H	Angle
SEG-20	158 X 85 X 216 X 25.4	90°



Measure: mm

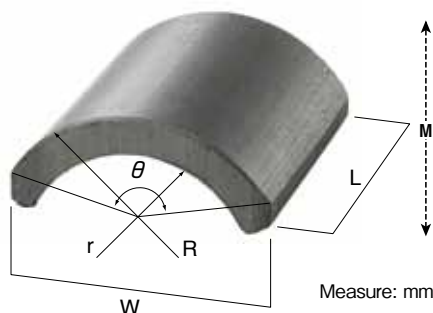
Segment Type (Pierced)



Measure: mm

Code	R X r X W X H (OD X ID)	Angle
SEG-10	50 X 30 X 64 X 13 (12φ X 5φ)	90°

Segment C Type

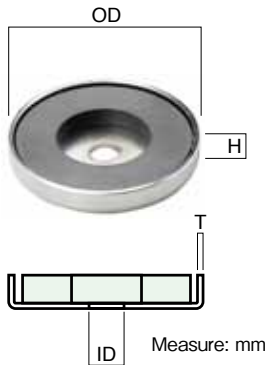


Measure: mm

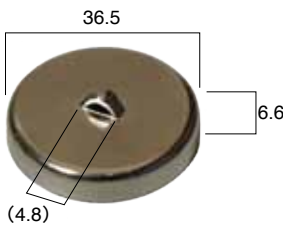
Code	R X r X W X L	Angle
SEG-1	43 X 37.6 X 30 X 35	40°
SEG-2	33 X 25.5 X 57 X 40	120°
SEG-4	16 X 12 X 29 X 30	120°
SEG-5	23.9 X 18.3 X 41.5 X 49	130°
SEG-6	23.9 X 18.3 X 41.5 X 34.7	130°
SEG-7	23.2 X 18 X 42 X 32	130°
SEG-8	43 X 34.85 X 78.5 X 50	130°

CAP MAGNET Anisotropic Sr-Ferrite Magnet

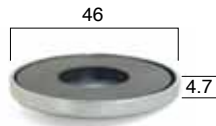
Round Type (R Type)



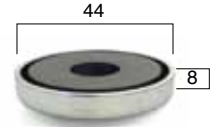
36RM with a hole for the hook



46RH



44R Conventional type

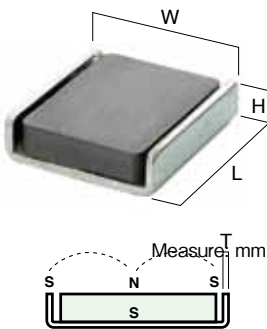


Measure: mm

Code	OD X HX [ID]	T	Holding Force	Remarks
12R	12.3φ X 3.7	0.5	0.4kgf	Zn plated/ Unichrome treated
B12R	12.3φ X 3.7	0.5	0.1kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
B15R	15φ X 4	0.8	0.2kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
16R	16φ X 3 (2.7φ)	0.7	0.6kgf	Zn plated/ Unichrome treated
18R	17.5φ X 5	0.7	1.2 kgf	Zn plated/ Unichrome treated
B18R	17.5φ X 5	0.8	0.4 kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
20R	19.8φ X 4 (3.5φ)	0.8	1.2 kgf	Zn plated/ Unichrome treated
23R	22.8φ X 5.2	1.0	2.8 kgf	Zn plated/ Unichrome treated
23RH	22.8φ X 5.2 (5φ)	0.9	1.8 kgf	Zn plated/ Unichrome treated
24R	23.5φ X 5	0.8	2.4 kgf	Zn plated/ Unichrome treated
B24R	23.5φ X 5	0.8	0.7 kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
25R	25.5φ X 5 (3.2φ)	0.8	3.4 kgf	Zinc coating
28R	28.8φ X 5.6	1.0	3.4 kgf	Zn plated/ Unichrome treated
B28R	28.8φ X 5.6	1.0	1.5 kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
32R	31.5φ X 4.7 (4.3φ)	0.8	4.5 kgf	Zn plated/ Unichrome treated
B32R	31.5φ X 4.7	0.8	1.6 kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
36R	36φ X 7.5	1.6	8.5 kgf	Zn plated/ Unichrome treated
36RH	36φ X 7.5 (4.2φ)	1.6	7.0 kgf	Zn plated/ Unichrome treated
36RM	36.5φ X 6.6	1.6	8.5kgf	Ni plated
44R	44φ X 8 (M4)	1.6	12.0 kgf	Zn plated/ Unichrome treated
46RH	46φ X 4.7 (5φ)	1.2	15.0 kgf	Zn plated/ Unichrome treated
B44R	44φ X 8 (M4)	1.6	2.5 kgf	Zn plated/ Unichrome treated/ Isotropic Ba-Ferrite
50R	50φ X 8.5 (5φ)	1.6	15.0 kgf	Zn plated/ Unichrome treated
52R	51.5φ X 7.9 (4.9φ)	1.6	16.0 kgf	Zinc coating
66R	66φ X 9.8 (9.5φ)	2.0	25.0 kgf	Zinc coating
66RS	66φ X 9.8 (6.2φ)	2.0	25.0 kgf	Zinc coating
77R	76.5φ X 11 (6.2φ)	2.0	35.0 kgf	CR plated
78R	78φ X 11 (8φ - 3φ)	2.0	35.0 kgf	Zn plated/ Unichrome treated
80R	80φ X 12.7 (10.2φ)	2.0	40.0 kgf	Zinc coating
98R	98φ X 12.5 (9.5φ)	2.0	55.0 kgf	Zinc coating
125R	124.5φ X 12.4 (12.7φ)	2.0	80.0 kgf	Zinc coating

● Cap Material, SPCC ● The magnetic adsorption is a value for reference (Measured by Imada Digital Force Gage)

Square Type (L Type)

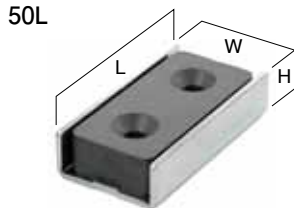
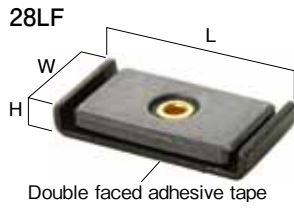


※磁束がキャップの先端Sに集中するため磁石単体の5~10倍の吸着力となる。

Code	L X W X H	T	Holding Force	Remarks
20L	20 X 8.4 X 4.2	0.6	0.8kgf	Zn plated/ Unichrome treated
24L	24 X 12 X 5.1	0.8	2.0kgf	Zn plated/ Unichrome treated
25LH	25.5 X 23.5 X 6.5 (6φ)	1.4	4.5kgf	Zn plated/ Unichrome treated
25L	25.5 X 23.5 X 6.5	1.4	6.0kgf	Zn plated/ Unichrome treated
26L	25.5 X 11 X 6.5	1.0	2.0kgf	Zn plated/ Unichrome treated
29.5L	29.5 X 22.4 X 6.2	1.2	5.0kgf	Zn plated/ Unichrome treated
32LH	32 X 15.7 X 7.8(3.2φ)	1.5	2.0kgf	Zn plated/ Unichrome treated
36L	36 X 21 X 6	1.0	5.0kgf	Zn plated/ Unichrome treated
43LH	43 X 30.2 X 7(6φ)	1.6	8.5kgf	Zn plated/ Unichrome treated
43L	42.8 X 28 X 6.5	1.2	8.0kgf	Zinc coating
45L	45 X 30 X 7	1.6	13.0kgf	Zn plated/ Unichrome treated
49L	49 X 41 X 13	2.0	20.0 kgf	Zn plated/ Unichrome treated
49LH	49 X 41 X 12.8(M5)	2.0	17.0kgf	Zn plated/ Unichrome treated
60L	60 X 23.8 X 6.8	1.4	13.0kgf	Zn plated/ Unichrome treated/ A square hole on each end
70L	69.9 X 29.7 X 13.2 (5φ X2)	2.6	10.0kgf	Ni plated A 5φ hole on each side
79L	79 X 38 X 13	2.0	23.0kgf	Zn plated/ Unichrome treated/ A square hole on each end
90L	90 X 18.8 X 6 (3.5φ X2)	1.2	9.0kgf	Zn plated/ Unichrome treated/ A 3.5φ hole on each side

● Cap Material, SPCC ● The magnetic adsorption is a value for reference (Measured by Imada Digital Force Gage)

Square Type (L Type with Double Faced Adhesive Tape)



Code	L X W X H	T	Holding Force	Remarks
28LF	28.5 X 15.5 X 4.5	1.2	3.0kgf	Double faced adhesive tape/ Zinc black coating
43.5L	43.5 X 30.1 X 7	1.5	5.5kgf	Double faced adhesive tape/ Protect Film covered/ Zn plated/ Unicrome treated
48L	48 X 45 X 12.5	2.0	13.0kgf	Double faced adhesive tape/ Protect Film covered/ Zn plated/ Unicrome treated
50L	50 X 27 X 12 (5φ X 2)	1.6	14.0kgf	M4 Counter sunk/ Zn plated
45LP	43.7 X 30 X 7	1.6	7.5kgf	Double faced adhesive tape/ Protect Film covered/ Zn plated/ Unicrome treated
47LP	46.8 X 30 X 7.7	1.8	5.5kgf	Zn plated/ Unicrome treated/ Protect Film covered/ 2 claws on one side
51LP	51 X 30.4 X 2	1.5	9.0kgf	Zn plated/ Unicrome treated/ Protect Film covered
80L	80 X 25 X 7.1	1.6	10.0kgf	Zinc coating/ Protect Film covered

- Cap Material, SPCC ● The magnetic adsorption is a value for reference (Measured by Imada Digital Force Gage)
- The double faced adhesive tape is a VHB tape, produced by Sumitomo 3M.
- The pitch between two holes of 50L type is 25

Isotropic Ba-Ferrite Magnets

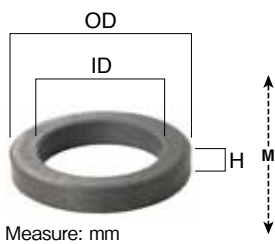
Round Type



OD X H	OD X H	OD X H	OD X H
3.6φ X 3	8φ X 5	2) 12φ X 6R	2) 20φ X 8R
5φ X 2	10φ X 2	14.9φ X 5.2	24φ X 8.5
5φ X 3	10φ X 3	15φ X 3	25φ X 4
6φ X 3.4	10φ X 4	15φ X 4	25φ X 5
1) 6φ X 8	10φ X 5	15φ X 5	29φ X 3.5
7φ X 2	2) 10φ X 6R	17φ X 4	30φ X 5
8φ X 2.5	10φ X 8	20φ X 3	
8φ X 4	12φ X 4	20φ X 4	

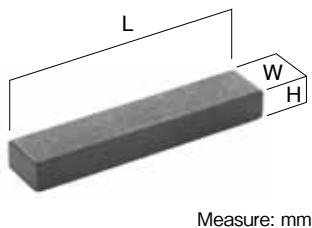
1) Ni Plated 2) Round top type

Ring Type



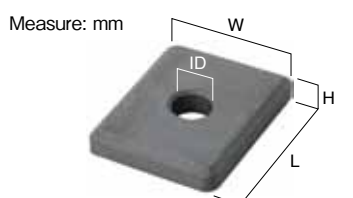
OD X ID X H	OD X ID X H	OD X ID X H	OD X ID X H
8φ X 5φ X 3.5	14φ X 8φ X 7	22φ X 6.2φ X 6	38φ X 9φ X 5.7
12.3φ X 4.5φ X 2.2	15φ X 5φ X 4	22φ X 12.7φ X 7	38φ X 28φ X 5
10.6φ X 3φ X 6	15φ X 10φ X 5	25φ X 12.8φ X 12.7	39.5φ X 25.5φ X 4.1
11.5φ X 7φ X 4	18.5φ X 2.5φ X 4.5	27.5φ X 5.8φ X 3.3	44φ X 18φ X 6
12φ X 3φ X 8	19φ X 6.5φ X 10	30φ X 10φ X 10	50φ X 20φ X 10
13φ X 8φ X 3	20.5φ X 6.5φ X 4	33φ X 22φ X 5	

Square Type



L X W X H	L X W X H	L X W X H	L X W X H
10 X 8 X 3	23.5 X 7.7 X 4.8	28 X 11 X 5	50 X 19 X 3.2
11 X 5 X 2	24 X 10 X 3.8	30 X 10 X 3	58 X 8 X 7
13 X 9 X 3.5	24 X 10 X 4	30 X 10 X 5	59 X 6 X 12.5
19.7 X 12.7 X 6	24 X 10 X 5	30 X 20 X 4	59 X 10.6 X 6
20 X 8 X 3	25 X 8 X 5	30 X 20 X 10	60 X 14 X 5.5
20 X 10 X 4	25 X 19 X 4.8	40 X 13 X 5.4	60 X 30 X 5
20 X 14 X 3.8	26 X 12.7 X 3.8	48 X 10 X 7	

Pierced Square Type



L X W X H [ID]
13.8 X 8.8 X 4 (3.2φ)
20 X 14 X 3.8 (4φ)
24 X 11 X 4 (5φ)
25 X 19 X 3.8 (5φ)

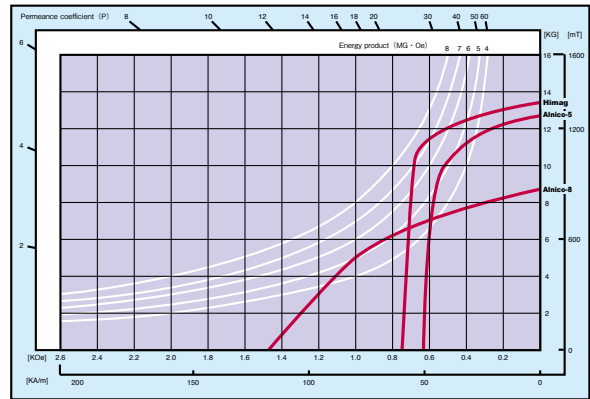
ALNICO MAGNET



Customized Alnico Magnet
Suitable for small volume magnet with complex shape.

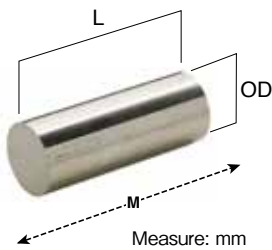


Alnico



Item	Unit	Alnico Magnet			Alnico Sinter			
		Alnico-5	Alnico-8	Himag	Alnico-5	Alnico-8		
Br	kG	12.7	8.8	13.5	11.5	8.3		
	mT	1,270	880	1,350	1,150	830		
bHc	kOe	0.65	1.47	0.75	0.63	1.57		
	kA/m	51.7	117.0	59.7	50	125		
iHc	kOe							
	kA/m							
BHmax	MGOe	5.3	5.2	7.3	4.6	5.0		
	kJ/m ³	42.2	41.4	58.1	37	40		
Temperature characteristics of Br	%/°C	-0.02	-0.01	-0.02	-0.02	-0.02		
Curie point	°C	850	850	850	850	850		
Density	g/cm ³	7.3	7.3	7.3	7.1	7.1		
J	I	S	Alnico 37/5	Alnico 38/11	Alnico 58/5	Alnico S-34/5	Alnico S-33/15	
M	M	P	A	ALNICO-5	ALNICO-8	ALNICO-5coL		
M	e	r	i	High magnetic flux density and is stable against the change in temperature.			Compact and complex shape.	
D	e	m	e	Easily demagnetized.			Easily demagnetized.	

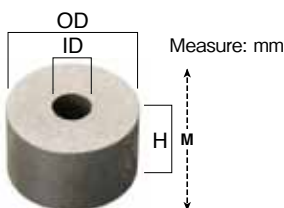
Bar Type



OD X L	OD X L	OD X L	OD X L
3 φ X 10	5 φ X 20	6 φ X 60	14 φ X 15
3 φ X 12	5 φ X 24	6.35 φ X 25	15 φ X 20
3 φ X 25	5 φ X 25	6.5 φ X 75	15 φ X 40
3 φ X 150	5 φ X 28	1) 7 φ X 6	15 φ X 50
1) 4 φ X 10	5 φ X 30	7 φ X 10	15 φ X 70
4 φ X 15	5 φ X 36	7 φ X 12	20 φ X 15
4 φ X 24	5 φ X 156	7 φ X 50	20 φ X 90
4 φ X 156	1) 6 φ X 8	8 φ X 50	20 φ X 150
5 φ X 8	1) 6 φ X 9	8 φ X 70	25 φ X 20
1) 5 φ X 10	1) 6 φ X 10	9 φ X 10	25 φ X 50
5 φ X 12	6 φ X 10	10 φ X 50	25 φ X 150
5 φ X 14	6 φ X 12	10 φ X 100	40 φ X 20
5 φ X 15	6 φ X 20	10 φ X 156	50 φ X 25
5 φ X 17	6 φ X 25	12 φ X 80	67 φ X 25
5 φ X 18	6 φ X 30	14 φ X 10	

1) Alnico-8, others Alnico-5. Himag can be produced as a custom made.

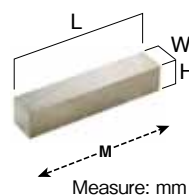
Ring Type



OD X ID X H
1) 9 φ X 6 φ X 3
20 φ X 5 φ X 30
20 φ X 6 φ X 12
30 φ X 8 φ X 22

1) Alnico sinter, others Alnico-5.

Square Bar Type



W X H X L
7 X 7 X 50
10 X 10 X 50
10 X 10 X 100
10 X 10 X 150
60 X 3.2 X 12.5

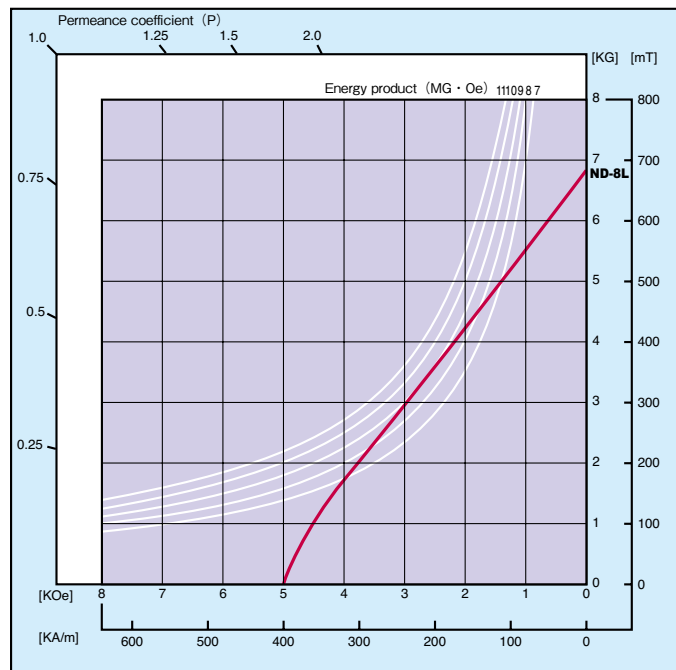
All Alnico-5 items.

Nd-Fe-B BONDED MAGNET



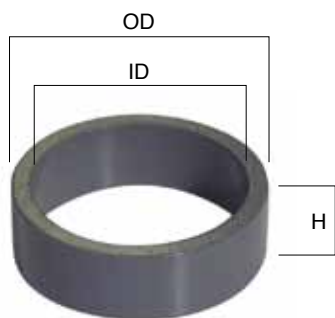
Nd-Fe-B Bonded Magnet is a combined (united) magnet with extremely rapidly cooled powder of neodymium, ferrum and boron (Nd-Fe-B) by using resins. This magnet has enabled us to carry out the press working of a thin shape or a complicated shape, which traditional magnets couldn't. Since it is isotropic, it can be magnetized diametrically and axially and moreover multi poles can be magnetized, which are its characteristics.

Nd-Fe-B Bonded



Item	Unit	Nd-Fe-B Bonded Magnet
Br	kG	6.85
	mT	685.0
bHc	kOe	5.0
	kA/m	397.9
iHc	kOe	8.0
	kA/m	636.6
BHmax	MGoe	9.0
	kJ/m ³	71.6
Temperature characteristics of Br	%/°C	-0.09
Curie point	°C	310
Density	g/cm ³	5.9
J I S		REFe 63/64p
M e r i t		Thin shape and magnetization of many poles are possible.
D e m e r i t		Epoxy-coated since it is easily rusted. Must be used below 80°C.

Cylinder Type



Measure: mm

OD X ID X H	kG	mT	Remarks
15 φ X 6 φ X 10	1.9	190	
15.5 φ X 11 φ X 6	1.5	150	
16 φ X 8 φ X 5	1.3	130	Grooves in both ends
20 φ X 13.5 φ X 6	1.7	170	
28 φ X 24 φ X 18	1.8	180	
29.7 φ X 10.5 φ X 1.7	0.5	50	
50 φ X 1.4	1.2	120	Round type

MAGNET SHEET

Ferrite Magnet



Magnetic sheet (Roll)

T X W X L	T X W X L
0.4 X 500 X 20 m	1.2 X 100 X 10 m
0.6 X 500 X 20 m	1.2 X 500 X 10 m
0.6 X 1000 X 10 m	1.2 X 1000 X 10 m
0.8 X 100 X 10 m	1.6 X 100 X 10 m
0.8 X 500 X 10 m	1.6 X 500 X 10 m
0.8 X 1000 X 10 m	2.0 X 100 X 10 m
1.0 X 100 X 10 m	2.0 X 500 X 10 m
1.0 X 500 X 10 m	3.0 X 100 X 10 m
1.0 X 1000 X 10 m	3.0 X 500 X 5 m

Adhesive-bonded

T X W X L	T X W X L
0.4 X 520 X 20 m	1.2 X 100 X 10 m
0.6 X 520 X 20 m	1.2 X 520 X 10 m
0.8 X 100 X 10 m	1.6 X 100 X 10 m
0.8 X 500 X 10 m	1.6 X 520 X 10 m
1.0 X 100 X 10 m	2.0 X 100 X 10 m
1.0 X 520 X 10 m	2.0 X 520 X 10 m

Anisotropic rubber magnet

T X W X L
1.0 X 300 X 300
2.0 X 300 X 300
3.0 X 100 X 200
3.0 X 100 X 300
3.0 X 300 X 300
3.0 X 50 X 230

STRING MAGNET

Ferrite Magnet

The string-shaped magnet is made from rubber materials and ferrite powder. There are two kinds of a circle and the oval. Other than the following authentic products, 5.0 ϕ X 100m, 6.0 ϕ X 100m, 7.0 ϕ X 100m, the product of 8.0 ϕ X 100m can be available as well.

String magnet 4.1 mm dia

A string magnet made from ferrite and rubber.

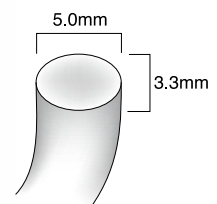


Magnetizing Pattern

D X L	Magnetizing	Color	Surface magnetic flux density
4.1 ϕ X 100M	3 mm, 8 mm pitch	Black	approx. 600 Gs

String magnet oval type

A crosscut shape is oval.



A crosscut shape is 5.0mm by 3.3mm oval.

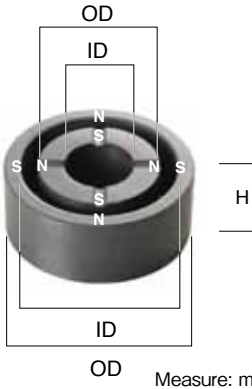


Magnetizing Pattern

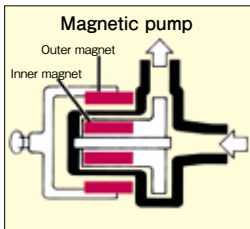
D x L	Magnetizing	Color	Surface magnetic flux density
5.0 X 3.3 X 100 m	3mm, 8mm pitch	Black	appro x. 600 Gs

MAGNETIC TORQUE COUPLERS Ferrite Magnet

Cylinder Type

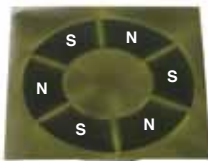
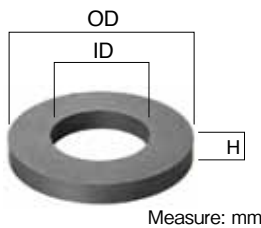


Application example of a standard product of coupling



Code	OD X ID X H	Pole	Torque kgf / cm	Material
392393	17φ X 8φ X 15 35φ X 21φ X 15	4 poles on outer 4 poles on inner	0.3<	Isotropic Ferrite
322323	20φ X 12.2φ X 12 38φ X 28.2φ X 12	4 poles on outer 4 poles on inner	0.25<	Isotropic Ferrite
281282	25.2φ X 12.2φ X 13 40φ X 28φ X 15	8 poles on outer 8 poles on inner	1.2<	Isotropic Ferrite
213214	31φ X 21φ X 15 51φ X 41φ X 15	8 poles on outer 8 poles on inner	0.9<	Isotropic Ferrite
349350	36φ X 20φ X 22 56φ X 46φ X 22	8 poles on outer 8 poles on inner	1.8<	Isotropic Ferrite
238239	36.4φ X 12φ X 30 60φ X 42.6φ X 30	6 poles on outer 6 poles on inner	3.8<	Isotropic Ferrite
332333	50φ X 30φ X 25 80φ X 60φ X 25	8 poles on outer 8 poles on inner	6.0<	Isotropic Ferrite
336337	76φ X 56φ X 50 110φ X 90φ X 50	10 poles on outer 10 poles on inner	20.0<	Isotropic Ferrite
338339	76φ X 56φ X 90 110φ X 90φ X 90	10 poles on outer 10 poles on inner	35.0<	Isotropic Ferrite

Disc Type

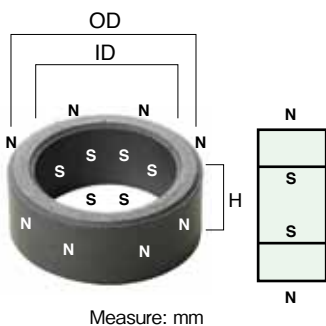


Multiple pattern viewed with magnetic viewer

OD X ID X H	Poles	OD X ID X H	Poles
20φ X 8φ X 8	4Poles, 6Poles	45φ X 22φ X 8	4Poles, 6Poles, 8Poles, 10Poles
25φ X 8φ X 6	4Poles, 6Poles	52.5φ X 20φ X 5	4Poles, 6Poles, 8Poles, 10Poles
29φ X 10φ X 3.5	4Poles, 6Poles	60φ X 32φ X 7	4Poles, 6Poles, 8Poles, 10Poles
30φ X 12φ X 5	4Poles, 6Poles, 8Poles	70φ X 32φ X 8	4Poles, 6Poles, 8Poles, 10Poles
37φ X 14φ X 6	4Poles, 6Poles, 8Poles	80φ X 40φ X 8	4Poles, 6Poles, 8Poles, 10Poles

● All are made from anisotropic Sr-ferrite.

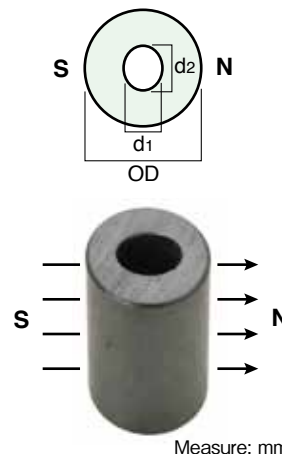
Radial Type



OD X ID X H
17φ X 12φ X 5
22φ X 16φ X 8.5
32φ X 22φ X 10
40φ X 27φ X 20

● N pole is magnetized on the outer side and S pole is magnetized on the inner side.
● All are made from isotropic Ba ferrite.

Diametrically magnetized anisotropic type

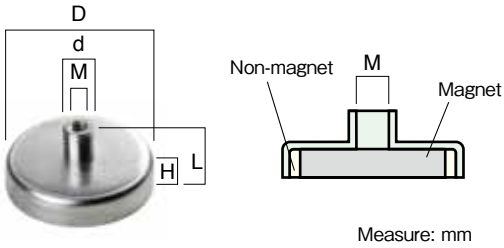


OD X ID (d1, d2) X H
12φ X 4, 5φ X 12
12φ X 4, 5φ X 20
15φ X 6, 7φ X 30
19φ X 6, 7φ X 30

● All are made from wet Anisotropic Ferrite.

POT MAGNET

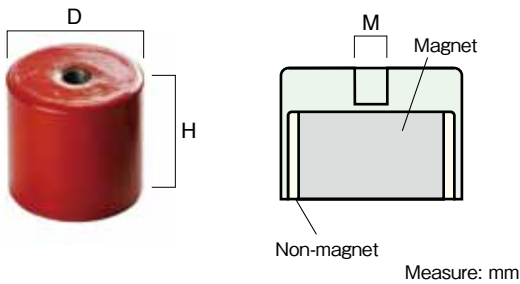
Anisotropic Sr-Ferrite



Code	D X H X d X L	M	Holding Force
FS-36R	36 φ X 8 X 8 φ X 16	4	7 kgf
FS-50R	50 φ X 10 X 12 φ X 22	6	20 kgf
FS-63R	63 φ X 14 X 15 φ X 30	8	40 kgf

● Adsorbability is based on a backing plate of 1.6t (Measured by Imada Digital Force Gage) . ● CR plated ● FS-50R and FS-63R are available with a handle optional

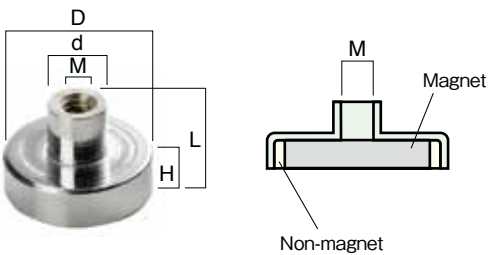
Alnico Magnet



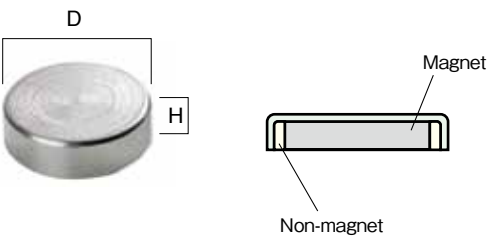
Code	D X H	M	Holding Force
AF-21R	21 φ X 19	M6 X 5	3.5 kgf
AF-27R	27 φ X 25.4	M6 X 5	6.0 kgf
AF-35R	35 φ X 30	M6 X 10	20.0 kgf

● Adsorbability is based on a backing plate of 1.6t (Measured by Imada Digital Force Gage) . ● Red painting With keeper

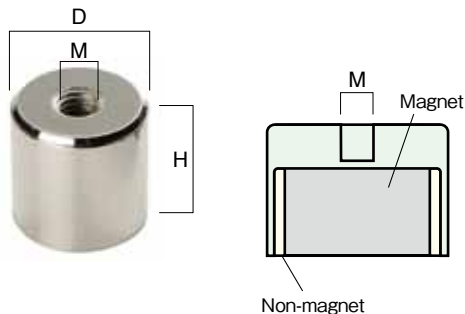
Sm-Co Magnet



Code	D X H X d X L	M	Holding Force
SS-8R	8 φ X 4.5 X 6 φ X 11.5	3	0.8 kgf
SS-20R	20 φ X 6 X 8 φ X 13	4	7.5 kgf
SS-32R	32 φ X 7 X 10 φ X 15.5	5	26.0 kgf



Code	D X H	Holding Force
SF-10R	10 φ X 4.5	1.6 kgf
SF-20R	20 φ X 6	7.0 kgf
SF-25R	25 φ X 7	9.0 kgf

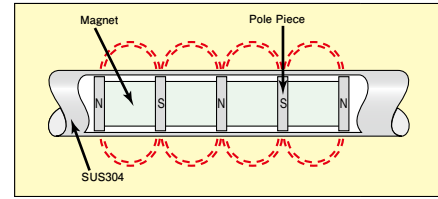


Code	D X H	M	Holding Force
SD-10R	10 φ X 15	M5 X 7	1.5 kgf
SD-15R	15 φ X 15	M5 X 7	2.5 kgf
SD-28H 1)	27.5 □ X 15	M4 X 5	15.0 kgf

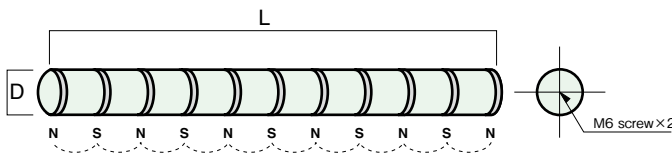
● Adsorbability is based on a backing plate of 1.6t (Measured by Imada Digital Force Gage) ● CR plated 1) Nd-Fe-B magnet

SUPER MAGNET BAR

Super Magnet Bar assembled with several round type magnets can produce the most powerful magnetic field of 11,000 gauss. This strong bar magnet is used to select iron from other metals in recycling industries.



Bar Type



Standard Type Nd-Fe-B Magnets

OD X L	kG	mT
25 φ X 200	9.0	900
25 φ X 200	11.0	1100
25 φ X 300	9.0	900
25 φ X 300	11.0	1100
25 φ X 400	11.0	1100

● Maximum temperature is 80 °C

Magnet Bar Anisotropic Sr-Ferrite Magnets

OD X L	kG	mT
25 φ X 200	1.5	150
25 φ X 300	1.5	150

● Maximum temperature is 200 °C

Heat Resistant Type Sm-Co Magnets

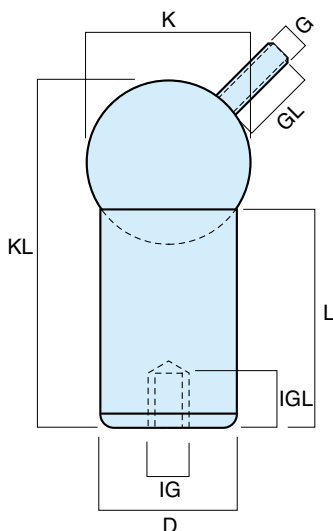
OD X L	kG	mT
25 φ X 200	7.0	700
25 φ X 300	7.0	700

● Maximum temperature is 400 °C

BALL JOINTS

It is a magnet supporting a ball part only by magnetic force in magnet in the main body and York. The mobile range of the ball can turn to 180 degrees. Even if a ball comes off from the main body, the ball surface is hard to be damaged.

Use example:
Optical goods, a lighting equipment, the fixation of a camera for monitor, the maintenance such as the medical equipment and the joint part of the robot.



Bal Joints

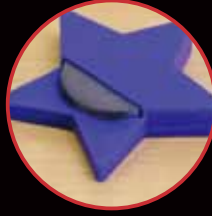
Code	K	D	KL	L	G	GL	IG	IGL	Holding Force
K-8	8 φ	12.5 φ	18	12	M4	12			1 kgf
KD-310	10 φ	10 φ	28	20	M3	12	M3	5	2 kgf
KD-418	18 φ	13 φ	36	20	M4	12	M4	6	5 kgf
KD-516	16 φ	16 φ	34	20	M4	12	-	-	7 kgf
KD-625	25 φ	20 φ	47	25	M5	16	M5	5	15 kgf
KD-725	25 φ	25 φ	56	35	M5	16	M5	7	20 kgf

● Surface magnetic flux density is values for reference.

SILICONE RUBBER MAGNET

Embedded in silicone rubber,
lowers production cost.

Magnetizing process, carried out after silicone rubber molding, allows easy handling.



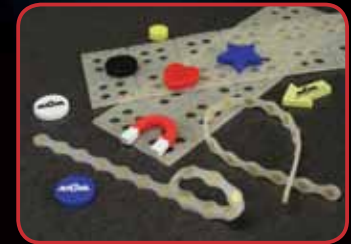
Comes in unique and various shapes.

Free from damaging furniture surface.

- Magnets embedded in molded silicone rubber simplify the process and lower production cost.
- Silicone rubber coating prevents damaging furniture surface.
- Prevents Nd-Fe-B magnets from rusting.
- Strengthens ferrite and Sm-Co magnets and prevents them from cracking.
- Requires lower molding cost than plastic magnets.
- Variety of shapes can be made by your order.



Thin sheet forms can be cut out (sample product)



Variety of shapes can be made

INNOVATION
in MAGNET PRODUCTION



Silicone Magnet



Model	Holding Power	Dimension	Magnet	Color
47L	5 kg	47 X 30 X 10 (t)	Nd-Fe-B	Black
66R	14 kg	66 φ X 10 (t)	Nd-Fe-B	Black

66R



47L

ABC letters are optionally attached

Silicone Hook Magnet

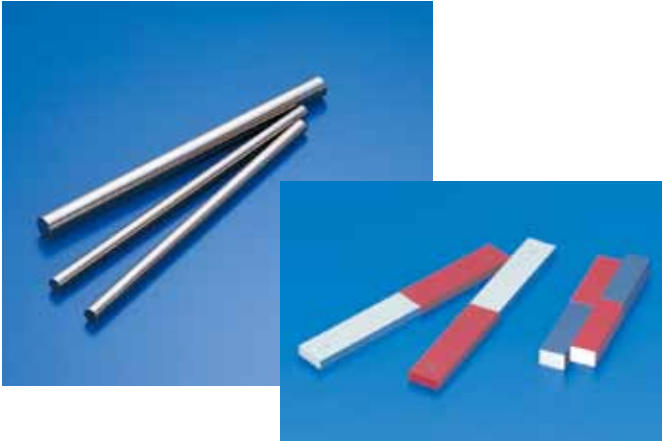


- Free from damaging furniture surface
- Charming 4 different colors
- Strong holding force upto 6.5kg
- Silicon coating makes the hook harder to slide.

Model	Holding Power	Diameter	Magnet	Color
32F	6.5kg	32mm	Nd-Fe-B	White, Black, Red, Blue

TEACHING MATERIAL

Bar Magnet



Two types of Alnico Bar Magnet are available, round bar type and square bar type.

Shape	Size
Round bar (Alnico) L	25 ϕ X 150mm
Round bar (Alnico) M	20 ϕ X 150mm
Round bar (Alnico) S	10 ϕ X 100mm
Square bar (Alnico) L	6 X 19 X 150mm
Square bar (Alnico) M	10 X 15 X 100mm

Horse Shoe Magnet



A horse shoe magnet with its fundamentally magnetic characteristics is most appropriate for teaching material.

L X W X T
42 X 38 X 7mm
30 X 30 X 7mm

“My name is MAGNABOY. Let me introduce the raw materials of the magnet.”





Nd-Fe-B magnet
Neodymium
Iron
Boron



Sm-Co magnet
Iron
Samarium
Copper



Alnico magnet



Anisotropy Ferrite magnet
The slurry of the iron oxide

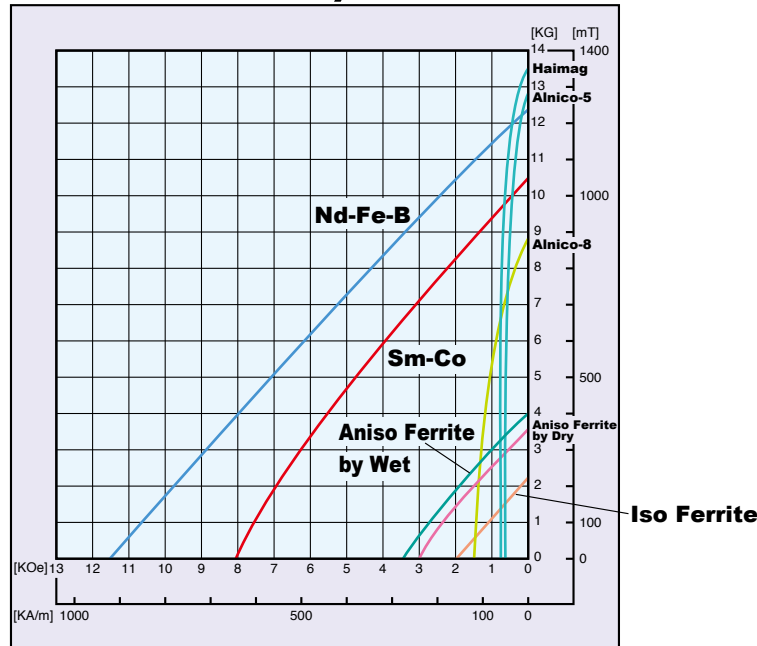


From iron oxide, the rare earths magnet and alnico mix plural raw materials with and make the ferrite magnet.

B-H curve of typical magnets

Magnetic characteristics and their physical characteristics

B-H curve by material



What is important for users is a “shape” of a magnet, decided by magnetic characteristics, etc. The latest 《Rare earth magnet》, whose magnetic flux density B_r (related to adsorbability) and coercive force bH_c (related to demagnetization) are both the highest and the strongest, can be drastically miniaturized and made flat, compared to other magnets. 《Alnico magnet》 which has been widely used since prewar days, whose coercive force is weak, requires a space between magnetic poles (between N pole and S pole) to be appropriately long. On the other hand, since its magnetic flux density is high, like a rare earth magnet, its cross section can be made small and its shape needs to be long and slender due to the above reasons. Its merit is that it is stable against the change in temperature. 《Ferrite magnet》, whose coercive force is strong, does not require a space between magnetic poles to be so long. However, as its magnetic flux density is low, its cross section must be big, therefore the flat shape is its chief characteristic.

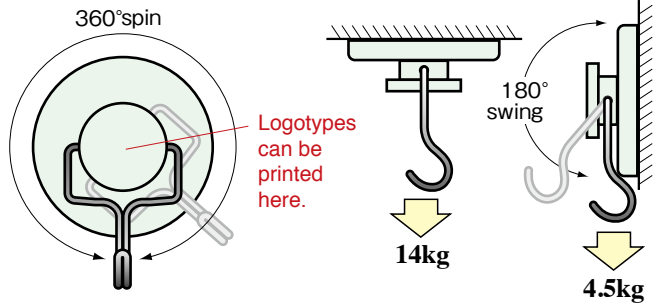


Type of magnets		Rare Earth		Ferrite			Alnico Magnet		
Item	Unit	Nd-Fe-B	Sm-Co	Isotropic Ba-Ferrite	Anisotropic Sr-Ferrite by Dry	Anisotropic Sr-Ferrite by wet	Alnico-5	Alnico-8	Haimag Alnico-5coL
Br	[kG]	12.4	10.5	2.2	3.6	4.0	12.70	8.8	13.50
	(mT)	1,240	1,050	220	360	400	1,270	880	1,350
bHc	[kOe]	11.6	8.0	1.9	3.0	3.3	0.65	1.47	0.75
	(kA/m)	923	636	151	238	262	51	117	59
BHmax	[MG0e]	37.0	24.0	1.0	3.0	3.8	5.3	5.2	7.3
	(kJ/m ³)	294.5	191.0	8.0	23.9	30.2	42.2	41.4	58.1
Temperature characteristics of Br	%/°C	-0.12	-0.04	-0.18	-0.18	-0.18	-0.02	-0.01	-0.02
Curie point	°C	320	750	460	460	460	850	850	850
Density	g/cm ³	7.4	8.3	4.8	4.8	4.9	7.3	7.3	7.3

● () indicates SI unit system, and [] indicates CGS unit system.

HOOK MAGNET

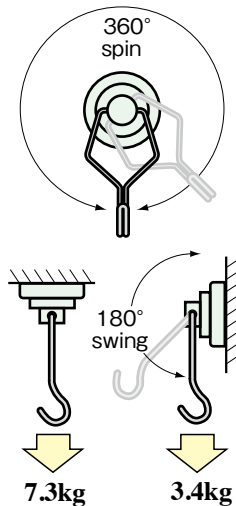
MAGNET APPLIED PRODUCTS



Swing Magnet Hook 52R

SIZE: 52R

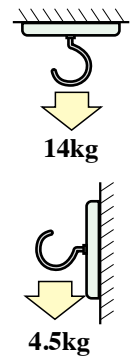
MATERIAL: Anisotropic Sr Ferrite Magnets



Swing Magnet Hook 25R

SIZE: 25R

MATERIAL: Nd-Fe-B Magnets



Magnet Hook 52R

SIZE: 52R

MATERIAL: Anisotropic Sr Ferrite Magnets

Silicone Cover For Hook Magnet

Hook Magnet and Swing Hook Magnet has steel yoke to make adsorbability stronger with a combination of magnetic force. However, this yoke tends to give scratches onto surface of furniture when removed. To avoid those scratches, Hook Magnet with Silicone Cover is developed. This Silicone Cover not only protect surface of furniture, but increase the adsorbability to make the hook harder to slide. A variety of colors of Silicone Cover, such as black, red, blue, yellow, green and white are available.

SIZE: 52R, 32R

COLORS: black, red, blue, yellow, green, white

*Other colors are available by order



Protects surface of furniture, and makes harder to slide.



Easy to apply and hard to detach.

GAUSS METER (Tesla Meter)/ VIEWER

Handy Gauss Meter MG-701



1. Increased measuring range: from 0 to 3,000mT (0 - 30,000G). (Direct current)
2. Rechargeable battery can be put in.
3. Longer battery life: from 100 to 130 h.
4. Allows a personal computer to collect and process data by using a custom made software (free downloading).

*An optional digital output cable , TM-701DTC is required.

Features

- Digital and analog output terminals are provided.
- The probe has been reduced in width further to enable measurement in a very limited space.
- Small size and light weight.
- Large and easy-to-read display.
- The alternate magnetic flux density, in addition to direct magnetic flux density, can be measured. (50/60 Hz)
- A wide measuring range from 0 to 3000 mT (0 - 30,000 G) . (Direct current)
- The high resolution measuring mode ensures more accurate measurement. (Resolution 0.01 mT =0.1 G)
- The unit of display can be changed between “mT” and “G” .
- High dustproof by use of sheet keys.
- The auto power off function prevents useless waste of the battery.
- The probes can be replaced without troublesome calibration.

Axial Type Probe is available (optionally).



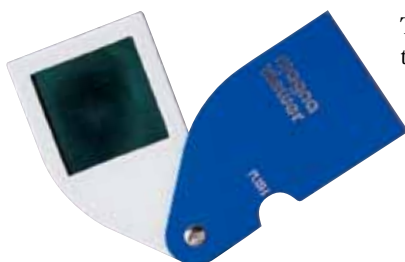
Excellent to measure a magnetic flux of air core coil and for high frequency of use, due to its high durability.

Model	MG-701				Function	Zero reset	Polarity indication
Detecting Contents	DC magnetic flux density AC magnetic flux density Polarities (N,S) (50/60Hz).					Max.detect value hold	Auto power off (can be canceled)
Measuring	mT/G selection		1T=10000G		Display	LCD	
Indication Range	0~3000mT				Mode	Detect value	Numeric value (digital)
						Polarity	Alphabets (N/S)
Measuring Mode	Measuring Mode	Measuring Range	Analytical Ability	Indication Accuracy	Operation Temperature	0~+40°C	
	DC×1	0~200.0mT	0.1mT	± (5% of rdg. + 3 digit)	Power Source	Battery SUM- 3 (1.5 V) x 4 pieces	
Measuring Range		200.1~1500.0mT	1mT	± (5% of rdg. + 10 digit)	Dimension	Height 140mm(5.51)× Width 64(2.51)mm × Thickness 30 (1.18)mm	
Analytical Ability	DC×10	0~150.00mT	0.01mT	± (5% of rdg. + 5 digit)	Mass	Approx.250 g/0.54 lb (including batteries and probe)	
Indication Accuracy	AC×1	0~200.0mT	0.1mT	± (5% of rdg. + 20 digit)	Accessories	Probe, batteries and carrying case	
	AC×10	0~ 150.00mT	0.01mT				

Viewer

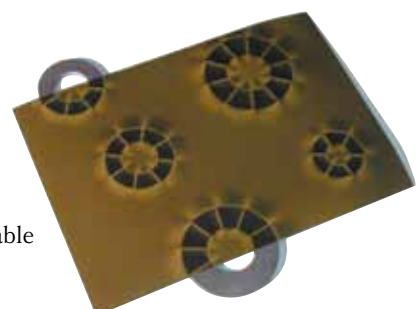
Pocketable magna viewer

The polarity can be seen simply by applying the film to the magnet. Handy pocket size.



Viewer sheet

A sheet of the film used for the pocketable magna viewer is available.
Size: 295 x 210 (A4 size)



INSPECTION

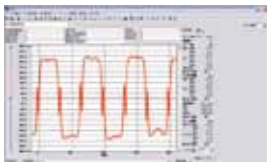
A magnetic field distribution experiment

MAGNET ANALYZER

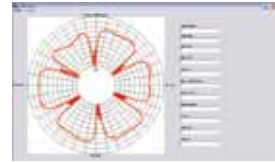
Magna performs the distribution measurement of the surface magnetic induction of the rotary, liner type magnet. The suggestion of the magnet which fitted a use more precisely is possible.



● Standard Chart




● Rader Chart




Quality control by using the latest B-H tracers

A B-H tracer is a device that can directly measure basic magnetic characteristics of a magnet (demagnetization curve). Magna Co., Ltd. has introduced the latest B-H tracer, which makes the quality control astonishingly effective by always checking the magnetic characteristics of a product and enables us to supply magnets of higher quality to users.






Digital Force Gauge



Torque Meter



Constant-temperature Oven



High-performance Gauss Meter



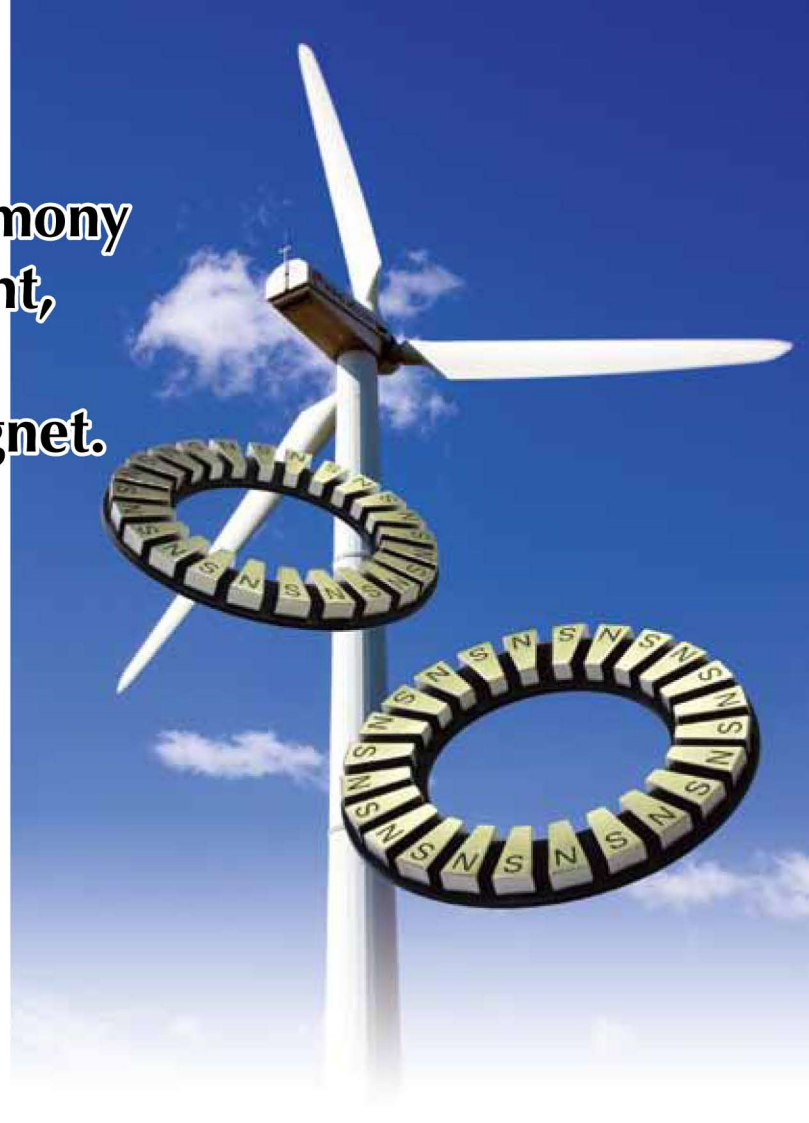
Flux Meter



Digital LCR Meter

Aiming at technology and the harmony of the living environment, Magna suggests the future of a new magnet.

Magna has satisfied customer's needs at all times, having offered high-quality products that are rich in variety, which are stable and prompt. It is a time when the market trend changes every moment and the technical innovation is accelerated further. Supported by our long-time developed technical know-how and by the worldwide distribution network, Magna aims to manufacture products that can contribute to people all over the world sincerely and faithfully.



COMPANY PROFILE

Company Name	Magna Co. Ltd.	Main Customer	Alps Electric
President	Kaname (Kenny) Sawado		Bridgestone
Establishment	October, 1984		Canon Anelva
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Hong Kong Office	Unit 605, 6/F Nanyang Plaza 57 Hung To Rd., Kwun Tong Kowloon, HK Tel +852-3153-1432 Fax +852-3153-1499		KOBELCO
Plant-1	1-7-41 Kugayama Suginami-ku (Kugayama) Tokyo, Japan 168-0082		Nissan Motors
Plant-2	1-14-20 Nakajima Sakura-ku (Urawa) Saitama-shi, Saitama, Japan		Mazda Motors
Business Domain	Manufacturing of permanent magnet and selling various magnets to over 700 companies in the world. Designing and developing of permanent magnet.		Panasonic
Main Products	Various kinds of permanent magnet and custom designed product.		Seiko Epson
			SonySunwave
			Sumitomo Chemical
			Terumo
			Toshiba
			Toso
			Toyota Motors
			Tokyuu Hands



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